

Exploring Local Areas, Skills and Unemployment

Exploratory Data Analysis at Local Area Level

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Executive summary

The National Skills Task Force acknowledged that a national skills strategy needs an explicit and coherent spatial component with local action tied to local needs. The establishment of the local Learning and Skills Councils and Learning Partnerships provides further impetus for developing knowledge of skill requirements at a sub-regional level.

Initial spatial analysis was undertaken using the 1999 Employer Skills Survey (ESS1999). This showed a broad North-South divide in both hard-to-fill and skill-shortage vacancies (in the external labour market) and skill gaps (experienced by firms). However, the situation was more complex than this, as within most regions areas with higher than average levels of skill deficiency and areas with lower than average levels of skill deficiency were identified. The initial work found generally a negative relationship between the incidence of skill-shortage vacancies and local unemployment rates. This relationship was statistically weak and areas were found where high unemployment rates co-existed with a high number of skill-shortage vacancies.

The exploratory analyses presented here represent the first stage in further exploration of the relationship between hard-to-fill and skills-shortage vacancies on the one hand, and unemployment on the other, using data from the 2001 Employer Skills Survey (ESS2001). They are complemented by:

- multivariate econometric analysis at the level of individual establishments; and
- in-depth case studies in areas where relatively high levels of hard-to-fill and skill-shortage vacancies co-exist with higher than average unemployment rates.

A North-South divide

Analysis of ESS2001 data reveals some evidence for the North-South divide in both hard-to-fill and skill-shortage vacancies. The Eastern region, the South East, London and the South West all record an incidence of hard-to-fill and skill-shortage vacancies in excess of the England average. Yorkshire & the Humber, the North East, the North West and the East Midlands record a lower than national average incidence of such vacancies.

However, a broad regional perspective disguises the variation that is apparent within regions.

Intra-regional differences

Within most regions there are marked local variations in the incidence of hard-to-fill and skill-shortage vacancies. In the Eastern region local areas in the western part of the region display a higher incidence of such vacancies than those further east. In the South East region skill deficiencies are particularly acute in an arc of local areas to the north, west and south of London, but are less pronounced in Kent/Medway. Only in Yorkshire & the Humber and the North East do all local Learning and Skills Council areas record a lower than average incidence of vacancies.

Gloucestershire, Wiltshire/Swindon, Bournemouth/Dorset/Poole, Hertfordshire, Surrey, Berkshire, Oxfordshire/Buckinghamshire/Milton Keynes, East Sussex/West Sussex/Brighton & Hove and London Central display a higher than average incidence of hard-to-fill and skill-shortage vacancies on all measures used in the

analyses. Other local areas display higher than average values on most of the measures used.

Analysis based on a grouping of local districts into areas with similar socio-economic and demographic profiles reveals that 'Inner London' and 'Prosperous England' have the highest incidence of hard-to-fill and skill-shortage vacancies. However, skill deficiencies are not confined to these areas, with 'Remoter rural areas' facing particular problems of hard-to-fill and skill-shortage vacancies. The 'Coalfields' display the lowest incidence of such vacancies.

Skill deficiencies and unemployment

Examination of local variations in hard-to-fill and skill-shortage vacancies alongside unemployment and non-employment rate measures reveals (in most instances) a negative relationship – i.e. in general, low unemployment rate areas tend to have a higher average incidence of hard-to-fill and skill-shortage vacancies than high unemployment rate areas, and vice versa. However, in statistical terms, the relationships are either weak or not significant. In general, the relationships involving hard-to-fill vacancies are stronger than those involving skill-shortage vacancies, and are weaker than those observed with ESS1999 data (at a time when the overall level of skill deficiencies was higher than in 2001). The weakness of the relationship implies considerable variation in the relationship between unemployment and vacancies at the local level.

The report presents a typology of LLSC areas on the basis of observed relationships between unemployment and vacancy levels at local level. The typology shows a relatively high incidence of hard-to-fill and skill-shortage vacancies co-existing alongside relatively high unemployment levels in some metropolitan areas – such as London Central and London East. Cumbria, Lancashire, Birmingham/Solihull and Devon/Cornwall also share similar characteristics, but to a less marked extent. (From this group, London East, Birmingham/Solihull and Lancashire were selected for more detailed case study analysis in order to provide further insight into the 'paradox' of high unemployment co-existing alongside a higher than average incidence of vacancies.) Many local areas in southern England are characterised by higher than average vacancy levels but lower than average unemployment, while many northern urban areas are characterised by lower than average vacancy levels alongside higher than average unemployment.

Further descriptive analyses

Information is presented on the reasons for hard-to-fill and skill-shortage vacancies, with a 'low number of applicants with skills' identified as the single most important reason across high, medium and low unemployment rate areas. 'Lack of work experience' emerges as a more important reason for hard-to-fill and skill-shortage vacancies in high unemployment rate areas than in medium or low unemployment rate areas.

There are marked local variations in the profile and incidence of hard-to-fill and skill-shortage vacancies by occupation, industry and establishment size. (The influence of these dimensions of variation in understanding the incidence of skill deficiencies is explored in more detail using multivariate econometric techniques in another part of the project.)

1. Introduction – context and scope of the report

The issue of skills has risen up policy agendas at national, regional and local levels in recent years. A range of evidence has been presented at the sub-national level demonstrating that there are substantial variations in skill levels between local areas.¹ At the neighbourhood level, the Social Exclusion Unit and Policy Action Teams have focused on ways of ‘narrowing the gap’ between the poorest localities and ‘the rest’, so that low skill localities are not excluded from an emergent high skill society.² A Cabinet Office Performance and Innovation Unit report on workforce development³ suggests that while social exclusion is the result of a range of factors, poor skill levels have a major influence. Hence, skills policy is expected to contribute to a greater participation in the labour market of those who are currently excluded.

The existence of spatial variations in skill levels could restrict the development of a national skills agenda. Without action to tackle problems of low skills localities and associated variations in economic performance, the development and potential of localities themselves, and thus the economic and social opportunities of people who live in them, will be restricted and national progress will be obstructed. The National Skills Task Force has acknowledged that a national skills strategy requires an explicit and coherent spatial component with local action tied to local needs. Hence, a spatial skills strategy is regarded as a crucial component of a wider local and regional economic development strategy.⁴

An initial exploration of contrasts in skill deficiencies between local areas in England was conducted using information from the 1999 Employers Skill Survey (ESS1999).⁵ Using measures⁶ of skill-shortage vacancies in the external labour market, this revealed evidence of a “North-South” divide. The majority of local areas with the highest incidence of skill-shortage vacancies were located south and east of a line drawn from the Severn to the Wash. Conversely, the majority of the local areas with the lowest incidence of skill-shortage vacancies and skill gaps were located in northern England and the Midlands. There were also local contrasts within regions –

¹ See Payne J. (1997) ‘Routes at 16: Trends and Choices in the 1990s’, *DfEE Research Report RR55*. Sheffield: DfEE; Payne J. (2000) *Young People Not in Education, Employment or Training: Data from the England and Wales Youth Cohort Study*, London: DfEE; Green A.E. (1999) ‘Feasibility Study of Measuring the Local Distribution of Poor Skills’, *DfEE Research Report RR173*, Nottingham: DfEE Publications; Department of the Environment, Transport and the Regions (2000) *Index of Deprivation 2000*, London: DETR; Campbell M. (2002) *Learn to Succeed: The case for a skills revolution*, Bristol: Policy Press.

² Social Exclusion Unit (1998) *Bringing Britain Together: A National Strategy for Neighbourhood Renewal*. London: HMSO; Social Exclusion Unit (2000) *Policy Action Team Report Summaries: A Compendium*. London: The Stationery Office; Department for Education and Employment (1999) *Skills for Neighbourhood Renewal: Local solutions*. Nottingham: DfEE.

³ Performance and Innovation Unit (2001) *In Demand: Adult skills in the 21st century*, London: Cabinet Office.

⁴ Campbell M., Chapman R. and Hutchinson J. (1999) ‘Spatial Skill Variations: Their Extent and Implications’, *Skills Task Force Research Paper 14*. Nottingham: DfEE Publications.

⁵ Green A.E. and Owen D.W. (2001) *Skills, Local Areas and Unemployment*. Nottingham: DfEE Publications.

⁶ Two measures of skill-shortage vacancies / skill gaps were constructed:

- the percentage of establishments recording skill-shortage vacancies, and
- skill-shortage vacancies as a proportion of total employees (i.e. a ‘density’ measure).

most notably, the greater preponderance of skill-shortage vacancies and skill gaps in the western part of south-eastern England than in the eastern part.

The analyses based on ESS1999 data addressed the important policy question for skills development (and for local and regional economic development more generally): *'Is there a negative and invariant relationship between the reporting of skill deficiencies and unemployment?'* (i.e. can the incidence of skill deficiencies be explained solely by the 'tightness' of the local labour market, as measured by the unemployment rate?). The relationship between the incidence of skill deficiencies and the local unemployment rate was found to be negative and statistically significant (albeit relatively weakly so). This is indicative of a greater incidence of skill deficiencies where it is harder to recruit labour (as indicated by the unemployment rate), but the strength of the relationship reveals that the incidence of skill deficiencies cannot be explained solely by local labour market 'tightness'. As an aid to summarising the complexity of the spatial patterns emerging at local level, a typology of local areas was developed, distinguishing between areas on the basis of the incidence of skill deficiencies relative to the national average and their local unemployment rates.

From a policy perspective there is a particular interest in those local areas where skill deficiencies are greater than expected given the unemployment rate. This could result from a situation of 'mismatch' between the skills demanded by employers located in such local areas and the skills of potential workers in the local area. Evidence from London underlines high rates of in-commuting, with workers coming in from surrounding areas to fill the more highly skilled jobs located in the capital,⁷ while the more poorly skilled residents suffer relatively high unemployment rates, despite the existence of relatively high numbers of vacancies.⁸ Indeed, research on the relatively high level of unemployment in the London labour market in the 1990s has revealed that the proportion of London-based jobs requiring higher skills grew more rapidly than in other regions, while the supply of London residents with higher level qualifications grew more slowly than elsewhere.⁹

In many large urban areas, particularly in the three northern-most regions in England, but also in the metropolitan West Midlands, ESS1999 revealed the prevalence of skill-shortage vacancies to be higher than expected (although lower than the average for England) given the higher than average unemployment rates which prevail. In such 'high' unemployment areas there was a greater propensity for a 'lack of work experience' to be offered as a reason for skill-shortage and hard-to-fill

⁷ Webster D. (2000) 'The geographical concentration of labour-market disadvantage', *Oxford Review of Economic Policy* 16, 114-128.

⁸ Gordon I. (1999) 'Move on up the car: dealing with structural unemployment in London', *Local Economy* 14, 87-95; Fieldhouse E.A. (1999) 'Ethnic minority unemployment and spatial mismatch', *Urban Studies* 36, 1569-96; Green A.E. and Owen D.W. (2000) 'Estimating commuting flows for minority ethnic groups in England and Wales', *Journal of Ethnic and Migration Studies* 26, 581-608.

⁹ Millward N., Metcalf H. and Forth J. (2001) 'London's unemployment in the 1990s: tests of demand-side explanations for its relative growth', London: NIESR. This study also showed that London workplaces increased their productivity more rapidly between 1990 and 1998 than workplaces elsewhere, so contributing to relatively higher unemployment in London. Analyses also found that non-employment rose with the percentage of population from ethnic minorities – possibly as a result of discrimination; (an issue that can be explored through case studies undertaken for this 'Skills, Local Areas and Unemployment' project).

vacancies than elsewhere; especially compared with 'low' unemployment rate areas. This suggests that periods out of the labour market may be a particular problem in such areas, and indicates the importance of education and training initiatives being linked with work experience. Overall, the relative weakness of the relationship between the prevalence of skill deficiencies and the prevailing unemployment rate is likely, at least to some extent, to reflect the differential incidence of structural unemployment within local areas.¹⁰

This report presents the results of *exploratory data analysis* of the 2001 Employers Skill Survey (ESS2001) data set at the sub-regional scale. As such, the analyses presented here extend those presented in a descriptive overview at national and regional scales.¹¹ The analyses presented here also provide the context for:

- econometric analysis of the ESS2001 data, which attempts to explain the relationship at the level of individual establishments between skills deficiencies and measures of local unemployment;
- a limited number of case studies concerned with exploring with employers in greater depth than the ESS2001 data allow how recruitment difficulties arise, and how job seekers might be better matched to available vacancies.¹²

As in the previous analyses ESS1999 data, the main focus in this report is on the *local Learning and Skills Council (LLSC) area level*, although reference is also made to the Travel-to-Work Area (TTWA) and Unitary Authority/Local Authority District (UALAD) area scales.¹³ There are two main reasons for focusing on the LLSC area level:

- from a policy perspective, LLSCs are responsible for funding and planning education and training for over 16-year-olds in England;
- from a technical perspective, LLSC areas are generally larger geographical units than either TTWAs and UALADs, and there are fewer LLSC areas in England (47 in total) than there are TTWAs and UALADs: this is advantageous given the fact that the ESS2001 survey used a quota sample methodology based on size band, industry sector and region – with a final adjustment made to the regional element of the quota such that a target was set for a minimum of 400 interviews within each LLSC area, so as to permit separate analysis at LLSC area level.

The analyses presented here build on work conducted using ESS1999 data. Details of the 'checking' and 'cleaning' of the ESS2001 data file for geographical analyses at

¹⁰ It is worthy of note that over time, *demand-deficient unemployment* can become 'translated' into structural unemployment, and so persist when and where conditions for the original demand-deficiency no longer exist.

¹¹ Hogarth T., Shury J., Vivian D., and Wilson R. (2001) *Employers Skill Survey 2001: Statistical Report*. Nottingham: DfES Publications.

¹² The analyses presented here are intended to inform the selection of case study areas.

¹³ LLSC areas and UALADs are both standard 'administrative' areas. In general, UALADs nest into LLSC areas. By contrast, TTWAs are functionally-defined 'standard' labour market areas – i.e. they are relatively self-contained in terms of aggregate commuting flows. From a strict theoretical perspective, TTWAs are better-suited for labour market analysis purposes than UALADs or LLSC areas because they are functionally defined. However, analysis of commuting data shows that those people in the types of jobs that the unemployed would be most likely to enter have shorter than average commuting journeys. In metropolitan areas, TTWAs tend to be larger than UALADs and LLSC areas, whereas in more rural areas there may be several TTWAs subsumed within a LLSC area.

the local area level are outlined in Appendix 1. The main body of the report focuses on:

- a) an overview of sub-regional spatial variation in the incidence of vacancies (see section 2);
- b) the relationship between vacancies and indicators of unemployment and non-employment (see section 3);
- c) a classification of LLSC areas on the basis of the relationships outlined in section 3 and suggestions for possible areas for qualitative case studies (see section 4);
- d) descriptive summaries of the reasons for vacancies and of types of vacancies (by occupation, by industry, occupation and by establishment size) at local level (see section 5);
- e) conclusions and key issues arising (see section 6).

2. Spatial variations in the incidence of vacancies at the local area scale

Table 1 shows the *absolute number* of:

- total vacancies
- hard-to-fill vacancies
- skill-shortage vacancies

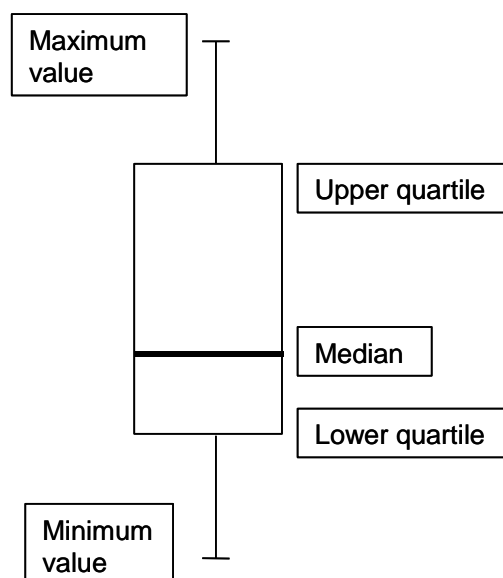
by LLSC area.

Table 2 shows the *percentage of establishments reporting vacancies* by LLSC area and region. Across England as a whole, 14.5 per cent of establishments reported vacancies of any kind, 7.5 per cent reported hard-to-fill vacancies and 3.7 per cent reported skill shortage vacancies.

- At the *regional scale*, there is some evidence for a ‘North-South’ divide in the incidence of vacancies, with the four southern-most regions of England – the Eastern region, the South East, London and the South West – recording an incidence of total, hard-to-fill and skill-shortage vacancies in excess of the England average. In the West Midlands a greater than national average percentage of establishments reported vacancies of any type and hard-to-fill vacancies, but the proportion reporting skill-shortage vacancies was slightly lower than the England average. In the North East, North West, East Midlands and Yorkshire & the Humber the incidence of all types of vacancies was lower than the England average. Yorkshire & the Humber recorded a smaller percentage of vacancies than any other region.
- At the *intra-regional scale*, local variations in the incidence of vacancies are apparent, as shown in the box and whisker plots for **Figures 1 and 2** for skill-shortage and hard-to-fill vacancies, respectively.

(A box and whisker plot provides information about the shape and dispersion of a distribution. As illustrated below, the box comprises the middle 50 per cent of observations: the lower end of the box represents the lower quartile and the upper end of the box represents the upper quartile. The line in the middle of the box represents the median. The lines outside the box extend downwards to the lowest value in the distribution, and upwards to the highest value in the distribution – excluding outliers [which are indicated separately]).

For example:



- In the Eastern region, which displays a greater than average percentage of establishments reporting vacancies, Norfolk and Suffolk have smaller than average percentages of establishments with total, hard-to-fill and skill-shortage vacancies than the national average. Essex and Suffolk record the lowest percentages of establishments with hard-to-fill and skill-shortage vacancies, so underlining the 'east-west' division within the region, with a lower incidence of vacancies in the east than in the west, where Hertfordshire and Bedfordshire display higher than average percentages of establishments with vacancies.
- In the South East, Kent/Medway and Hampshire/Isle of Wight/Portsmouth/Southampton LLSC areas display lower than average percentages of establishments with vacancies, while in Surrey, Berkshire, Oxon/Bucks/Milton Keynes and East Sussex/West Sussex/Brighton & Hove the incidence of establishments with vacancies exceeds the local and national average.
- In the South West the Somerset LLSC area records considerably fewer establishments with vacancies than the national average, despite the fact that across the region as a whole the incidence of establishments with vacancies exceeds the national average. The Wiltshire/Swindon LLSC area displays the highest proportion of establishments with vacancies in the region.
- In the West Midlands Birmingham/Solihull and Staffordshire display higher than average percentages of establishments with vacancies.
- In Yorkshire & the Humber there are no LLSC areas displaying a higher than average percentage of establishments with hard-to-fill or skill-shortage vacancies.
- In the East Midlands only Nottinghamshire and Leicestershire LLSC areas have greater than average percentages of establishments with skill-shortage vacancies.
- In the North East only County Durham and Tyne & Wear display percentages of establishments with hard-to-fill or skill-shortage vacancies close to, or above, the national average.
- In the North West Lancashire and Cumbria and Merseyside/Halton record percentages of establishments with hard-to-fill and skill-shortage vacancies in excess of the England average, while in Merseyside/Halton and Greater Manchester the percentage of establishments with skill-shortage vacancies is similar to the England average.

Table 3 ranks LLSC areas in descending order on the **percentage of establishments** reporting vacancies, while **Figures 3 and 4** (see Appendix 4) show the percentage of establishments reporting skill-shortage vacancies and hard-to-fill vacancies, respectively, by quintile.

- The maps (see Appendix 4) show that LLSC areas in southern England tend to display higher percentages of establishments reporting hard-to-fill and skill-shortage vacancies, but the regional pattern is by no means clear cut.
- The percentage of establishments reporting *vacancies of any kind* ranged from 34 per cent in Wiltshire/Swindon and Birmingham/Solihull to only 7 per cent in Derbyshire, Humberside and Somerset LLSC areas.

Table 1: Number of vacancies by LLSC area and region (weighted data)

Code	Area	Total	Hard-to-fill	Skill-shortage
	North West	76164	34055	16676
1	Cumbria	7176	5127	3686
2	Merseyside/Halton	17366	4489	1893
3	Lancashire	12340	6568	4371
4	Cheshire/Warrington	16891	7996	1015
5	Greater Manchester	22390	9876	5711
	North East	21776	8533	4123
10	Tyne and Wear	10653	3969	2277
11	County Durham	4293	1678	550
12	Tees Valley	4510	1956	946
13	Northumberland	2319	930	350
	West Midlands	69549	31619	14048
20	Birmingham/Solihull	21098	7940	3170
21	Staffordshire	10190	5433	4303
22	Shropshire	6532	3153	1152
23	Herefordshire/Worcestershire	9528	5995	1763
24	The Black Country	10601	4119	1785
25	Coventry/Warwickshire	11601	4979	1875
	Yorkshire and The Humber	46627	18555	7189
30	North Yorkshire	7048	3175	1511
31	South Yorkshire	14151	4912	1086
32	West Yorkshire	17737	7355	2541
33	Humberside	7691	3114	2050
	East Midlands	48394	16845	6956
40	Lincolnshire/Rutland	9728	3437	514
41	Northamptonshire	8160	3149	894
42	Leicestershire	8260	2982	1556
43	Derbyshire	7671	3150	1428
44	Nottinghamshire	14575	4127	2564
	Eastern	95905	46771	23945
50	Bedfordshire	12142	4611	2194
51	Essex	25330	9320	3740
52	Cambridgeshire	13555	8398	3086
53	Hertfordshire	28213	16532	12232
54	Norfolk	10664	4965	1989
55	Suffolk	6002	2945	703
	London	183184	78274	35304
60	London Central	66705	38468	16939
61	London North	21785	6586	2380
62	London East	56901	15526	10210
63	London West	20614	9127	3194
64	London South	17179	8567	2582
	South East	153308	83074	32142
70	Surrey	30789	16348	5651
71	East Sussex/West Sussex/Brighton & Hove	25524	12307	7063
72	Oxon/Bucks/Milton Keynes	23896	15062	3661
73	Kent/Medway	17055	7849	2512
74	Hamps/Isle of Wight/Portsm'th/S'thampton	37575	21025	10218
75	Berkshire	18468	10483	3036
	South West	74023	38216	17674
80	Devon/Cornwall	14498	6921	1987
81	Somerset	10534	4305	1298
82	Gloucestershire	15330	8958	5940
83	Bournemouth/Dorset/Poole	10206	6748	3642
84	Wiltshire/Swindon	14124	7549	4118
85	Former Avon	9332	3736	688
	ENGLAND	768929	355943	158056

Table 2: Percentage of establishments reporting vacancies by LLSC area and region (weighted data)

Code	Area	Total	Hard-to-fill (HtF)	Skill-shortage (S-S)
	North West	12.0	6.6	3.6
1	Cumbria	11.4	9.3	7.9
2	Merseyside/Halton	15.5	5.6	3.8
3	Lancashire	18.3	9.2	5.8
4	Cheshire/Warrington	9.6	5.4	0.4
5	Greater Manchester	11.6	6.2	3.7
	North East	12.1	6.1	3.1
10	Tyne and Wear	12.5	6.7	3.9
11	County Durham	15.8	8.5	3.7
12	Tees Valley	9.8	4.1	1.6
13	Northumberland	10.0	4.1	1.6
	West Midlands	15.9	8.9	3.4
20	Birmingham/Solihull	33.8	17.2	6.3
21	Staffordshire	16.1	8.2	6.3
22	Shropshire	9.8	6.2	1.9
23	Herefordshire/Worcestershire	12.8	9.3	2.1
24	The Black Country	13.8	7.3	2.4
25	Coventry/Warwickshire	12.3	5.5	2.3
	Yorkshire and The Humber	10.1	4.4	2.2
30	North Yorkshire	8.8	5.0	3.3
31	South Yorkshire	15.5	5.1	1.7
32	West Yorkshire	11.1	4.6	1.6
33	Humberside	7.3	3.4	2.5
	East Midlands	13.3	4.8	2.2
40	Lincolnshire/Rutland	8.9	4.5	0.6
41	Northamptonshire	21.0	6.5	2.6
42	Leicestershire	14.5	7.1	4.3
43	Derbyshire	6.8	3.1	1.2
44	Nottinghamshire	22.1	5.5	3.8
	Eastern	17.3	8.2	4.8
50	Bedfordshire	22.8	8.0	4.9
51	Essex	17.4	5.6	2.0
52	Cambridgeshire	13.9	9.2	3.5
53	Hertfordshire	19.8	10.9	8.7
54	Norfolk	9.9	6.9	2.4
55	Suffolk	11.6	5.8	2.1
	London	15.9	8.2	4.4
60	London Central	18.1	9.9	6.1
61	London North	14.7	4.8	1.2
62	London East	18.5	10.5	7.3
63	London West	12.8	6.9	2.0
64	London South	10.4	5.3	1.8
	South East	15.2	9.0	3.8
70	Surrey	29.9	14.1	5.8
71	East Sussex/West Sussex/Brighton & Hove	15.9	10.9	7.0
72	Oxon/Bucks/Milton Keynes	22.9	16.4	5.5
73	Kent/Medway	8.4	4.2	1.4
74	Hamps/Isle of Wight/Portsm'th/S'thampton	12.1	7.0	2.8
75	Berkshire	27.0	17.8	5.7
	South West	15.0	7.8	4.2
80	Devon/Cornwall	17.1	9.3	4.1
81	Somerset	7.4	2.5	1.1
82	Gloucestershire	16.9	11.0	6.8
83	Bournemouth/Dorset/Poole	17.6	11.2	6.4
84	Wiltshire/Swindon	34.2	17.6	12.2
85	Former Avon	24.8	10.6	2.0
	ENGLAND	14.5	7.5	3.7

Figure 1: Intra-regional variations in the percentage of establishments reporting skill-shortage vacancies – LLSC areas

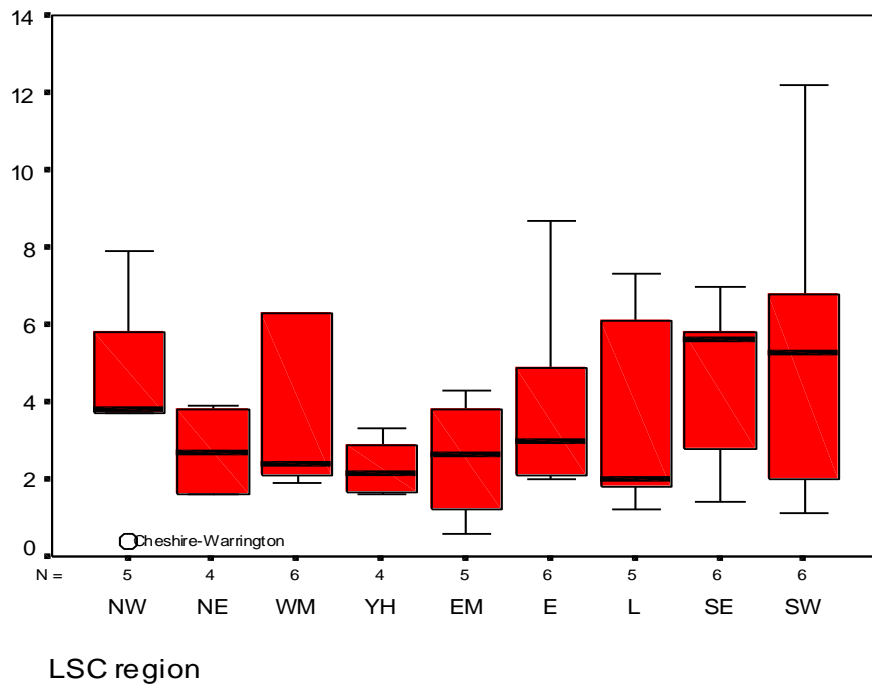
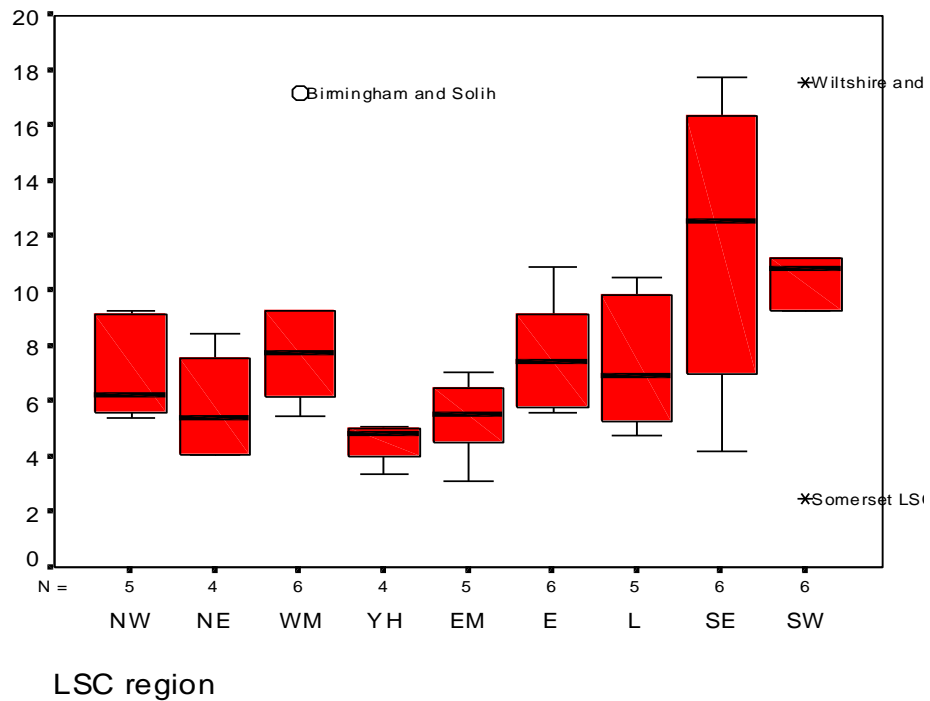


Figure 2: Intra-regional variations in the percentage of establishments reporting hard-to-fill vacancies – LLSC areas



Key to Regions:
 NW: North West; NE: North East; WM: West Midlands; YH: Yorkshire & the Humber; EM: East Midlands; E: Eastern region; L: London; SE: South East; SW: South West.

Table 3: Rankings of LLSC areas on percentage of establishments reporting vacancies (weighted data)

Total Vacancies		Hard-to-fill Vacancies		Skill-Shortage Vacancies	
Wiltshire/Swindon	34.2	Berkshire	17.8	Wiltshire/Swindon	12.2
Birmingham/Solihull	33.8	Wiltshire/Swindon	17.6	Hertfordshire	8.7
Surrey	29.9	Birmingham/Solihull	17.2	Cumbria	7.9
Berkshire	27.0	Oxon/Bucks/Milton Keynes	16.4	London East	7.3
Former Avon	24.8	Surrey	14.1	East Sussex/West Sussex/Brighton & Hove	7.0
Oxon/Bucks/Milton Keynes	22.9	Bournemouth/Dorset/Poole	11.2	Gloucestershire	6.8
Bedfordshire	22.8	Gloucestershire	11.0	Bournemouth/Dorset/Poole	6.4
Nottinghamshire	22.1	Hertfordshire	10.9	Birmingham/Solihull	6.3
Northamptonshire	21.0	East Sussex/West Sussex/Brighton & Hove	10.9	Staffordshire	6.3
Hertfordshire	19.8	Former Avon	10.6	London Central	6.1
London East	18.5	London East	10.5	Lancashire	5.8
Lancashire	18.3	London Central	9.9	Surrey	5.8
London Central	18.1	Herefordshire/Worcs	9.3	Berkshire	5.7
Bournemouth/Dorset/Poole	17.6	Cumbria	9.3	Oxon/Bucks/Milton Keynes	5.5
Essex	17.4	Devon/Cornwall	9.3	Bedfordshire	4.9
Devon/Cornwall	17.1	Cambridgeshire	9.2	Leicestershire	4.3
Gloucestershire	16.9	Lancashire	9.2	Devon/Cornwall	4.1
Staffordshire	16.1	County Durham	8.5	Tyne and Wear	3.9
East Sussex/West Sussex/Brighton & Hove	15.9	Staffordshire	8.2	Mersyside/Halton	3.8
County Durham	15.8	Bedfordshire	8.0	Nottinghamshire	3.8
South Yorkshire	15.5	England	7.5	England	3.7
Mersyside/Halton	15.5	The Black Country	7.3	County Durham	3.7
London North	14.7	Leicestershire	7.1	Greater Manchester	3.7
England	14.5	Hamps/IoW/Portsm'th/S'th ampton	7.0	Cambridgeshire	3.5
Leicestershire	14.5	London West	6.9	North Yorkshire	3.3
Cambridgeshire	13.9	Norfolk	6.9	Hamps/IoW/Portsm'th/S'th ampton	2.8
The Black Country	13.8	Tyne and Wear	6.7	Northamptonshire	2.6
Herefordshire/Worcs	12.8	Northamptonshire	6.5	Humberside	2.5
London West	12.8	Greater Manchester	6.2	The Black Country	2.4
Tyne and Wear	12.5	Shropshire	6.2	Norfolk	2.4
Herefordshire/Worcs	12.3	Suffolk	5.8	Coventry/Warwickshire	2.3
Hamps/IoW/Portsm'th/S'th ampton	12.1	Mersyside/Halton	5.6	Herefordshire/Worcs	2.1
Suffolk	11.6	Essex	5.6	Suffolk	2.1
Greater Manchester	11.6	Nottinghamshire	5.5	London West	2.0
Cumbria	11.4	Herefordshire/Worcs	5.5	Essex	2.0
West Yorkshire	11.1	Cheshire/Warrington	5.4	Former Avon	2.0
London South	10.4	London South	5.3	Shropshire	1.9
Northumberland	10.0	South Yorkshire	5.1	London South	1.8
Norfolk	9.9	North Yorkshire	5.0	South Yorkshire	1.7
Tees Valley	9.8	London North	4.8	Tees Valley	1.6
Shropshire	9.8	West Yorkshire	4.6	Northumberland	1.6
Cheshire/Warrington	9.6	Lincolnshire/Rutland	4.5	West Yorkshire	1.6
Lincolnshire/Rutland	8.9	Kent/Medway	4.2	Kent/Medway	1.4
North Yorkshire	8.8	Northumberland	4.1	London North	1.2
Kent/Medway	8.4	Tees Valley	4.1	Derbyshire	1.2
Somerset	7.4	Humberside	3.4	Somerset	1.1
Humberside	7.3	Derbyshire	3.1	Lincolnshire/Rutland	0.6
Derbyshire	6.8	Somerset	2.5	Cheshire/Warrington	0.4

Table 4 shows total **vacancies**, hard-to-fill vacancies and skill-shortage vacancies expressed as a **percentage of employment** by LLSC area and region.¹⁴ (Vacancy rate¹⁵ measures are also recorded in this Table.) Across England as a whole, total vacancies accounted for 3.74 per cent of employment, hard-to-fill vacancies accounted for 1.73 per cent of employment and skill-shortage vacancies accounted for 0.77 per cent of employment.

- At the *regional scale*, there is clearer evidence for a ‘North-South’ divide in the incidence of vacancies on this ‘density’ measure than on the establishment-based measure. The four southern-most regions of England – the Eastern region, the South East, London and the South West – record a density of total, hard-to-fill and skill-shortage vacancies in excess of the England average. In the West Midlands, East Midlands, Yorkshire & the Humber, North West and North East, the value on each of the density measures is below the national average. The North East and Yorkshire & the Humber record the lowest densities of total, hard-to-fill and skill-shortage vacancies. The East Midlands displays a similar density of skill-shortage vacancies to these two regions.
- At the *intra-regional scale*, local variations in the density of vacancies are apparent (as shown in **Figures 5 and 6** for skill-shortage and hard-to-fill vacancies, respectively). For example:
 - In the Eastern region, Hertfordshire and Cambridgeshire LLSC areas display the greatest densities of hard-to-fill and skill-shortage vacancies. Essex and Bedfordshire also display densities of all types of vacancies in excess of the England average. Suffolk displays the lowest density of vacancies of any LLSC area in the region, and Norfolk LLSC area also displays lower densities of total hard-to-fill and skill-shortage vacancies than the England average.
 - In the South East, Kent/Medway is exceptional in that it is the only LLSC area in the region to record a lower densities of total, hard-to-fill and skill-shortage vacancies than the England average. In all other LLSC areas in the region the densities of all types of vacancies identified exceed the England average.
 - In the South West a clear ‘east-west split’ is identifiable, with the easternmost areas of Wiltshire/Swindon, Gloucestershire and Bournemouth/Dorset/Poole recording densities of total, hard-to-fill and skill-shortage vacancies in excess of the regional and national averages. The Former Avon LLSC area records the lowest density of vacancies.
 - In the West Midlands Herefordshire/Worcestershire, Birmingham/Solihull and Staffordshire display the highest densities of hard-to-fill vacancies and skill-shortage vacancies, but only in Herefordshire/Worcestershire (in the case of hard-to-fill vacancies) and Staffordshire (skill-shortage vacancies) do the density values exceed the UK average.
 - In Yorkshire & the Humber and the North East there are no LLSC areas displaying higher than average density values on any of the vacancy measures. In the East Midlands, the only density value in excess of the England average is that recorded by Nottinghamshire for total vacancies.

¹⁴ Such measures record the *density* of vacancies.

¹⁵ The vacancy rate expresses the number of vacancies as a percentage of employment plus the number of vacancies. (Vacancy rates are used in the econometric analyses, but the emphasis here is on the density of vacancies, in order to maintain comparability of key indicators with the local analyses of ESS1999 data - see Green and Owen [2000] *op. cit.*. However, it should be borne in mind when comparing aggregate density measures from the two studies, that the fact that the ESS2001 data set includes very small establishments, which were excluded from ESS1999.

- In the North West Cumbria displays a greater than national average density of hard-to-fill and skill-shortage vacancies, and Lancashire also displays a density of skill-shortage vacancies in excess of the England average.

Table 5 ranks LLSC areas in descending order on the **density of vacancies**, while **Figures 7 and 8** (see Appendix 4) show the density of skill-shortage vacancies and hard-to-fill vacancies, respectively.

- The maps (see Appendix 4) show that LLSC areas in southern England tend to display amongst the higher densities of hard-to-fill and skill-shortage vacancies. In general, the pattern of North-South regional differentiation is clearer on the density measures of vacancies than on the establishment-based measures.
- Total vacancies as a percentage of employment ranged from a high of 6.39 per cent in Hertfordshire and in excess of 5.9 per cent in Gloucestershire and London East LLSCs to a mere 1.62 per cent in Northumberland and less than 2 per cent in Tees Valley and Derbyshire.

Table 4: Vacancies as a percentage of employment by LLSC area and region (weighted data)

Code	Area	Vacancy Density			(Vacancy Rate)		
		Total	HtF	S-S	(Total)	(HtF)	(S-S)
	North West	2.86	1.28	0.63	(2.78)	(1.24)	(0.61)
1	Cumbria	3.03	2.16	1.56	(2.94)	(2.10)	(1.51)
2	Merseyside/Halton	3.14	0.81	0.34	(3.04)	(0.79)	(0.33)
3	Lancashire	2.54	1.35	0.90	(2.48)	(1.32)	(0.88)
4	Cheshire/Warrington	3.15	1.49	0.19	(3.05)	(1.44)	(0.18)
5	Greater Manchester	2.63	1.16	0.67	(2.56)	(1.13)	(0.65)
	North East	2.32	0.91	0.44	(2.27)	(0.89)	(0.43)
10	Tyne and Wear	2.88	1.07	0.61	(2.80)	(1.04)	(0.60)
11	County Durham	2.49	0.97	0.32	(2.43)	(0.95)	(0.31)
12	Tees Valley	1.79	0.77	0.37	(1.76)	(0.76)	(0.37)
13	Northumberland	1.62	0.65	0.25	(1.60)	(0.64)	(0.24)
	West Midlands	3.13	1.42	0.63	(3.04)	(1.38)	(0.61)
20	Birmingham/Solihull	4.44	1.67	0.67	(4.25)	(1.60)	(0.64)
21	Staffordshire	2.94	1.57	1.24	(2.86)	(1.52)	(1.21)
22	Shropshire	2.39	1.15	0.42	(2.33)	(1.13)	(0.41)
23	Herefordshire/Worcestershire	2.84	1.79	0.53	(2.76)	(1.74)	(0.51)
24	The Black Country	2.73	1.06	0.46	(2.66)	(1.03)	(0.45)
25	Coventry/Warwickshire	2.89	1.24	0.47	(2.81)	(1.20)	(0.45)
	Yorkshire and The Humber	2.36	0.94	0.36	(2.31)	(0.92)	(0.36)
30	North Yorkshire	2.00	0.90	0.43	(1.96)	(0.88)	(0.42)
31	South Yorkshire	2.47	0.86	0.19	(2.41)	(0.84)	(0.19)
32	West Yorkshire	2.65	1.10	0.38	(2.58)	(1.07)	(0.37)
33	Humberside	2.01	0.82	0.54	(1.98)	(0.80)	(0.53)
	East Midlands	2.94	1.02	0.42	(2.86)	(0.99)	(0.41)
40	Lincolnshire/Rutland	3.14	1.11	0.17	(3.04)	(1.07)	(0.16)
41	Northamptonshire	3.25	1.25	0.36	(3.15)	(1.21)	(0.34)
42	Leicestershire	2.75	0.99	0.52	(2.67)	(0.97)	(0.50)
43	Derbyshire	1.82	0.75	0.34	(1.78)	(0.73)	(0.33)
44	Nottinghamshire	4.04	1.14	0.71	(3.89)	(1.10)	(0.68)
	Eastern	4.46	2.18	1.11	(4.27)	(2.08)	(1.07)
50	Bedfordshire	3.78	1.43	0.68	(3.64)	(1.38)	(0.66)
51	Essex	5.54	2.04	0.82	(5.25)	(1.93)	(0.77)
52	Cambridgeshire	4.22	2.61	0.96	(4.05)	(2.51)	(0.92)
53	Hertfordshire	6.39	3.74	2.77	(6.00)	(3.52)	(2.60)
54	Norfolk	3.40	1.58	0.63	(3.29)	(1.53)	(0.61)
55	Suffolk	2.05	1.01	0.24	(2.01)	(0.99)	(0.24)
	London	4.98	2.13	0.96	(4.75)	(2.03)	(0.91)
60	London Central	5.55	3.20	1.41	(5.26)	(3.03)	(1.34)
61	London North	5.48	1.66	0.60	(5.20)	(1.57)	(0.57)
62	London East	6.23	1.70	1.12	(5.86)	(1.60)	(1.05)
63	London West	3.24	1.43	0.50	(3.14)	(1.39)	(0.49)
64	London South	3.26	1.62	0.49	(3.15)	(1.57)	(0.47)
	South East	4.56	2.47	0.96	(4.36)	(2.36)	(0.91)
70	Surrey	5.71	3.03	1.05	(5.41)	(2.87)	(0.99)
71	East Sussex/West Sussex/Brighton & Hove	4.04	1.95	1.12	(3.88)	(1.87)	(1.08)
72	Oxon/Bucks/Milton Keynes	5.41	3.41	0.83	(5.13)	(3.24)	(0.79)
73	Kent/Medway	2.84	1.30	0.42	(2.76)	(1.27)	(0.41)
74	Hamps/Isle of Wight/Portsm'th/S'thampton	4.80	2.69	1.31	(4.58)	(2.56)	(1.25)
75	Berkshire	5.07	2.88	0.83	(4.83)	(2.74)	(0.79)
	South West	3.79	1.95	0.90	(3.65)	(1.88)	(0.87)
80	Devon/Cornwall	3.05	1.46	0.42	(2.96)	(1.41)	(0.41)
81	Somerset	3.09	1.26	0.38	(3.00)	(1.22)	(0.37)
82	Gloucestershire	5.92	3.46	2.30	(5.59)	(3.27)	(2.17)
83	Bournemouth/Dorset/Poole	3.77	2.49	1.35	(3.63)	(2.40)	(1.30)
84	Wiltshire/Swindon	5.15	2.75	1.50	(4.90)	(2.62)	(1.43)
85	Former Avon	2.78	1.11	0.21	(2.71)	(1.08)	(0.20)
	ENGLAND	3.74	1.73	0.77	(3.60)	(1.67)	(0.74)

Figure 5: Intra-regional variations in the density of skill-shortage vacancies – LLSC areas

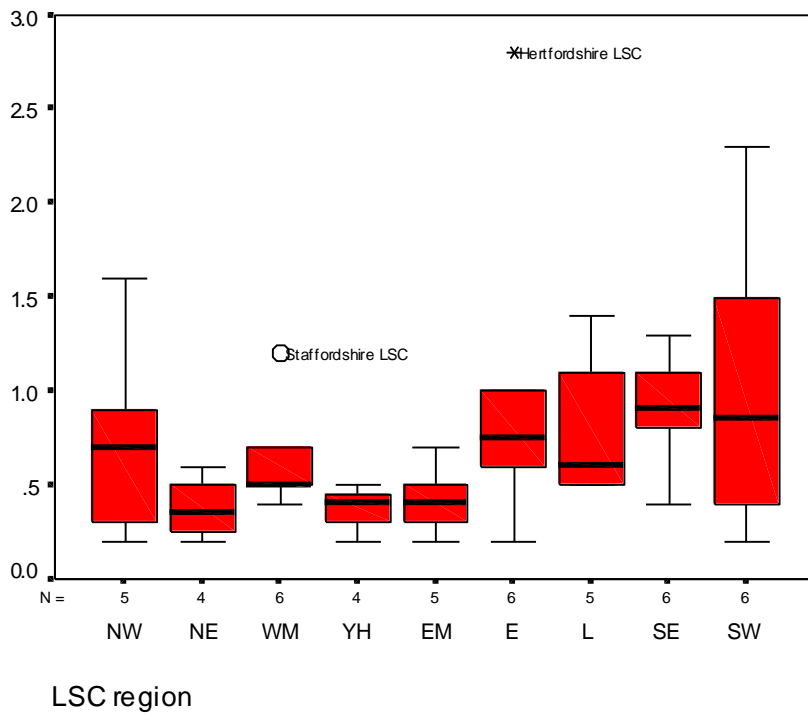


Figure 6: Intra-regional variations in the density of hard-to-fill vacancies – LLSC areas

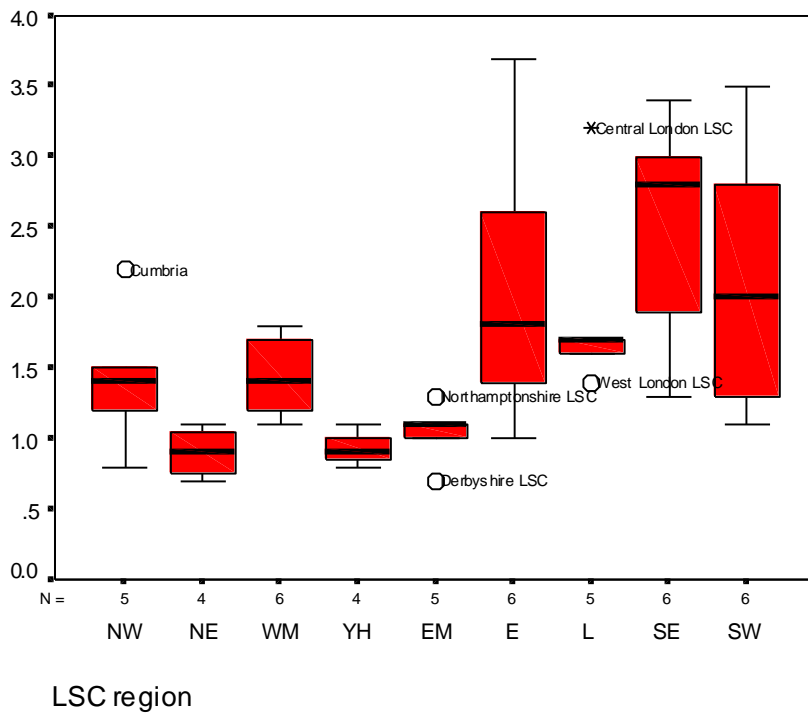


Table 5: Rankings of LLSC areas on vacancies as a percentage of employment (weighted data)

Total Vacancies		Hard-to-fill Vacancies		Skill-Shortage Vacancies	
Hertfordshire	6.39	Hertfordshire	3.74	Hertfordshire	2.77
London East	6.23	Gloucestershire	3.46	Gloucestershire	2.30
Gloucestershire	5.92	Oxon/Bucks/Milton Keynes	3.41	Cumbria	1.56
Surrey	5.71	London Central	3.20	Wiltshire and Swindon	1.50
London Central	5.55	Surrey	3.03	London Central	1.41
Essex	5.54	Berkshire	2.88	Bournemouth Dorset/Poole	1.35
London North	5.48	Wiltshire and Swindon	2.75	Hamps/IoW/Portsm'th/Sou'thampton	1.31
Oxon/Bucks/Milton Keynes	5.41	Hamps/IoW/Portsm'th/Sou'thampton	2.69	Staffordshire	1.24
Wiltshire and Swindon	5.15	Cambridgeshire	2.61	East Sussex/West Sussex/Brighton & Hove	1.12
Berkshire	5.07	Bournemouth Dorset/Poole	2.49	London East	1.12
Hamps/IoW/Portsm'th/Sou'thampton	4.80	Cumbria	2.16	Surrey	1.05
Birmingham/Solihull	4.44	Essex	2.04	Cambridgeshire	0.96
Cambridgeshire	4.22	East Sussex/West Sussex/Brighton & Hove	1.95	Lancashire	0.90
Nottinghamshire	4.04	Herefordshire/Worcs	1.79	Berkshire	0.83
East Sussex/West Sussex/Brighton & Hove	4.04	England	1.73	Oxon/Bucks/Milton Keynes	0.83
Bedfordshire	3.78	London East	1.70	Essex	0.82
Bournemouth Dorset/Poole	3.77	Birmingham/Solihull	1.67	England	0.77
England	3.74	London North	1.66	Nottinghamshire	0.71
Norfolk	3.40	London South	1.62	Bedfordshire	0.68
London South	3.26	Norfolk	1.58	Greater Manchester	0.67
Northamptonshire	3.25	Staffordshire	1.57	Birmingham/Solihull	0.67
London West	3.24	Cheshire/Warrington	1.49	Norfolk	0.63
Cheshire/Warrington	3.15	Devon/Cornwall	1.46	Tyne and Wear	0.61
Mersyside/Halton	3.14	Bedfordshire	1.43	London North	0.60
Lincolnshire/Rutland	3.14	London West	1.43	Humberside	0.54
Somerset	3.09	Lancashire	1.35	Herefordshire/Worcs	0.53
Devon/Cornwall	3.05	Kent/Medway	1.30	Leicestershire	0.52
Cumbria	3.03	Somerset	1.26	London West	0.50
Staffordshire	2.94	Northamptonshire	1.25	London South	0.49
Coventry/Warwickshire	2.89	Coventry/Warwickshire	1.24	Coventry/Warwickshire	0.47
Tyne and Wear	2.88	Greater Manchester	1.16	The Black Country	0.46
Herefordshire/Worcs	2.84	Shropshire	1.15	North Yorkshire	0.43
Kent/Medway	2.84	Nottinghamshire	1.14	Shropshire	0.42
Former Avon	2.78	Former Avon	1.11	Devon/Cornwall	0.42
Leicestershire	2.75	Lincolnshire/Rutland	1.11	Kent/Medway	0.42
The Black Country	2.73	West Yorkshire	1.10	Somerset	0.38
West Yorkshire	2.65	Tyne and Wear	1.07	West Yorkshire	0.38
Greater Manchester	2.63	The Black Country	1.06	Tees Valley	0.37
Lancashire	2.54	Suffolk	1.01	Northamptonshire	0.36
County Durham	2.49	Leicestershire	0.99	Mersyside/Halton	0.34
South Yorkshire	2.47	County Durham	0.97	Derbyshire	0.34
Shropshire	2.39	North Yorkshire	0.90	County Durham	0.32
Suffolk	2.05	South Yorkshire	0.86	Northumberland	0.25
Humberside	2.01	Humberside	0.82	Suffolk	0.24
North Yorkshire	2.00	Mersyside/Halton	0.81	Former Avon	0.21
Derbyshire	1.82	Tees Valley	0.77	South Yorkshire	0.19
Tees Valley	1.79	Derbyshire	0.75	Cheshire/Warrington	0.19
Northumberland	1.62	Northumberland	0.65	Lincolnshire/Rutland	0.17

Tables 6 and 7 list those *TTWAs* displaying the greatest incidence of vacancies, using establishment-based and density measures respectively. Although there are representatives from various regions included in the listings, the majority of *TTWAs* in the lists are located in southern England and the Midlands – in accordance with the key patterns emerging at the LLSC area scale. Note, only *TTWAs* with at least 50 establishments are included in the rankings

Table 6: Rankings of *TTWAs* on percentage of establishments reporting vacancies (weighted data)

Total Vacancies		Hard-to-fill Vacancies		Skill-Shortage Vacancies	
Chichester	72.5	Chichester	61.4	Chichester	56.0
Trowbridge & Warminster	63.5	Trowbridge & Warminster	56.8	Trowbridge & Warminster	51.1
Rugby	45.4	Burton on Trent	35.1	Burton on Trent	31.8
Bolton	40.5	Aylesbury & Wycombe	29.6	Bolton	28.8
Burton on Trent	39.6	Bolton	29.6	Stroud	14.7
Aylesbury & Wycombe	36.7	Reading	24.4	Blackpool	12.7
Reading	36.0	Bournemouth	19.2	Bridlington & Driffield	9.3
Bedford	35.6	Worthing	18.6	Worthing	7.9
Worthing	33.1	Stroud	18.4	Dorchester & Weymouth	7.5
Swindon	30.3	Cambridge	18.1	Reading	6.6
Stamford	28.9	Dorchester & Weymouth	17.1	Banbury	6.5
Crawley	27.0	Gloucester	16.8	Luton	6.3
Lancaster & Morecambe	26.7	Stamford	14.3	Preston	6.2
Cambridge	26.3	Blackpool	14.0	Lancaster & Morecambe	6.1
Nottingham	25.6	Exeter	14.0	Cheltenham	6.0
Luton	25.4	Lancaster & Morecambe	13.2	Cambridge	5.7
Exeter	25.0	Birmingham	12.5	London	5.7
Dorchester & Weymouth	24.9	Kidderminster	11.9	Cirencester	5.5
Preston	24.4	Newbury	11.7	Guildford & Aldershot	5.3
Chippenham	24.0	Norwich	11.5	York	5.3
Birmingham	23.5	Kettering & Corby	11.2	Kettering & Corby	5.3
Stroud	23.3	Guildford & Aldershot	10.9	Evesham	5.3
Guildford & Aldershot	23.3	Crawley	10.9	Oxford	5.2
Poole	23.1	Preston	10.8	Warwick	5.1
Bournemouth	22.8	Malvern	10.2	Bedford	4.9

Table 7: Rankings of *TTWAs* on vacancies as a percentage of employment (i.e. density) (weighted data)

Total Vacancies		Hard-to-fill Vacancies		Skill-Shortage Vacancies	
Stroud	12.61	Stroud	9.99	Stroud	9.17
Chichester	10.63	Chichester	5.25	Chichester	4.28
Stamford	7.33	Trowbridge & Warminster	4.89	Burton on Trent	4.04
Great Yarmouth	6.86	Stamford	4.64	Blackpool	3.94
Oxford	6.37	Burton on Trent	4.50	Trowbridge & Warminster	3.93
Guildford & Aldershot	6.22	Blackpool	4.46	Basingstoke	2.86
Trowbridge & Warminster	6.09	Oxford	4.43	Cirencester	2.56
Basingstoke	6.08	Basingstoke	4.03	Bridlington & Driffield	2.46
Newbury	6.05	Aylesbury & Wycombe	3.61	Evesham	2.34
Aylesbury & Wycombe	5.81	Bridlington & Driffield	3.44	Portsmouth	1.47
Blackpool	5.63	Gloucester	3.26	Bolton	1.47
Bedford	5.52	Cambridge	3.26	Oxford	1.45
London	5.44	Newbury	3.20	Guildford & Aldershot	1.42
Burton on Trent	5.35	Southend	3.11	Dorchester & Weymouth	1.31
Swindon	5.23	Reading	3.08	London	1.24
Reading	5.21	Bournemouth	3.02	Worthing	1.19
Taunton	5.19	Guildford & Aldershot	3.00	Loughborough	1.16
Gloucester	5.16	Cirencester	2.93	Cambridge	1.14
Chippenham	5.01	Evesham	2.78	Southend	1.10
Cambridge	4.99	Dorchester & Weymouth	2.74	Eastbourne	1.06
Nottingham	4.42	Ashford	2.68	Southampton/Winchester	1.02
Cirencester	4.32	Portsmouth	2.66	Stevenage	0.99
Lincoln	4.32	Swindon	2.57	King's Lynn	0.98
Bridlington & Driffield	4.21	London	2.49	Cheltenham	0.91
Bournemouth	4.14	Tunbridge Wells	2.38	Hartlepool	0.88

For the purposes of presentation of descriptive statistics, *UALADs* were grouped into ‘families’ and ‘groups’¹⁶ on the basis of their similarity in terms of socio-economic and demographic profiles, using an ONS classification of local authorities.¹⁷ **Table 8** shows the incidence of vacancies using both establishment-based and density measures.¹⁸

Table 8: Vacancy indicators by UALAD ‘families’ and ‘groups’

Family Group	Percentage of establishments reporting vacancies			Vacancies as a percentage of employment - i.e. density (vacancy rate)					
	Total	HtF	S-S	Total		Hard-to-fill		Skill-shortage	
<i>Rural Areas</i>	12.0	7.8	3.5	3.20	(3.10)	1.83	(1.77)	0.78	(0.75)
Rural Amenity	12.5	7.3	2.3	3.21	(3.11)	1.66	(1.61)	0.53	(0.52)
Remoter Rural	11.4	8.4	4.9	3.19	(3.09)	2.07	(2.00)	1.12	(1.09)
<i>Urban Fringe</i>	13.6	6.0	3.1	3.36	(3.25)	1.52	(1.47)	0.69	(0.67)
Established Manufacturing Fringe	10.6	5.1	3.1	2.47	(2.41)	1.09	(1.06)	0.64	(0.62)
New and Developing Areas	13.8	6.0	2.3	3.48	(3.36)	1.59	(1.54)	0.56	(0.54)
Mixed Urban	15.6	6.6	3.7	3.88	(3.73)	1.75	(1.68)	0.88	(0.85)
<i>Coast and Services</i>	14.6	7.0	3.8	3.88	(3.73)	1.61	(1.55)	0.76	(0.73)
Coast and Country Resorts	17.1	7.9	5.1	4.64	(4.43)	1.65	(1.58)	0.96	(0.92)
Established Service Centres	12.1	6.1	2.5	3.23	(3.13)	1.58	(1.53)	0.59	(0.57)
<i>Prosperous England</i>	16.9	9.6	4.6	4.47	(4.28)	2.49	(2.39)	1.07	(1.02)
Growth Areas	16.1	9.1	4.8	4.38	(4.20)	2.37	(2.27)	1.12	(1.07)
Most Prosperous	19.8	11.1	3.8	4.72	(4.51)	2.87	(2.74)	0.91	(0.87)
<i>Mining, Manufacturing and Industry</i>	14.0	6.1	2.8	2.63	(2.56)	0.96	(0.93)	0.44	(0.43)
Coalfields	9.8	4.0	2.1	2.11	(2.07)	0.81	(0.80)	0.36	(0.35)
Manufacturing Centres	14.6	7.1	2.6	2.75	(2.67)	1.03	(1.00)	0.42	(0.40)
Ports and Industry	19.4	7.6	4.2	3.01	(2.92)	1.01	(0.98)	0.57	(0.56)
<i>Education Centres and Outer London</i>	12.9	5.8	1.8	4.28	(4.10)	1.70	(1.63)	0.53	(0.51)
<i>Inner London</i>	18.1	10.8	7.0	5.88	(5.55)	2.70	(2.55)	1.37	(1.29)
West Inner London	15.3	8.4	6.1	4.86	(4.63)	2.65	(2.53)	1.38	(1.31)
East Inner London	21.8	14.1	8.3	7.73	(7.18)	2.80	(2.60)	1.35	(1.25)
England	14.5	7.5	3.7	3.74	(3.60)	1.73	(1.67)	0.77	(0.74)

Two ‘families’ record a greater than average incidence of all types of vacancy (on all measures presented): Inner London and Prosperous England. Within Inner London, the incidence of hard-to-fill and skill-shortage vacancies is generally higher in the East Inner London ‘group’ of UALADs than in the West Inner London ‘group’, but for both ‘groups’ the incidence of vacancies exceeds the England average. In Prosperous England, the incidence of hard-to-fill vacancies is highest in the Most Prosperous ‘group’, but the incidence of skill-shortage vacancies is slightly greater in the Growth Areas ‘group’ than in the Most Prosperous areas.

Although the total incidence of vacancies is generally lower than average in Rural Areas, hard-to-fill vacancies are more prevalent than average. There appear to be particular problems of hard-to-fill and skill-shortage vacancies in the Remoter Rural areas ‘group’. The Coast and Country Resorts ‘group’ also displays a higher than average incidence of skill-shortage vacancies.

¹⁶ ‘Groups’ nest into ‘families’.

¹⁷ The classification provides mutually exclusive sets of local authorities which share similar socio-economic and demographic profiles – based on demographic, housing, employment, socio-economic and household composition variables. The classification was developed to convey broad geographic patterns in the socio-economic characteristics of the population, and to identify areas which are similar for comparative studies. For further details see Bailey S., Charlton J., Dollamore G. and Fitzpatrick S. (2000) ‘Families, groups and clusters of local and health authorities: revised for authorities in 1999’, *Population Trends* 99, 37-52.

¹⁸ Vacancy rate measures are also presented – in parentheses.

Of all the 'groups' identified, the Coalfields record the lowest incidence of hard-to-fill and skill-shortage vacancies. Within the Mining, Manufacturing and Industry 'family' the Manufacturing Centres 'group' and the Ports and Industry 'group' records similar incidences of hard-to-fill vacancies, but the latter 'group' records the highest incidence of skill-shortage vacancies.

3. The relationship between skill-shortage/hard-to-fill vacancies and unemployment/non-employment at local level

Table 9 shows rankings of LLSC areas on four indicators of unemployment/non-employment¹⁹:

- 1) claimant count unemployment rate (average for year March 2000 to Feb 2001)
- 2) longer-term²⁰ unemployment rate (average for year March 2000 to Feb 2001)
- 3) ILO unemployment rate for all 16+ (from the Annual Local Area LFS 2000²¹)
- 4) Non-employment rate for persons of working age (from the Annual Local Area LFS 2000)

by LLSC area.

The first two measures identified are based on the claimant count. The numerators in the unemployment rate calculations are the numbers of unemployed claimants and the numbers of claimants unemployed for at least 6 months, respectively, resident in each LLSC area. The denominator used in the unemployment rate calculations is the workforce-based denominator, which includes a workplace-based count of employee jobs within the LLSC area. The significance of the combination of a residence-based numerator with a denominator that is partly workplace-based is that in LLSC areas with relatively low levels of self-containment,²² claimant unemployment rates are likely to be deflated in large employment centres (e.g. parts of London) and inflated in 'dormitory' areas.

The second two measures are taken from the LFS. All LFS data are residence-based. The coverage of the ILO unemployment rate is not the same as the claimant count rate,²³ so there are differences in the unemployment rates, and on the relative rankings of unemployment on each measure. The differential between claimant-based and the ILO unemployment residence-based measures tends to be greatest in large cities with large concentrations of employment.²⁴ The non-employment rate encompasses the economically inactive as well as the unemployed. It is used in subsequent analyses in recognition of the fact that spatial variations in inactivity tend to be relatively greater than spatial variations in unemployment.

¹⁹ It was considered appropriate to use a number of different indicators of unemployment and non-employment.

²⁰ Unemployed for over 6 months.

²¹ The 2000 Local Area LFS covers the period from March 2000 to February 2001.

²² In a self-contained labour market area the majority of jobs are filled by local residents (demand-side self-containment) and the majority of employed residents fill jobs located within the area (supply-side self-containment). Not all LLSC areas are self-contained local labour markets.

²³ Although claimant count and ILO unemployment measures overlap, there are some people who are included in one measure only.

²⁴ Note that in Table 6 London Central has a claimant count unemployment rate slightly below the national average, but on the ILO unemployment rate it displays one of the highest rates recorded by any LLSC area, (and London West also displays a value in excess of the England average on the LFS indicators).

- Thirteen LLSC areas record values in excess of the England average on all four unemployment rate and non-employment rate measures identified:
 - from the North East region – Tees Valley, Tyne & Wear, County Durham
 - from the North West region – Merseyside/Halton, Greater Manchester
 - from Yorkshire & the Humber – Humberside, South Yorkshire
 - from the West Midlands – Birmingham/Solihull, the Black Country
 - from the East Midlands – Nottinghamshire
 - from London – London North, London East

Table 9: Rankings of LLSC areas on unemployment and non-employment indicators

Claimant unemp. rate	Longer-term unemp. rate	ILO unemp. rate	Non-employment rate				
Merseyside/Halton	7.3	Merseyside/Halton	3.3	Birmingham/Solihull	9.3	Merseyside/Halton	34.9
Tees Valley	7.2	Tees Valley	2.9	Tyne and Wear	9.2	Birmingham/Solihull	34.4
Tyne and Wear	6.1	Birmingham/Solihull	2.9	Tees Valley	9.2	London East	34.1
London North	6.0	London North	2.8	Merseyside/Halton	8.5	Tyne and Wear	33.4
County Durham	5.9	Tyne and Wear	2.5	London Central	8.3	Tees Valley	33.1
Birmingham/Solihull	5.8	The Black Country	2.3	London East	8.2	London Central	32.0
Humberside	5.7	South Yorkshire	2.1	The Black Country	7.1	London North	30.8
South Yorkshire	5.6	Humberside	2.1	London North	7.1	South Yorkshire	30.1
The Black Country	5.3	London East	2.1	South Yorkshire	6.8	London West	29.2
Northumberland	5.0	County Durham	1.9	West Yorkshire	6.1	Greater Manchester	29.1
London East	4.7	Northumberland	1.9	London West	6.0	The Black Country	28.9
Nottinghamshire	4.5	Nottinghamshire	1.8	Humberside	5.8	County Durham	28.3
West Yorkshire	4.0	West Yorkshire	1.5	Greater Manchester	5.4	Nottinghamshire	27.8
Derbyshire	3.9	Derbyshire	1.5	Cumbria	5.2	Cumbria	27.7
Greater Manchester	3.7	London Central	1.4	Nottinghamshire	5.2	Humberside	27.2
Cumbria	3.6	Greater Manchester	1.3	Lancashire	5.1	Lancashire	26.7
Lancashire	3.4	Norfolk	1.3	County Durham	5.1	Devon/Cornwall	25.7
Norfolk	3.4	London West	1.3	England	5.1	Northumberland	25.6
Devon/Cornwall	3.4	England	1.3	Northumberland	4.9	England	25.2
England	3.4	Cumbria	1.2	Coventry/Warwicks	4.9	West Yorkshire	24.9
Staffordshire	3.3	Staffordshire	1.1	Norfolk	4.8	Leicestershire	24.3
Leicestershire	3.2	Leicestershire	1.1	Devon/Cornwall	4.8	Derbyshire	24.1
London West	3.2	London South	1.1	Herefordshire/Worcs	4.6	Staffordshire	24.0
Lincolnshire/Rutland	2.9	Kent/Medway	1.1	Kent/Medway	4.6	Coventry/Warwicks	23.7
London Central	2.9	Devon/Cornwall	1.1	Leicestershire	4.5	Lincolnshire/Rutland	23.7
Kent/Medway	2.9	Lancashire	1.0	Derbyshire	4.5	Cheshire/Warrington	23.2
Coventry/Warwicks	2.8	Coventry/Warwicks	1.0	Staffordshire	4.4	Shropshire	23.1
Bedfordshire	2.7	Suffolk	1.0	London South	4.4	Norfolk	22.6
Essex	2.7	Bedfordshire	0.9	Bedfordshire	4.3	Essex	22.1
Suffolk	2.7	Essex	0.9	Suffolk	4.3	Suffolk	21.8
London South	2.7	E & W Sussex / Brighton & Hove	0.9	Lincolnshire/Rutland	4.2	Kent/Medway	21.7
Shropshire	2.5	Gloucestershire	0.9	Gloucestershire	4.2	Bournemouth/Dorset/Poole	21.6
Herefordshire/Worcs	2.3	Lincolnshire/Rutland	0.8	Shropshire	4.1	North Yorkshire	21.4
E & W Sussex Brighton & Hove	2.3	Shropshire	0.7	North Yorkshire	4.1	Bedfordshire	21.2
Gloucestershire	2.3	Herefordshire/Worcs	0.7	Somerset	3.9	London South	21.1
North Yorkshire	2.2	North Yorkshire	0.7	Northamptonshire	3.8	Herefordshire/Worcs	20.9
Northamptonshire	2.2	Northamptonshire	0.7	Former Avon	3.8	E & W Sussex / Brighton & Hove	20.7
Somerset	2.2	Somerset	0.7	Cheshire/Warrington	3.6	Hamps/IoW/Portsm'th/S'thampton	20.7
Cheshire/Warrington	2.1	Bournemouth/Dorset/Poole	0.7	Essex	3.6	Former Avon	20.3
Bournemouth/Dorset/Poole	2.1	Former Avon	0.7	E & W Sussex / Brighton & Hove	3.4	Somerset	20.2
Former Avon	2.1	Cheshire/Warrington	0.6	Hamps/IoW/Portsm'th/S'thampton	3.3	Cambridgeshire	19.6
Cambridgeshire	1.9	Cambridgeshire	0.6	Wiltshire/Swindon	3.3	Northamptonshire	18.6
Hamps/IoW/Portsm'th/S'thampton	1.9	Hamps/IoW/Portsm'th/S'thampton	0.6	Bournemouth/Dorset/Poole	3.1	Gloucestershire	18.3
Wiltshire/Swindon	1.5	Hertfordshire	0.4	Cambridgeshire	3.0	Hertfordshire	18.2
Hertfordshire	1.4	Oxon/Bucks/MK	0.4	Oxon/Bucks/MK	2.6	Berkshire	18.2
Berkshire	1.3	Berkshire	0.4	Berkshire	2.5	Wiltshire/Swindon	17.9
Oxon/Bucks/MK	1.2	Wiltshire/Swindon	0.4	Surrey	2.4	Oxon/Bucks/MK	17.5
Surrey	0.7	Surrey	0.2	Hertfordshire	2.2	Surrey	17.1

Examination of ESS1999 data²⁵ revealed a weak negative relationship between the incidence of skill-shortage vacancies and the local unemployment rate – i.e. in general, low unemployment rate areas tend to have a higher than average incidence of skill-shortage vacancies, and vice versa. This pattern is also evident from analysis of the ESS2001 data. **Table 10** shows the percentage of establishments reporting vacancies and the density of vacancies²⁶ by unemployment rate categories, where ‘low’, ‘medium’ and ‘high’ levels of claimant unemployment rates²⁷ are classified as follows:

- ◆ low: up to 2.39 per cent
- ◆ medium: 2.4-4.39 per cent²⁸
- ◆ high: 4.4 per cent and over

All three types of local areas the ‘low’ unemployment rate category records the highest incidence of hard-to-fill and skill-shortage vacancies. However, in the case of the LLSCs and UALADs, the ‘high’ unemployment rate category displays a higher incidence of hard-to-fill and skill-shortage vacancies than the ‘medium’ unemployment rate category on the establishment-based measure.

Table 10: Values on vacancy measures by unemployment rate categories

Unemployment rate category	Establishment-based measure			Density measure (vacancy rate measure)					
	Total vacancies	Hard-to-fill vacancies	Skill-shortage vacancies	Total vacancies		Hard-to-fill vacancies		Skill-shortage vacancies	
LLSCs									
Low	15.3	8.7	4.2	4.31	(4.13)	2.34	(2.25)	1.02	(0.97)
Medium	13.0	6.6	3.3	3.33	(3.22)	1.59	(1.54)	0.69	(0.67)
High	16.1	7.1	3.8	3.73	(3.60)	1.19	(1.15)	0.59	(0.57)
TTWAs									
Low	16.1	8.9	4.5	4.13	(3.97)	2.16	(2.07)	0.92	(0.88)
Medium	13.7	7.3	3.7	3.83	(3.69)	1.80	(1.73)	0.83	(0.80)
High	14.3	5.9	2.6	3.02	(2.93)	1.02	(0.99)	0.43	(0.42)
UALADs									
Low	16.5	9.4	4.9	4.34	(4.16)	2.35	(2.25)	1.04	(1.00)
Medium	11.3	5.2	2.3	3.03	(2.94)	1.32	(1.28)	0.56	(0.55)
High	15.2	7.2	3.6	3.64	(3.52)	1.29	(1.25)	0.59	(0.57)
England	14.5	7.5	3.7	3.74	(3.60)	1.73	(1.67)	0.77	(0.74)

Despite the general patterns indicated in analyses of ESS1999 (and replicated below with ESS2001), the statistically weak relationship indicates that the negative association between the incidence of skill-shortage and hard-to-fill vacancies on the one hand, and the local unemployment rate on the other, is by no means invariant. This suggests that the incidence of skill deficiencies cannot be explained solely by the ‘tightness’ of the labour market in the local area, as measured by the local unemployment rate.

²⁵ Green A.E. and Owen D.W. (2001) *Skills, Local Areas and Unemployment*. DfEE Publications, SKT39: Nottingham.

²⁶ Vacancy rate measures are presented also – in parentheses.

²⁷ Note that Annual Local Area LFS data are not available disaggregated to TTWAs; hence, information for ILO unemployment rate and non-employment rate indicators cannot be presented, and attention is restricted to the claimant count.

²⁸ i.e. within 1 percentage point of claimant unemployment rate for England as a whole.

From a policy perspective, there is particular interest in the co-existence of relatively high levels of skill-shortage vacancies co-existing alongside relatively high levels of unemployment. Indeed, the main purpose of this project is:

❖ ***To investigate the extent, nature and cause of the ‘paradox’ of high levels of skill shortages associated with high levels of unemployment***

Possible reasons for the ‘paradox’ include:

1. skills mismatch – i.e. a mismatch between the skills of the unemployed and the vacancies available
2. problems with mechanisms allocating people with skills to jobs – i.e. unemployed people have the necessary skills to fill vacancies, but for some reason there are shortcomings in the information available to them, and in application and recruitment mechanisms, such that the unemployed are not matched to the jobs available
3. problems with the motivations and intentions of the unemployed preventing them from seeking effectively for jobs
4. shortcomings in the efficiency and effectiveness of employers’ search for labour – such that people with the necessary skills are overlooked / not considered suitable employees (for some reason).²⁹

Of course, these various reasons might be complementary, rather than competing, reasons for the ‘paradox’.

Analysis at LLSC area level

In the majority of the remainder of this section, a bivariate investigation³⁰ of the paradox is presented at LLSC area level using four vacancy-related indicators from ESS2001:

- 1) percentage of establishments with skill-shortage vacancies (see **Figures 9-12**)
- 2) percentage of establishments with hard-to-fill vacancies (see **Figures 13-16**)
- 3) density of skill-shortage vacancies (see **Figures 17-20**)
- 4) density of hard-to-fill vacancies (see **Figures 21-24**)

plotted in scattergrams against four *unemployment/non-employment rate indicators*:

- 1) claimant unemployment rate (see **Figures 9, 13, 17, 21**)
- 2) longer-term unemployment rate (see **Figures 10, 14, 18, 22**)
- 3) ILO unemployment rate (see **Figures 11, 15, 19, 23**)
- 4) non-employment rate for people of working age (see **Figures 12, 16, 20, 24**)

Figures 9-12 and **17-20** all show negative, but weak relationships between skill-shortage measures and unemployment/non-employment measures. The only relationship that is statistically significant³¹ is that between the density of skill-shortage vacancies and the claimant unemployment rate. In general, the relationships observed with ESS2001 data are statistically weaker than those

²⁹ These issues are to be explored as part of the qualitative case studies.

³⁰ The econometric analyses are intended to explore the relationships further at the individual establishment level, by adopting multivariate techniques, taking into account variables such as industrial structure, size of establishment, etc, alongside local contextual indicators.

³¹ At the 5 per cent level.

observed with ESS1999 data.³² (One possible explanation for this is the lower level of skill-shortage vacancies overall identified in ESS2001 compared with ESS1999.)

Figures 13-16 and **21-24** show that stronger (albeit still relatively weak) negative relationships emerge when the percentage of establishments reporting skill-shortage vacancies indicators is replaced by the percentage of establishments reporting hard-to-fill vacancies. However, the only relationship that is statistically significant³³ is that between the percentage of establishments reporting hard-to-fill vacancies and the claimant unemployment rate. Similarly, when the density of skill-shortage vacancies indicator is replaced with the density of hard-to-fill vacancies indicator the relationships become stronger. The relationships between the density of hard-to-fill vacancies and all four unemployment/non-employment rate indicators are statistically significant.³⁴

Overall, then, it is clear that, at LLSC area scale:

- there is a negative relationship between skill-shortage and hard-to-fill vacancies and the local unemployment rate (i.e. in general, the incidence of skill-shortage and hard-to-fill vacancies is greater in local areas characterised by lower, rather than higher, unemployment rates);
- the negative relationship between hard-to-fill vacancies and the local unemployment rate is slightly stronger than the negative relationship between skill-shortage vacancies and the local unemployment rate;
- the negative relationships between skill deficiencies in the external labour market (as measured by the incidence of skill-shortage and hard-to-fill vacancies and the unemployment/non-employment rate indicators) are generally either statistically weak or not statistically significant, thus implying considerable variation in the unemployment/vacancy (U/V) relationship at LLSC area level.³⁵

In order to explore the possibility of different relationships between vacancy-related indicators and unemployment/non-employment rate indicators in different regions, the LLSC areas were divided into three broad regional groupings:

- south – encompassing the South East, London, the Eastern region and the South West;
- midlands – covering the West Midlands and the East Midlands; and
- north – including the North East, the North West and Yorkshire & the Humber.

Charts are presented in Appendix 2, showing 'line of best fit' relationships for each of the three broad regions. In most of the instances shown, for the southern and northern LLSCs there is a negative relationship between the vacancy-related indicators and the unemployment/non-employment rate indicators.³⁶ However, in the case of Midlands LLSC areas many of the relationships are positive; thus illustrating the variation in the nature of relationships between vacancies and unemployment-related indicators at the regional and local level. Regression analyses were run with

³² Reported in Green and Owen (2001) *op. cit.*

³³ At the 5 per cent level.

³⁴ At the 1 per cent level.

³⁵ As highlighted in Wilson R. and Hasluck C. (2002) *An econometric analysis of ESS2001*. Working Paper. Coventry: IER, University of Warwick. Differences may be due to structural and/or frictional differences between labour markets in different local areas.

³⁶ In the majority of instances, the negative relationships are stronger for 'southern' LLSC areas than for 'northern' LLSC areas.

separate regional dummies for each of the nine regions of England, but none of the coefficients were statistically significant.³⁷

Other local areas – TTWAs and UALADs

Charts showing the relationship between the four vacancy measures '1)-4)' and the claimant unemployment rate at the *TTWA* scale³⁸ are presented in **Figures 25-28**.³⁹ Again the relationships shown are weak and negative, but are not statistically significant.⁴⁰ The charts in Figures 25-28 underline the weakness of the relationship between vacancies and unemployment at the local level⁴¹ - particularly at a time of near 'full employment' in some local areas.⁴² Indeed, the very low unemployment rates in some local areas (which are often interpreted as being indicative of 'full employment')⁴³ may be a factor in explaining the weakness of the relationship in some areas. Econometric analyses focusing on individual establishments, rather than cross-sectional bivariate analyses at the local area level of the type presented here, have the potential to shed more light on the importance of the local labour market context in understanding the incidence of skill deficiencies.

In the case of the relationship between the percentage of establishments with hard-to-fill vacancies and the claimant unemployment rate⁴⁴ at the *UALAD* scale in **Figure 29**⁴⁵ the relationship is again somewhat negative in direction⁴⁶ – as at the LLSC area level.

The need to consider hard-to-fill vacancies as well as skill-shortage vacancies

Given the weakness of the relationships outlined above, it would seem appropriate to concentrate attention not solely on the 'paradox' of high levels of skill shortages associated with high levels of unemployment, but also on high levels of hard-to-fill

³⁷ And so are not reported here. The fact that there are relatively few LLSCs within each region is an important consideration here. The econometric analyses focusing on individual cases, rather than the spatial aggregates used here, have the potential to throw further light on the nature of local and regional variations.

³⁸ As outlined in section 1, TTWAs are functionally defined on the basis of *aggregate* commuting flows. Professional and managerial workers will tend to have longer commuting journeys than those in less skilled occupations and/or in low paid and/or part-time employment; (hence, 'sub-group TTWAs' for professional and managerial workers would be geographically more extensive than for those in less skilled occupations). There are no official definitions of 'sub-groups TTWAs', and development of such spatial definitions, or generation of 'smoothed' TTWA data is beyond the scope of this project.

³⁹ TTWAs where the unweighted number of establishments is less than 25 are excluded. (Note that TTWAs are not only more numerous than LLSC areas, they also display a greater variation in employment and population size.)

⁴⁰ Analyses disaggregated by broad regional groupings of TTWAs (not presented here, but as for LLSC areas in Appendix 1), show that for midlands TTWAs there is a weak negative relationship between the vacancy measures and unemployment, whereas for southern and northern TTWAs weak positive relationships were evident.

⁴¹ Moreover, the robustness and representativeness of the ESS2001 data when disaggregated to small local areas is questionable – as outlined in section 1.

⁴² As indicated by very low values for some TTWAs on the claimant unemployment measure.

⁴³ It is salient to note here, as noted above, that up-to-date information on a broader measure of non-employment at the TTWA level, is not available, from the LFS or the 2001 Census of Population, at the time of writing.

⁴⁴ Where the strongest negative relationships were evident at the LLSC area level.

⁴⁵ UALADs where the unweighted number of establishments is less than 25 are excluded.

⁴⁶ Although not statistically significant.

vacancies associated with high levels of unemployment. Indeed, it could well be the case that many more hard-to-fill vacancies are related to skill shortages than suggested by ESS2001.⁴⁷

Further analyses of the form of the relationship between vacancies and unemployment/non-employment

The analyses presented above have assumed a linear relationship between vacancies and unemployment. In order to test the possibility that the relationship between skill-shortage/hard-to-fill vacancies and unemployment/non-employment rate indicators may take some non-linear form,⁴⁸ a series of analyses were conducted adopting logarithmic and quadratic transformations.⁴⁹

In general, logarithmic transformations resulted in a statistically poorer fit, while quadratic transformations tended to result in a very slightly improved statistical relationship.

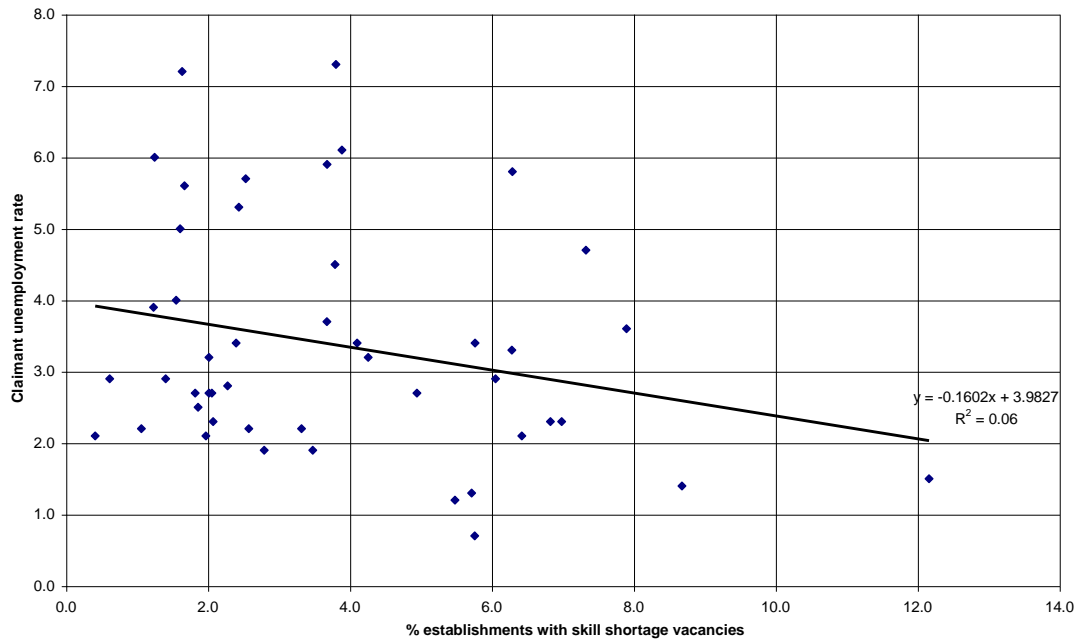
Hence, the results of these additional analyses underline the statistical weakness of the relationship between skill-shortage/hard-to-fill vacancies and unemployment/non-employment at the local area scale. Multivariate econometric analyses, taking account of the influence of a wider range of variables at the level of individual establishments, are necessary in order to attempt to provide further insight into the nature of the relationships at local area level.

⁴⁷ The qualitative case studies probe the extent to which hard-to-fill vacancies are skill-related much more the ESS2001 was able to do.

⁴⁸ As highlighted by Wilson and Hasluck (2002) *op. cit.*

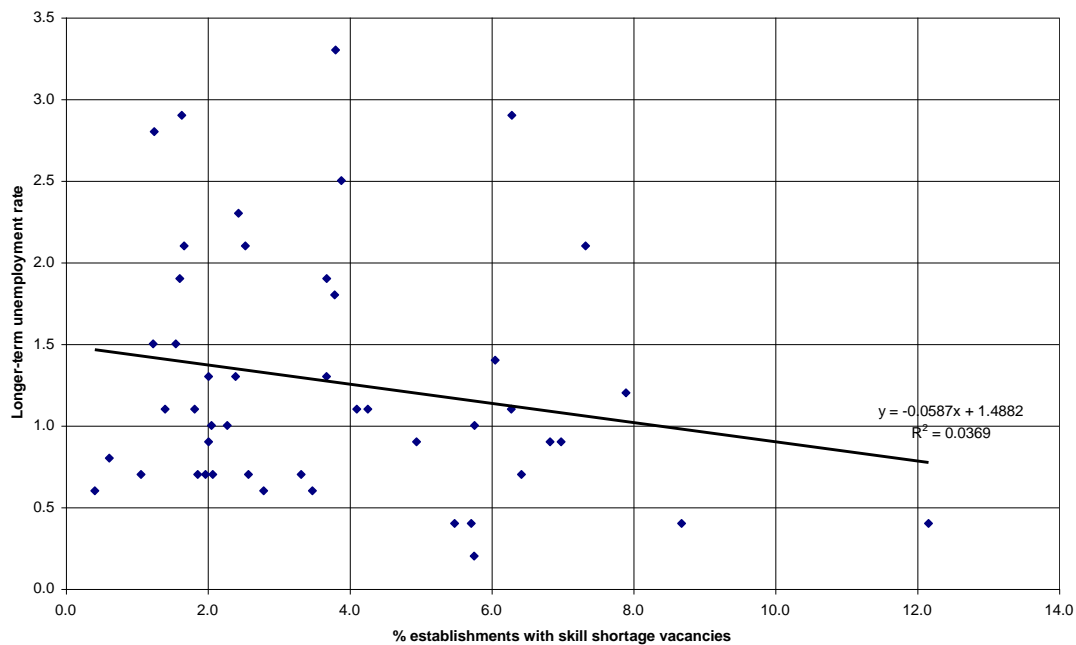
⁴⁹ Transformations were conducted, in turn, on both the x-axis and the y-axis of the scatterplots.

Figure 9: Relationship between the percentage of establishments reporting skill shortage vacancies and the claimant unemployment rate, March 2000-February 2001: LLSC areas



Note: This relationship is not significant

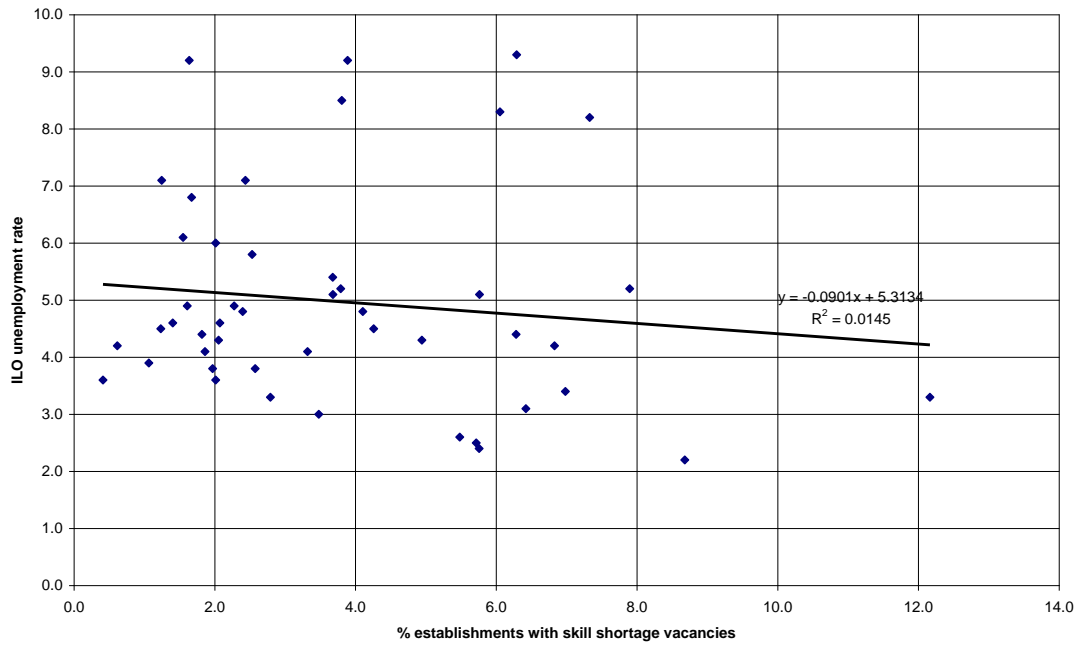
Figure 10: Relationship between the percentage of establishments reporting skill shortage vacancies and the longer-term claimant unemployment rate,⁵⁰ March 2000-February 2001: LLSC areas



Note: This relationship is not significant

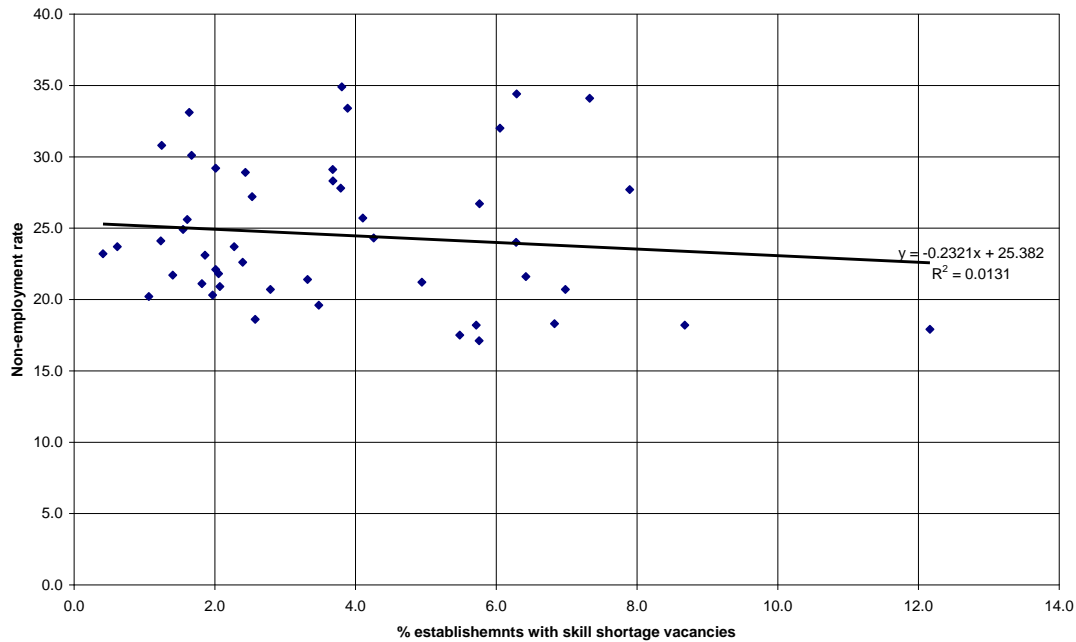
⁵⁰ Defined as unemployed for at least 6 months.

Figure 11: Relationship between the percentage of establishments reporting skill shortage vacancies and the ILO unemployment rate, March 2000-February 2001: LLSC areas



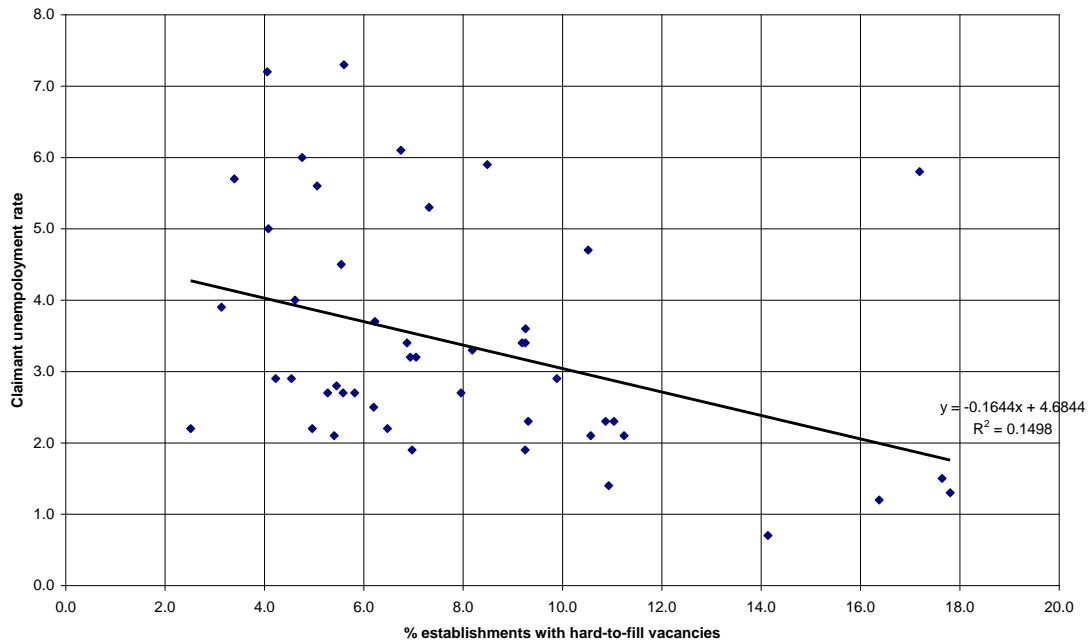
Note: This relationship is not significant

Figure 12: Relationship between the percentage of establishments reporting skill shortage vacancies and the non-employment rate for persons of working age, March 2000-February 2001: LLSC areas



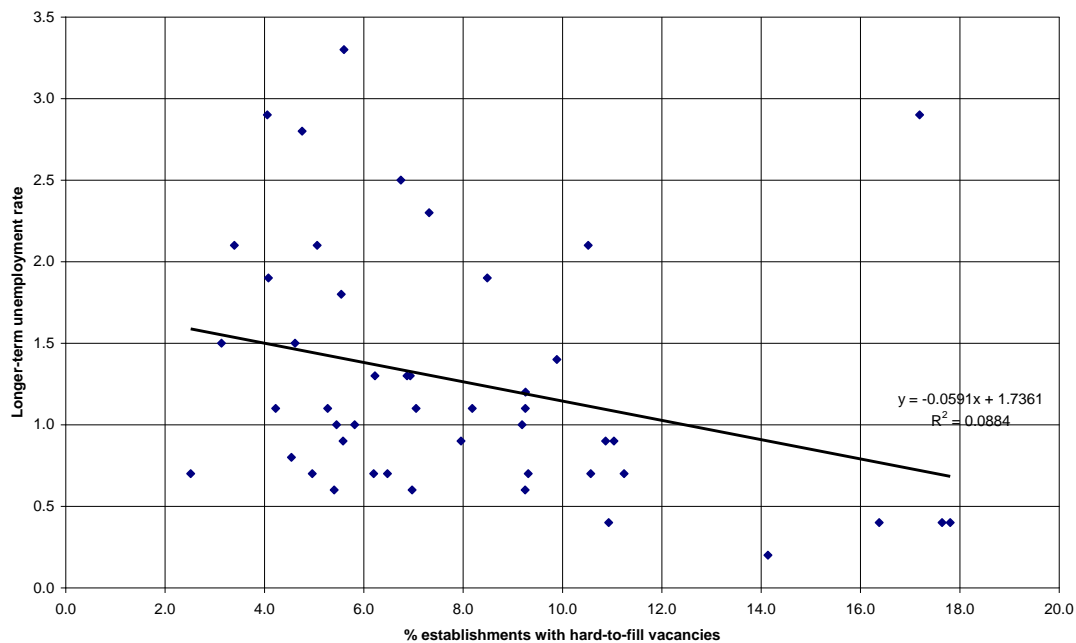
Note: This relationship is not significant

Figure 13: Relationship between the percentage of establishments reporting hard-to-fill vacancies and the claimant unemployment rate, March 2000-February 2001: LLSC areas



Note: This relationship is significant at the 5 per cent level

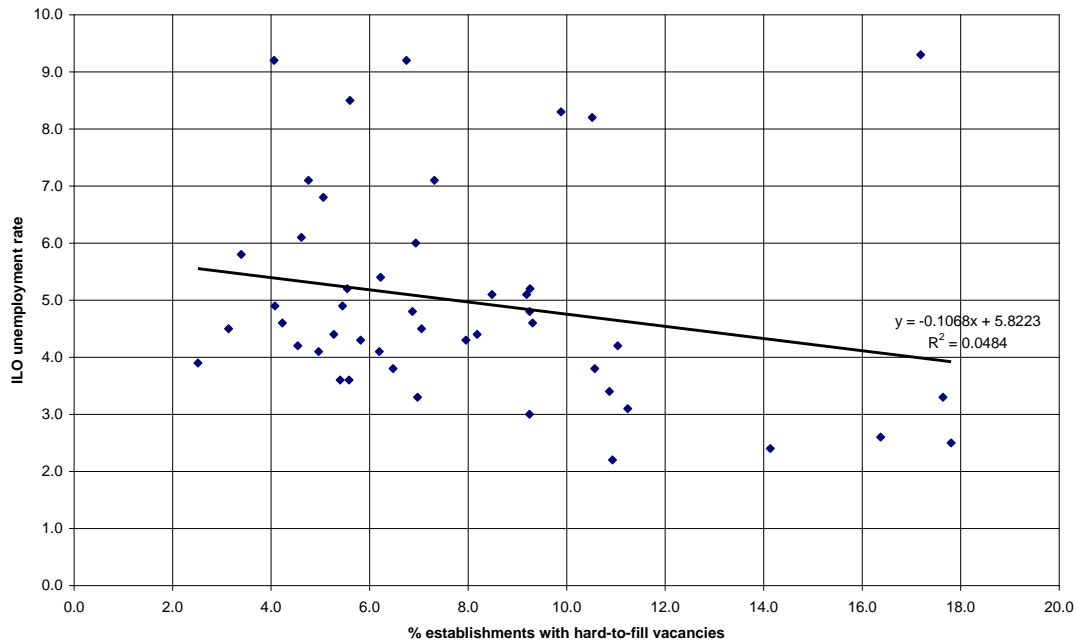
Figure 14: Relationship between the percentage of establishments reporting hard-to-fill vacancies and the longer-term claimant unemployment rate,⁵¹ March 2000-February 2001: LLSC areas



Note: This relationship is not significant

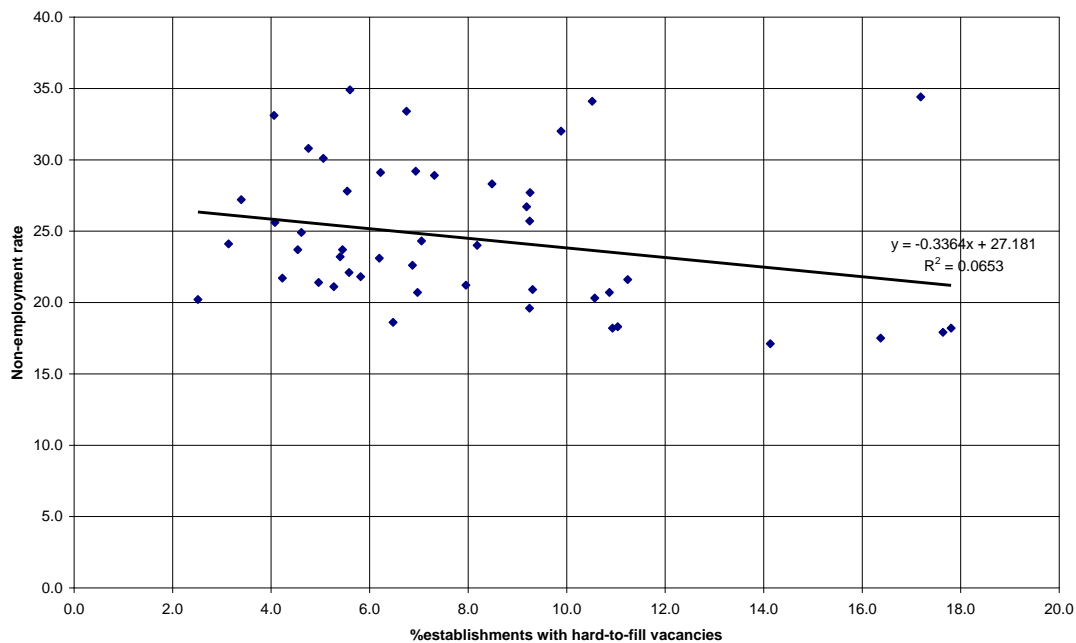
⁵¹ Defined as unemployed for at least 6 months.

Figure 15: Relationship between the percentage of establishments reporting hard-to-fill vacancies and the ILO unemployment rate, March 2000-February 2001: LLSC areas



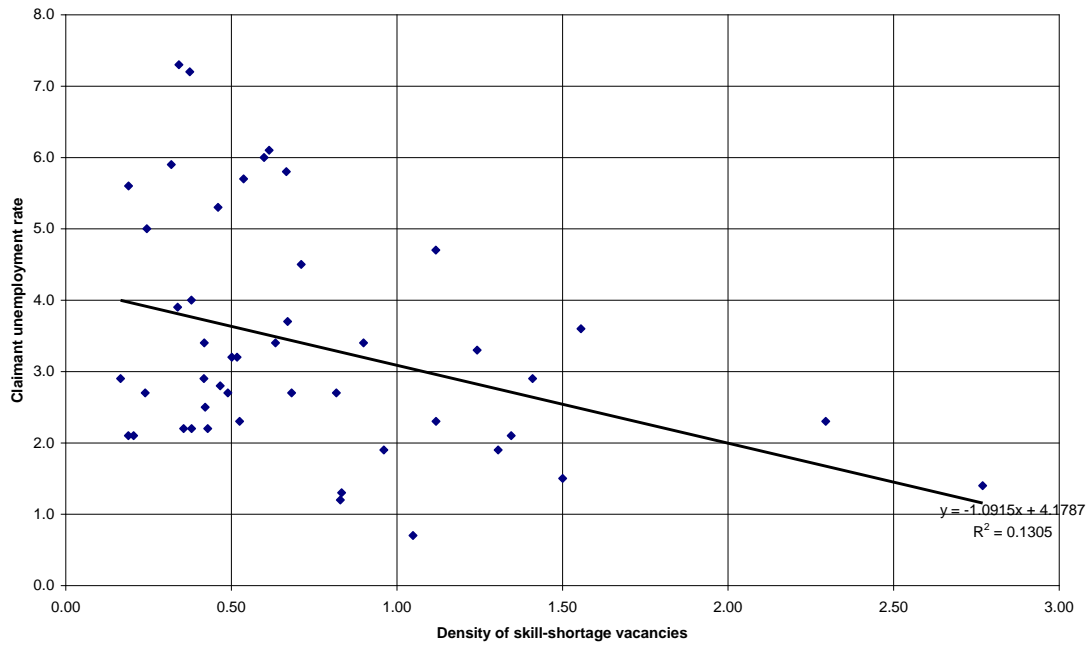
Note: This relationship is not significant

Figure 16: Relationship between the percentage of establishments reporting hard-to-fill vacancies and the non-employment rate for persons of working age, March 2000-February 2001: LLSC areas



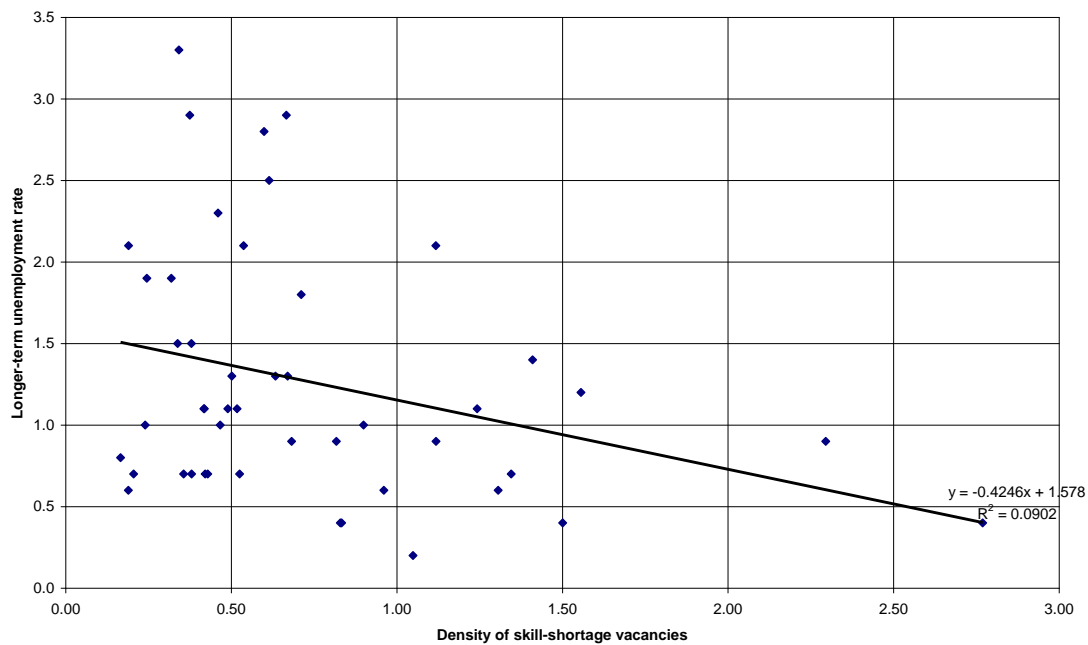
Note: This relationship is not significant

Figure 17: Relationship between the density of skill shortage vacancies and the claimant unemployment rate, March 2000-February 2001: LLSC areas



Note: This relationship is significant at the 5 per cent level

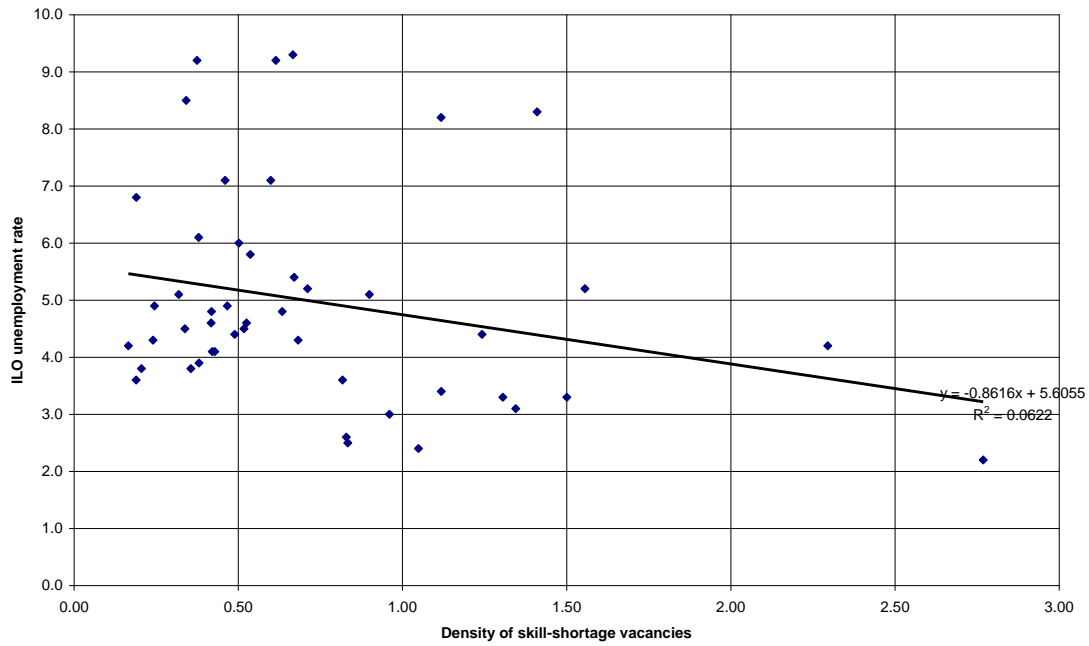
Figure 18: Relationship between the density of skill shortage vacancies and the longer-term claimant unemployment rate,⁵² March 2000-February 2001: LLSC areas



Note: This relationship is not significant

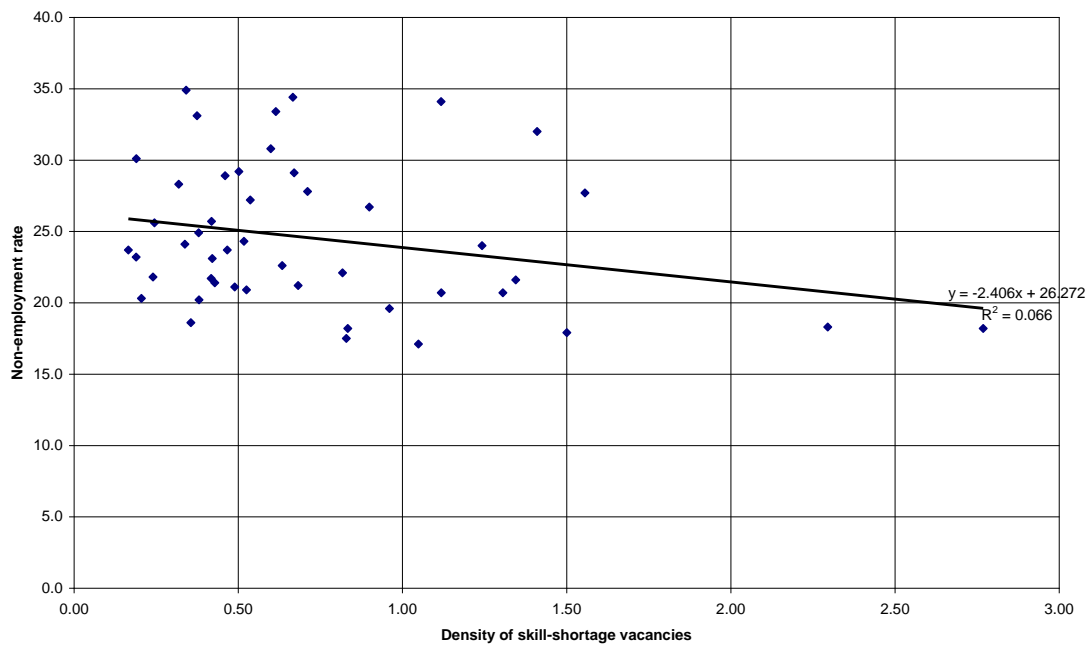
⁵² Defined as unemployed for at least 6 months.

Figure 19: Relationship between the density of skill shortage vacancies and the ILO unemployment rate, March 2000-February 2001: LLSC areas



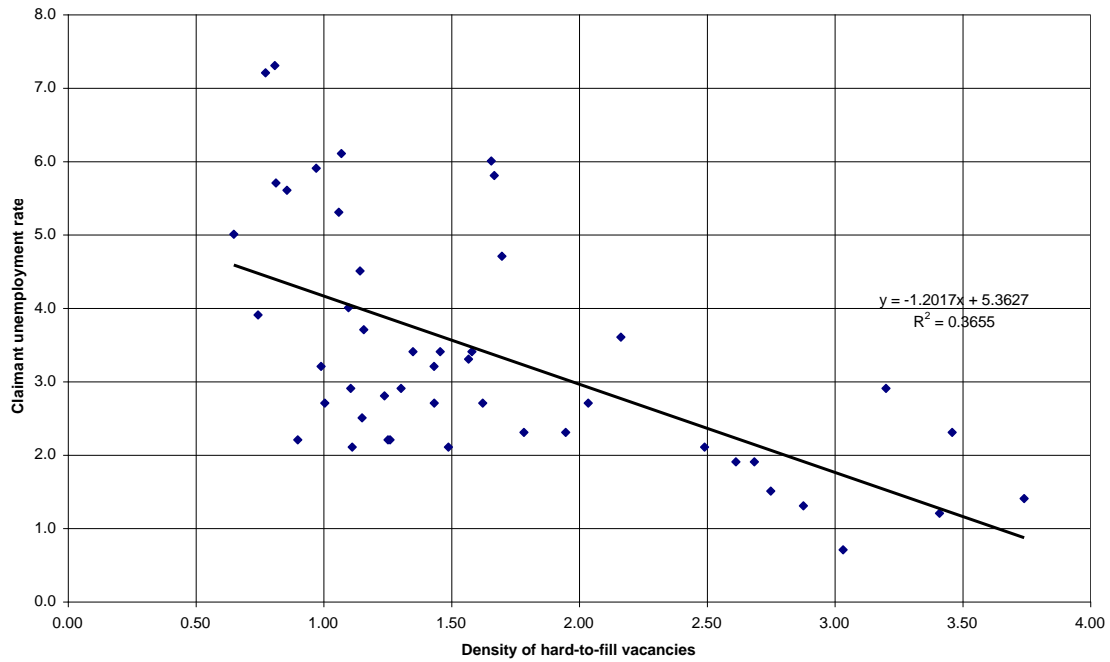
Note: This relationship is not significant

Figure 20: Relationship between the density of skill shortage vacancies and the non-employment rate for persons of working age, March 2000-February 2001: LLSC areas



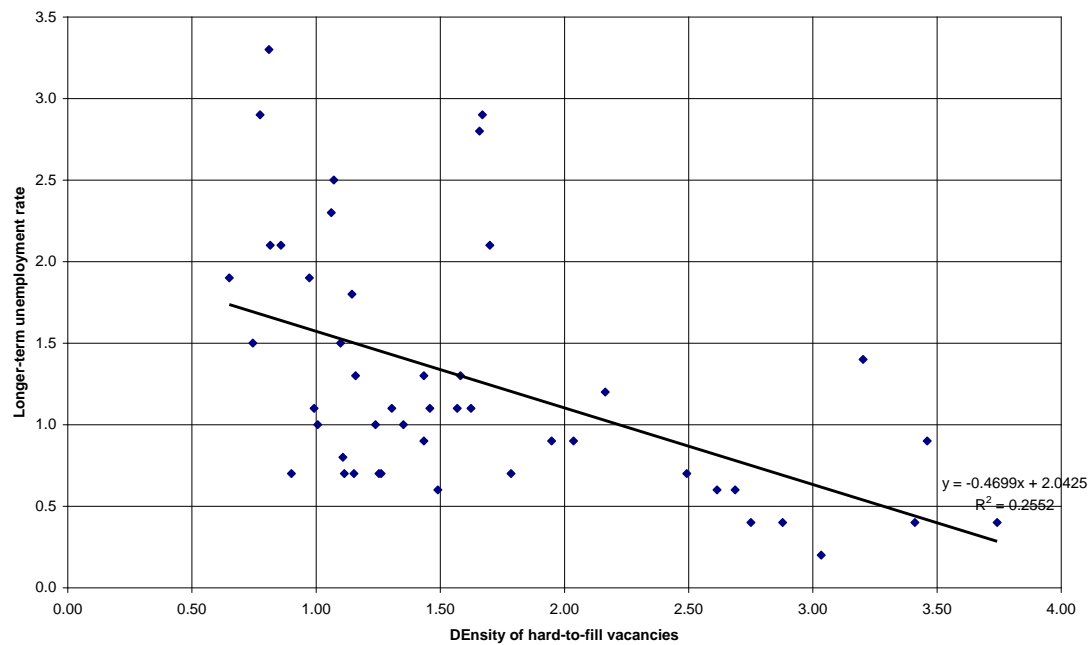
Note: This relationship is not significant

Figure 21: Relationship between the density of hard-to-fill vacancies and the claimant unemployment rate, March 2000-February 2001: LLSC areas



Note: This relationship is significant at the 1 per cent level

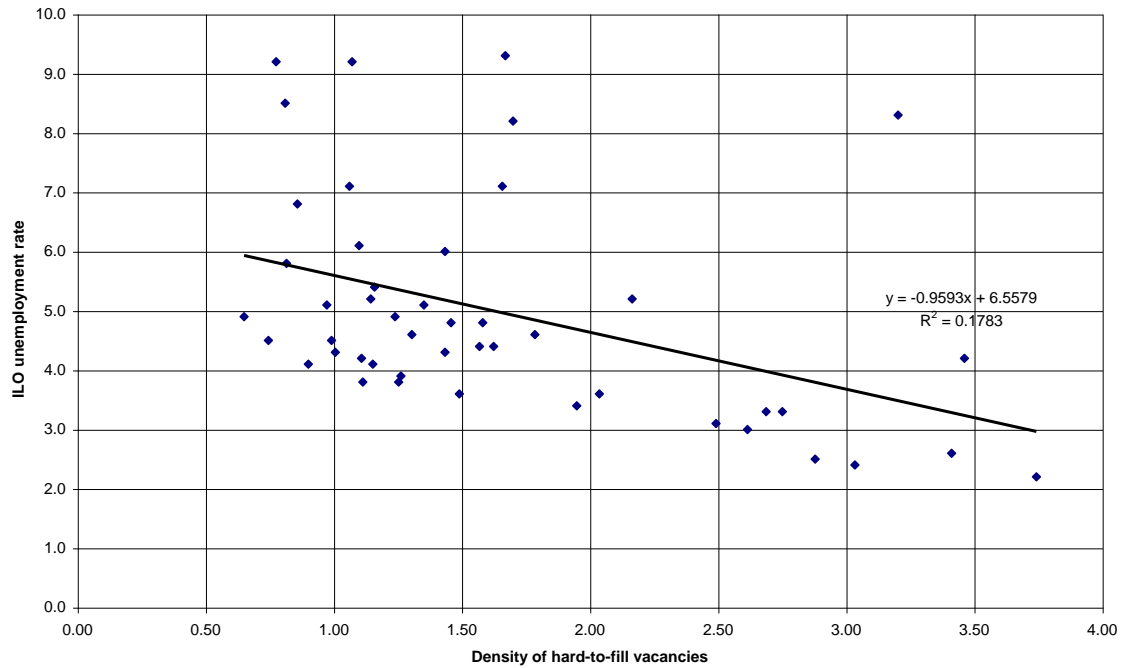
Figure 22: Relationship between the density of hard-to-fill vacancies and the longer-term claimant unemployment rate,⁵³ March 2000-February 2001: LLSC areas



Note: This relationship is significant at the 1 per cent level

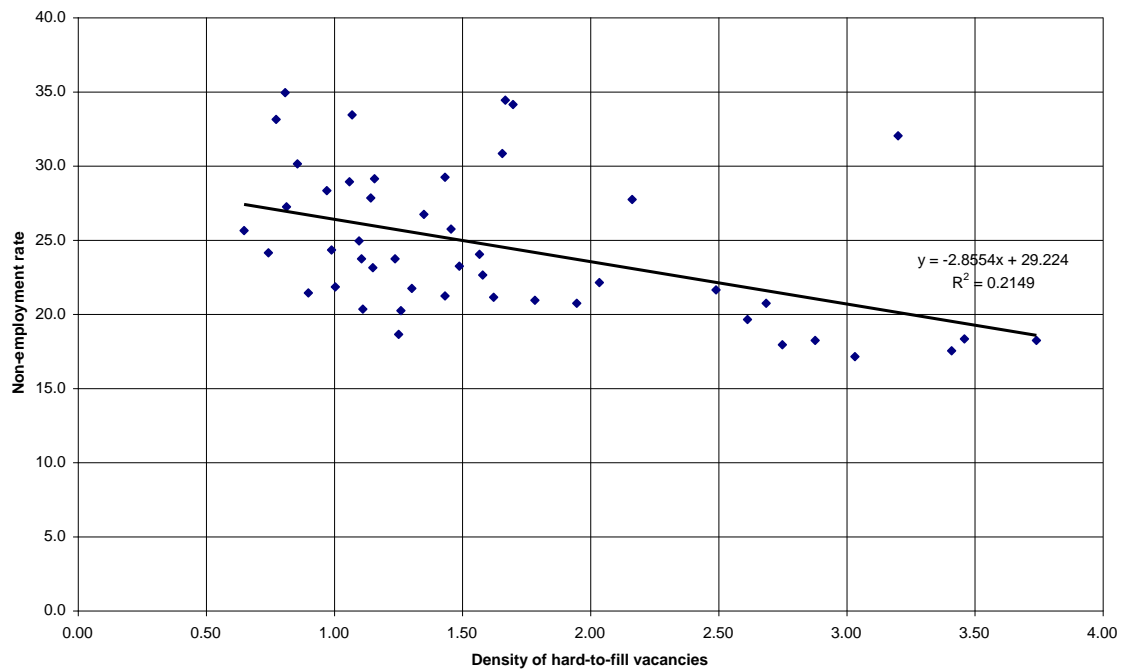
⁵³ Defined as unemployed for at least 6 months.

Figure 23: Relationship between the density of hard-to-fill vacancies and the ILO unemployment rate, March 2000-February 2001: LLSC areas



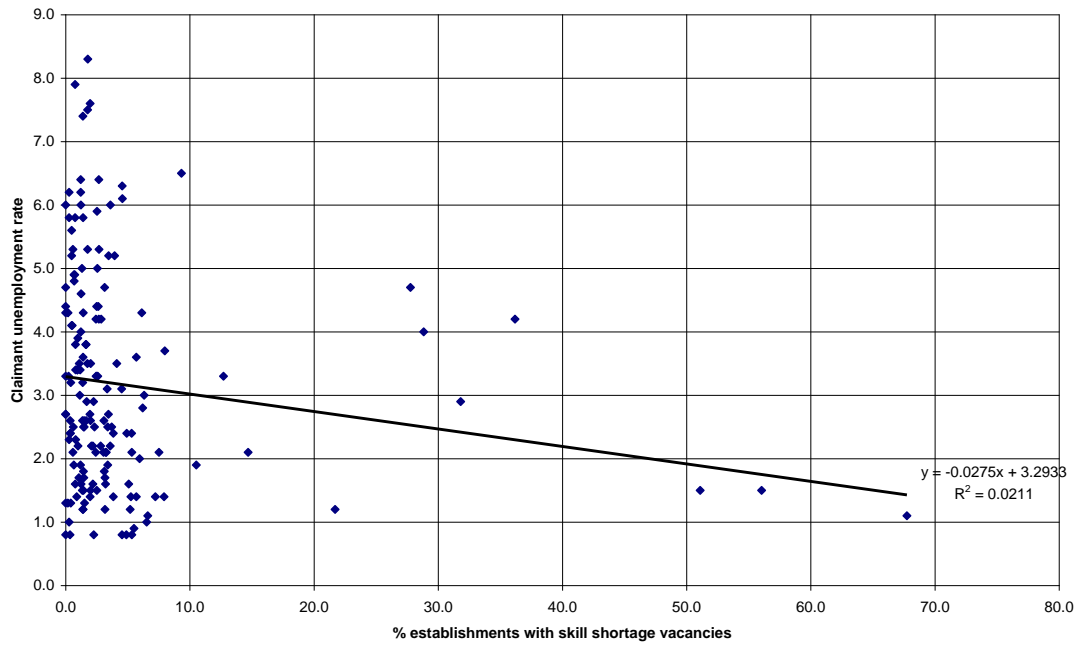
Note: This relationship is significant at the 1 per cent level

Figure 24: Relationship between the density of skill shortage vacancies and the non-employment rate for persons of working age, March 2000-February 2001: LLSC areas



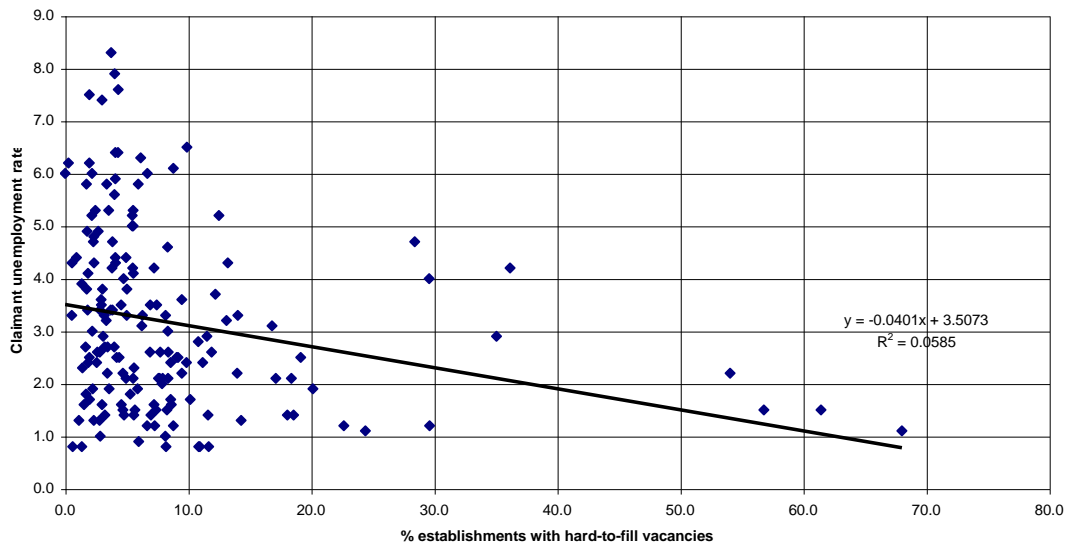
Note: This relationship is significant at the 1 per cent level

Figure 25: Relationship between the percentage of establishments reporting skill shortage vacancies and the claimant unemployment rate, March 2000-February 2001: TTWAs



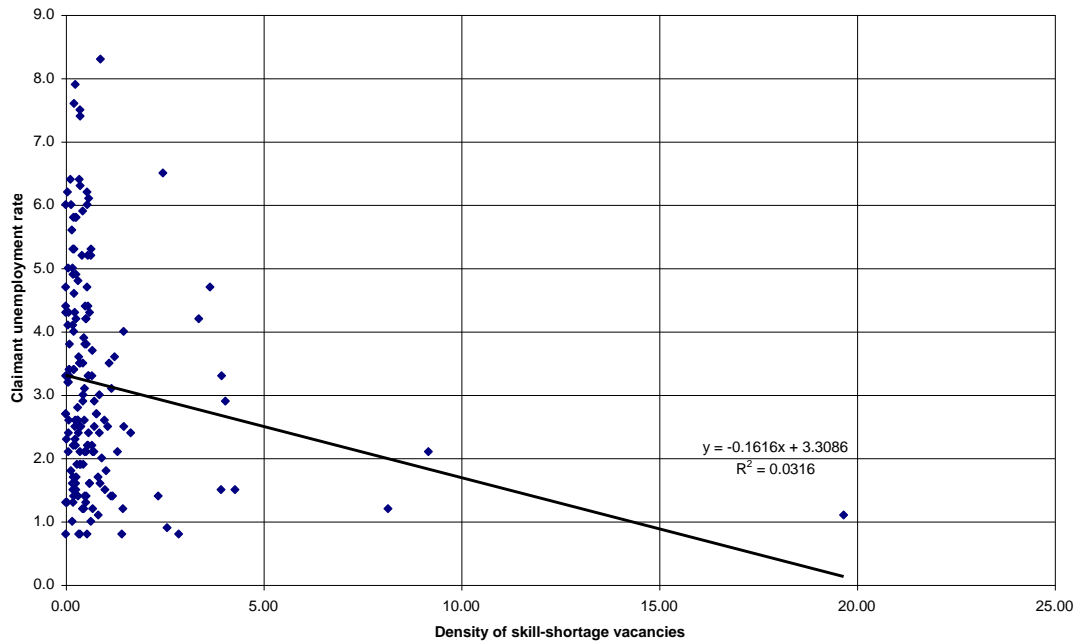
Note: This relationship is not significant

Figure 26: Relationship between the percentage of establishments reporting hard-to-fill vacancies and the claimant unemployment rate, March 2000-February 2001: TTWAs



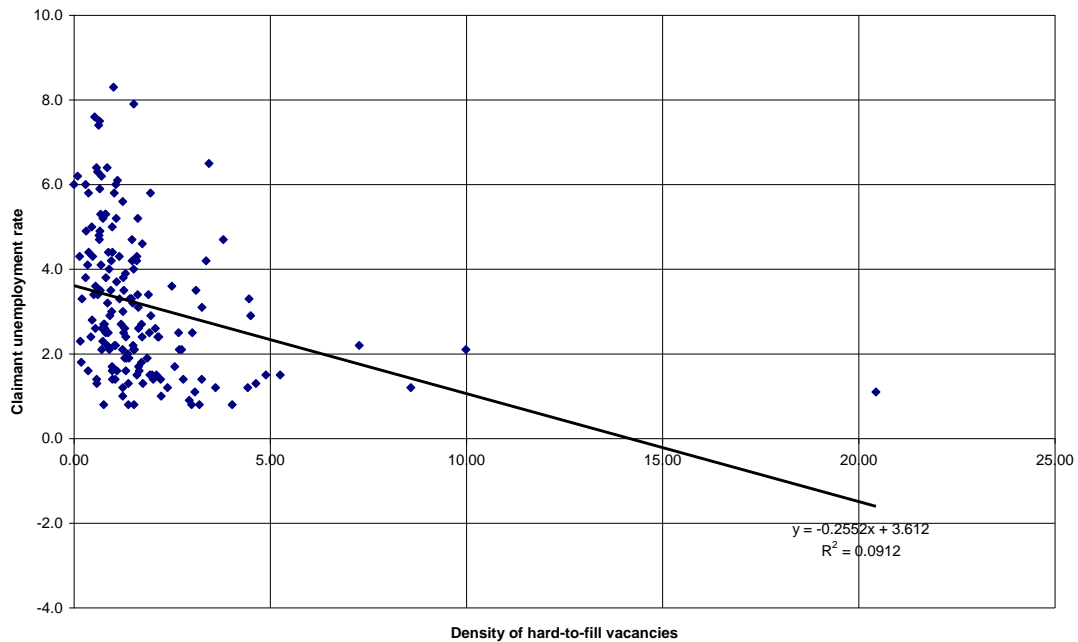
Note: This relationship is not significant

Figure 27: Relationship between the density of skill shortage vacancies and the claimant unemployment rate, March 2000-February 2001: TTWAs



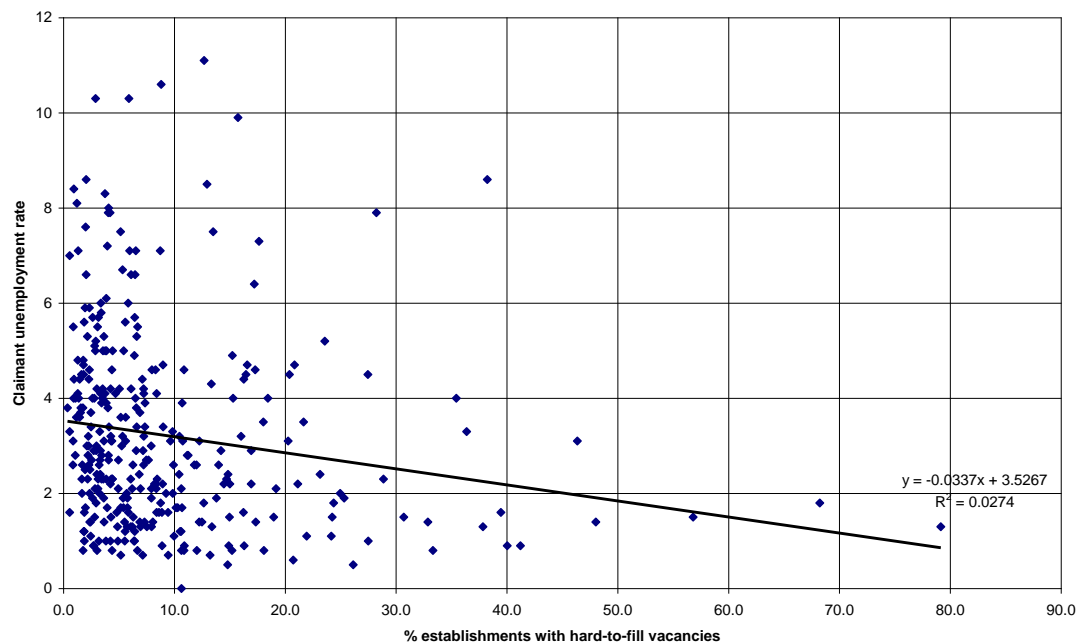
Note: This relationship is not significant

Figure 28: Relationship between the density of hard-to-fill vacancies and the claimant unemployment rate, March 2000-February 2001: TTWAs



Note: This relationship is not significant

Figure 29: Relationship between the percentage of establishments reporting hard-to-fill vacancies and the claimant unemployment rate, March 2000-February 2001: UALADs



Note: this relationship is not significant

Conclusion

Analyses at the TTWA and UALAD, as well as at the LLSC area level, and experimentation with transformations other than the linear form, show considerable variation between unemployment and vacancies at various spatial scales. This indicates that the incidence of skill deficiencies cannot be explained solely by the tightness of the labour market. In order to understand more fully the geography of total, hard-to-fill and skill-shortage vacancies it would seem to be necessary to consider the occupational, industrial and size distribution of vacancies.⁵⁴ To gain more insight into the relationship between vacancies and unemployment factors such as skills mismatch, the operation of the mechanisms allocating people to jobs, the motivations of the unemployed and the efficiency and effectiveness of employers' search strategies need to be considered.⁵⁵

⁵⁴ See Dickerson A. and Wilson R. (2002) 'The relationship between vacancies and local unemployment: econometric evidence from the Employer Skills Survey 2001'. Coventry: IER, University of Warwick.

⁵⁵ The qualitative study provides some insights here – see IER and PRU (2002) 'Employment, local areas and skills qualitative interviews: progress report'. Coventry: IER, University of Warwick.

4. A classification of LLSC areas and suggestions for possible areas for qualitative case studies

Ideally, for selection as a possible case study area, a LLSC area would display a relatively high level of vacancies in conjunction with a relatively high level of unemployment. With such a conjunction of characteristics, the qualitative case studies are designed to explore the role of:

- skills mismatch,
- shortcomings in job allocation mechanisms,
- motivation of the unemployed,
- employers' search strategies, and
- other factors

as possible reasons for the coexistence of relatively high levels of vacancies and a relatively high level of unemployment.

Using ESS1999 a typology of LLSC areas was developed, incorporating two dimensions:

- 1) the density of skill-shortage vacancies,
(with a distinction made between (1) higher than England average density of skill-shortage vacancies, and (2) lower than England average density of skill-shortage vacancies);
- 2) expected density of skill-shortage vacancies on the basis of the prevailing ILO unemployment rate,
(with a distinction between (a) higher than expected density, (b) similar to expected density, and (c) lower than expected density).

Given that the case study work focuses on employers, it is important here to consider numbers of establishments reporting hard-to-fill and skill-shortage vacancies, as well as taking account of the density of such vacancies.

A classification of LLSC areas using values from ESS2001 relative to the England average on four vacancy measures:

- % establishments reporting skill-shortage vacancies
- % establishments reporting hard-to-fill vacancies
- density of skill-shortage vacancies
- density of hard-to-fill vacancies

and four unemployment/non-employment measures:

- ◆ claimant count unemployment rate
- ◆ longer-term unemployment rate
- ◆ ILO unemployment rate
- ◆ working age non-employment rate

is presented in this section. In the first instance, LLSC areas meeting the criteria outlined in Figure 30 were categorised into Groups A-D.

Thirty-eight out of the forty-seven LLSC areas met the criteria A-D (as specified in Figure 30) for inclusion in Groups A-D.

Figure 30: Initial categorisation of LLSC areas into groups A-D

<p><u>Group D:</u></p> <ul style="list-style-type: none"> • < England average values on at least 3 (out of 4) vacancy measures <p>AND</p> <ul style="list-style-type: none"> • > England average values on at least 3 (out of 4) unemployment / non-employment measures 	<p><u>Group A:</u></p> <ul style="list-style-type: none"> • > England average values on at least 3 (out of 4) vacancy measures <p>AND</p> <ul style="list-style-type: none"> • > England average values on at least 3 (out of 4) unemployment / non-employment measures
<p><u>Group C:</u></p> <ul style="list-style-type: none"> • < England average values on at least 3 (out of 4) vacancy measures <p>AND</p> <ul style="list-style-type: none"> • < England average values on at least 3 (out of 4) unemployment / non-employment measures 	<p><u>Group B:</u></p> <ul style="list-style-type: none"> • > England average values on at least 3 (out of 4) vacancy measures <p>AND</p> <ul style="list-style-type: none"> • < England average values on at least 3 (out of 4) unemployment / non-employment measures

Of the remaining nine LLSC areas, four were relatively distinct in that they displayed values in excess of the England average on two (out of four) of the vacancy measures, and recorded values less than the England average on all unemployment / non-employment measures. Hence, these four LLSC areas may be considered most similar to those in Group B; (in Table 11 these areas are identified as a sub-category within Group B).

Of the five remaining LLSC areas, one (Derbyshire) is characterised by values substantially lower than the England average on all vacancy measures and values in excess of the England average on two (out of four) unemployment / non-employment measures. Another of these areas (Norfolk) is characterised by values slightly lower than the England average on all vacancy measures, and displays values equal to the England average on two unemployment / non-employment measures and values slightly lower than average on the other two such measures. These LLSC areas may be considered most similar to those LLSC areas in Group C; (and so in Table 11 are identified as a sub-categories within Group C).

This leaves three LLSC areas remaining to be categorised. First, there is Devon and Cornwall LLSC area, which is characterised by values in excess of the England average on two (out of four) vacancy measures and on two (out of four) unemployment / non-employment measures. It is considered most similar to those LLSC areas in Group A; (and so in Table 11 is identified as a sub-category in Group A). Secondly, Birmingham/Solihull LLSC area is characterised by considerably higher than the England average values on the establishment-based vacancy measures and values slightly below average values on the density measures. Values exceed the England average on all four unemployment / non-employment measures. Hence, this LLSC area may be considered to share most in common with LLSC areas in Group A; (and so in Table 11 is identified as a sub-category in Group A). Thirdly, County Durham LLSC area has a value slightly in excess of the England average on one vacancy measure, a value equal to the England average on another, and much lower than average values on the other two vacancy measures. Values are greater than the England average on three of the unemployment / non-employment measures and on the fourth measure the value is equal to the England average. This LLSC area is considered to be most similar to those in Group D; (and in Table 11 is identified as a sub-category in Group D).

Table 11 lists the LLSC areas in each of four categories A-D; (annotations are provided relating to sub-categories, and to identify those LLSC areas with particular characteristics).

Table 11: Classification of LLSC areas on the basis of the relationship between vacancy and unemployment / non-employment rate characteristics

Group	LLSC area	Region	Comments	
A: > average values on vacancy measures <i>and</i> > average values on unemployment / non-employment measures	London Central London East	London London	amongst highest unemployment / non-employment rates in Group A	
	Cumbria Lancashire	NW NW	unemployment rates only slightly > average	
	Birmingham/Solihull	WM	highest unemployment / non-employment rates; values considerably greater than England average on establishment vacancy measures (see text)	
	Devon/Cornwall	SW	values close to England average (see text)	
B: > average values on vacancy measures <i>and</i> < average values on unemployment / non-employment measures	Cambridgeshire Hertfordshire Surrey E-W Sussex/Brighton Oxford/MK/Bucks Berkshire Gloucestershire B'mouth/Dorset/Poole Wiltshire/Swindon	E E SE SE SE SE SW SW SW	archetypal 'high vacancy, low unemployment rate' areas	
	Staffordshire	WM	values closer to England average than other Group B areas (notably on unemployment)	
	Bedfordshire Essex Hants/IOW/P'th/Soton Hereford/Worcester	E E SE WM	greater than England average values on two (out of four) vacancy measures; lower than average values on unemployment / non-employment measures	
	C: < average values on vacancy measures <i>and</i> < average values on unemployment / non-employment measures	Cheshire/Warrington North Yorkshire Shropshire Coventry/Warwicks Lincolnshire/Rutland Northamptonshire Leicestershire Suffolk London South Kent Somerset Avon	NW YH WM WM EM EM EM E London SE SW SW	low unemployment rate areas with lower than average hard-to-fill and skill-shortage vacancies identified in ESS2001
		Derbyshire	EM	values closer to England average on unemployment measures (see text)
		Norfolk	E	
		D: < average values on vacancy measures <i>and</i> > average values on unemployment / non-employment measures	Tees Valley Northumberland South Yorkshire Humberside Black Country London North	NE NE YH YH WM London
Merseyside/Halton Tyne & Wear			NW NE	a value at least equal to, or higher than, the England average on one vacancy measure, coupled with high unemployment / non-employment rates
Greater Manchester West Yorkshire			NW YH	lower unemployment / non-employment rates than most Group D areas
Nottinghamshire London West			EM London	values on vacancy measures closer to the England average and unemployment rates closer to average than most Group D areas
County Durham			NE	highest values in Group D on establishment-based vacancy measures and rate close to England average on one unemployment rate measure

As shown in Figure 31 (see Appendix 4), LLSC areas in Group B are drawn overwhelmingly from southern regions, while in Group D LLSC areas from northern regions predominate. The Midlands is well-represented in Group C. The cores of large metropolitan areas are the archetypal 'high unemployment, high vacancy areas' in Group A.

Given that the case study work focuses on employers, it is important here to consider numbers of establishments reporting hard-to-fill and skill-shortage vacancies, as well as taking account of the density of such vacancies (as in the classification presented in Table 11). *Table 12* lists those LLSC areas with values in excess of the England average on both the establishment-based and employment-based vacancy indicators and the unemployment/non-employment indicators used in the analyses. (In the third column, other LLSC areas with values on these indicators closest to the group of LLSC areas so identified in the second column are also listed as 'worthy of consideration' as candidate case study areas.)

Table 12: LLSC areas with greater than England average values on vacancy and unemployment/non-employment indicators

Vacancy and unemployment/non-employment indicator combination	> average values on both vacancy and unemployment/non-employment indicators	other areas worthy of consideration
% establishments reporting skill-shortage vacancies and claimant count unemployment rate	Birmingham/Solihull London East Cumbria Merseyside/Halton Nottinghamshire Tyne & Wear	Lancashire Devon & Cornwall Staffordshire County Durham
% establishments reporting skill-shortage vacancies and longer-term unemployment rate	Birmingham/Solihull London East London Central Merseyside/Halton Nottinghamshire Tyne & Wear	Cumbria County Durham
% establishments reporting skill-shortage vacancies and ILO unemployment rate	Birmingham/Solihull London East London Central Merseyside/Halton Tyne & Wear	Cumbria Lancashire Nottinghamshire County Durham
% establishments reporting skill-shortage vacancies and working age non-employment rate	London East London Central Birmingham/Solihull Merseyside/Halton Devon/Cornwall Nottinghamshire Lancashire Cumbria Tyne & Wear County Durham	
% establishments reporting hard-to-fill vacancies and claimant count unemployment rate	Birmingham/Solihull London East Cumbria	Lancashire Devon & Cornwall County Durham Black Country
% establishments reporting hard-to-fill vacancies and longer-term unemployment rate	Birmingham/Solihull London East London Central	County Durham Black Country
% establishments reporting hard-to-fill vacancies and ILO unemployment rate	Birmingham/Solihull London East London Central Cumbria	Lancashire Black Country
% establishments reporting hard-to-fill vacancies and working age non-employment rate	Birmingham/Solihull London East London Central Cumbria	Lancashire Black Country County Durham
Density of skill-shortage vacancies and claimant count unemployment rate	London East Cumbria	Birmingham/Solihull Nottinghamshire Lancashire Staffordshire London Central
Density of skill-shortage vacancies and longer-term unemployment rate	London East London Central	Cumbria Nottinghamshire Lancashire

continued

Table12: LLSC areas with greater than England average values on vacancy and unemployment/non-employment indicators (*continued*)

Vacancy and unemployment/non-employment indicator combination	> average values on both vacancy and unemployment/non-employment indicators	other areas worthy of consideration
Density of skill-shortage vacancies and ILO unemployment rate	London East London Central Cumbria Lancashire	Birmingham/Solihull Staffordshire
Density of skill-shortage vacancies and working age non-employment rate	London East London Central Cumbria Lancashire	Birmingham/Solihull Staffordshire
Density of hard-to-fill vacancies and claimant count unemployment rate	Cumbria	London Central London East London North Birmingham/Solihull
Density of hard-to-fill vacancies and longer-term unemployment rate	London Central	London North Birmingham/Solihull London East Cumbria
Density of hard-to-fill vacancies and ILO unemployment rate	London Central Cumbria	London North Birmingham/Solihull London East
Density of hard-to-fill vacancies and working age non-employment rate	London Central Cumbria	London North Birmingham/Solihull London East

On the basis solely of this empirical analysis (and taking no other considerations into account), the *most appropriate candidates* for possible case study areas are those identified in Group A of the classification presented in Table 11, including:

- 1) *London East or London Central LLSC areas*⁵⁶ – most LLSCs in the London region are characterised by a relatively high level of vacancies and also relatively high levels of unemployment and non-employment
- 2) *Birmingham/Solihull* – this LLSC area records one of the highest percentages of establishments with skill-shortage vacancies and hard-to-fill vacancies of any LLSC area, although on density measures the vacancies represent a slightly lower than average percentage of employment. However, unemployment and non-employment rates are considerably in excess of the England average.
- 3) *Cumbria* – this LLSC area records amongst the highest incidence of skill-shortage and hard-to-fill vacancies of any LLSC area in northern England, coupled with an unemployment rate and non-employment rate slightly in excess of the England.

Another plausible candidate is:

- 4) *Lancashire* – records amongst the highest incidence of skill-shortage and hard-to-fill vacancies of any LLSC area in northern England outside Cumbria. Values on the unemployment and non-employment rate indicators are similar to, or slightly above, the England average.

⁵⁶ These two LLSC areas adjoin each other, with the City of London included in London East, and the City of Westminster included in London Central.

In selecting candidate LLSC areas for qualitative case studies, it is crucial to consider:

- number of establishments – in terms of operationalising the research, it is important that LLSC areas with small numbers of establishments where skill-shortage and hard-to-fill vacancies are reported in ESS2001 are excluded⁵⁷ (see **Table 13** for the number of establishments⁵⁸ reporting vacancies in each LLSC area).

⁵⁷ At least in terms of forming a case study area in their own right. Cumbria, for example, is one such area, since it has a relatively small number of establishments reporting hard-to-fill and skill-shortage vacancies.

⁵⁸ Unweighted data.

Table 13: Establishments with vacancies, hard-to-fill vacancies and skill-shortage vacancies by LLSC area (unweighted data)

Code	Area	Total	Hard-to-fill	Skill-shortage
1	Cumbria	83	35	15
2	Merseyside/Halton	202	72	34
3	Lancashire	214	87	41
4	Cheshire/Warrington	171	87	22
5	Greater Manchester	321	143	74
10	Tyne and Wear	173	68	30
11	County Durham	105	45	21
12	Tees Valley	108	50	22
13	Northumberland	79	29	11
20	Birmingham/Solihull	213	114	61
21	Staffordshire	143	73	39
22	Shropshire	111	55	26
23	Herefordshire/Worcestershire	141	81	35
24	The Black Country	154	65	40
25	Coventry/Warwickshire	215	99	43
30	North Yorkshire	153	72	30
31	South Yorkshire	237	86	34
32	West Yorkshire	266	104	53
33	Humberside	119	48	25
40	Lincolnshire/Rutland	137	60	20
41	Northamptonshire	149	80	30
42	Leicestershire	155	67	33
43	Derbyshire	187	83	43
44	Nottinghamshire	153	69	37
50	Bedfordshire	168	89	43
51	Essex	210	114	41
52	Cambridgeshire	195	119	47
53	Hertfordshire	238	135	61
54	Norfolk	152	87	34
55	Suffolk	135	78	27
60	London Central	541	208	102
61	London North	155	76	33
62	London East	349	140	86
63	London West	313	165	75
64	London South	232	106	49
70	Surrey	320	198	76
71	East Sussex/West Sussex/Brighton & Hove	325	175	72
72	Oxon/Bucks/Milton Keynes	241	135	56
73	Kent/Medway	253	139	56
74	Hamps/Isle of Wight/Portsmouth/S'thampton	329	193	91
75	Berkshire	203	110	49
80	Devon/Cornwall	256	130	50
81	Somerset	144	75	22
82	Gloucestershire	153	82	46
83	Bournemouth/Dorset/Poole	150	77	26
84	Wiltshire/Swindon	168	101	48
85	Former Avon	207	96	24

It is also useful to bear in mind considerations of:

- *industrial structure* – ideally, the three case study areas might have rather different industrial and occupational structures
- *regional spread* – ideally, the three case study areas should be drawn from different regions of England
- *urban-rural structure* – although the paradox high levels of skill shortages associated with high levels of unemployment is most apparent in large urban areas (most notably London), consideration might be given to drawing one of the case study areas from outside of the large conurbations of England⁵⁹ or from areas with different socio-economic and demographic profiles⁶⁰

Taking account of both the empirical evidence and the considerations outlined above, three LLSC areas were recommended as case study areas:

- A. London East
- B. Birmingham/Solihull
- C. Lancashire

5. Descriptive statistics on reasons for vacancies and types of vacancies at local level

This section of the report provides some descriptive information on reasons provided by employers for vacancies and on the profile of vacancies by occupation, industry and establishment size structure. The reasons ascribed by employers for vacancies may provide some preliminary insights into employers' labour search and their perceptions of applicants; (these issues are explored more fully in the qualitative studies).

The descriptive profiles of vacancies are intended to provide a general introduction to the characteristics of vacancies at the local level, as a preview to more detailed investigation in the econometric analyses of the importance of these dimensions of variation in understanding the incidence of skill deficiencies. Only broad disaggregations are used here, since the sample of establishments in ESS2001 was not drawn up so as to be representative of industrial and establishment size structure at the local level. Hence, the information presented should be interpreted with caution.

Reasons for vacancies

The ESS2001 data set records reasons for hard-to-fill vacancies and skill-shortage vacancies. Since a relatively large number of reasons are identified, information is not presented here for individual local areas. **Table 14** shows the percentage of establishments⁶¹ reporting different reasons for hard-to-fill and skill-shortage vacancies in 'low', 'medium' and 'high' unemployment rate LLSC areas.⁶²

⁵⁹ In such areas large metropolitan areas vacancies might just as easily be filled by in-commuters as by local residents.

⁶⁰ For instance, as indicated by the classification of areas into 'families' and 'groups' using geodemographic classifications; (see, for instance, the classification of UALADs used in Table 8).

⁶¹ The base for the information on hard-to-fill vacancies is all establishments with hard-to-fill vacancies. The base for the information on skill-shortage vacancies is all establishments with skill-shortage vacancies. The percentages presented here have been calculated by collapsing occupational-specific responses into an establishment response.

⁶² As defined using the unemployment rate categorisation for LLSC areas used in Table 10.

Table 14: Reasons for hard-to-fill and skill-shortage vacancies in low, medium and high unemployment rate areas (weighted data)

	<i>hard-to-fill vacancies</i>				<i>skill-shortage vacancies</i>			
	<i>low</i>	<i>medium</i>	<i>high</i>	<i>TOTAL</i>	<i>low</i>	<i>medium</i>	<i>high</i>	<i>TOTAL</i>
Too much competition	10.2	15.9	8.0	11.9	9.6	6.0	8.4	8.0
Not enough people interested	19.5	16.8	23.4	19.3	7.8	13.7	16.3	11.9
Company does not pay enough	22.1	13.1	14.2	17.1	10.4	6.0	4.8	7.5
Low number of applicants with skills	32.5	37.3	42.8	36.4	68.4	75.4	79.7	73.5
Low number of applicants with motivation	16.7	17.3	16.3	16.9	15.7	12.2	13.2	13.9
Low number of applicants generally	21.0	27.4	13.2	21.8	15.8	20.3	10.9	16.4
Lack of work experience	11.9	8.1	24.5	13.1	25.0	16.3	45.6	26.4
Lack of qualifications	9.4	10.8	5.3	9.1	19.9	21.8	9.8	18.3
Poor career progression/lack of prospects	1.9	2.1	1.1	1.8	1.1	1.0	1.3	1.1
Company location	3.8	2.1	1.4	2.7	4.2	0.6	0.1	2.0
Irregular hours	1.8	1.3	1.6	1.6	0.1	0.4	0.0	0.2
Unattractive conditions of work	0.5	1.2	5.6	1.8	0.1	0.3	-	0.1
Problems with people on benefit	1.3	0.2	1.0	0.8	0.1	0.2	0.2	0.2
Problems with the industry	0.4	0.3	0.5	0.4	0.0	0.2	0.1	0.1
Other	1.0	1.6	0.6	1.1	-	0.2	-	0.1
Don't know / not stated	3.4	3.2	1.9	3.0	-	-	-	-

Across all unemployment rate categories identified, the most important single reason for reporting vacancies is a 'low number of applicants with skills'. In the case of both hard-to-fill and skill-shortage vacancies, the percentage of establishments giving this reason is slightly greater in high unemployment areas than in low unemployment areas.

In the case of hard-to-fill vacancies, the next most important reasons given for hard-to-fill vacancies are:

- a 'low number of applicants generally' – although fewer establishments report this reason in high unemployment rate areas than in medium and low unemployment rate areas;
- 'not enough people interested' – with a slightly higher percentage of establishments giving this reason in high unemployment rate areas than in medium and low unemployment rate areas;
- 'the company does not pay enough' – this reason is given by a greater percentage of establishments in low unemployment rate areas⁶³ than in medium or high unemployment rate areas; and
- a 'low number of applicants with motivation' – with similar percentages of establishments giving this reason across all unemployment rate categories.

In general, the reasons provided for hard-to-fill vacancies are similar across low, medium and high unemployment rate areas. The main exception to this general rule is the much higher percentage of establishments in high unemployment rate areas than elsewhere giving 'lack of work experience' as a reason for hard-to-fill vacancies.

⁶³ These areas are particularly concentrated in southern England where the cost of living tends to be higher than the national average. The problem of uncompetitive wages in the public sector in London and southern England is borne out by the qualitative studies.

'Lack of work experience' is the second most commonly reported reason provided for skill-shortage vacancies, and again a much higher percentage of establishments in high unemployment rate areas than in medium and low unemployment rate areas gave this response. 'Lack of qualifications' and 'low number of applicants with motivation' are the next most commonly reported reasons for skill-shortage vacancies.

In *summary*, although some differences emerge between local areas in terms of the reasons given for vacancies – with 'lack of work experience' emerging as a particularly important issue in high unemployment areas relative to lower unemployment areas, the general picture is one of the similarity of reasons given for vacancies across areas divided into categories on the basis of local unemployment rates.

Occupational profile of vacancies

In order to gain some insights into the occupational profile of vacancies, measures of the percentage of vacancies in particular occupational groups were constructed at the LLSC area level. Rather than use the full disaggregation by nine Standard Occupational Groups, four groupings were devised⁶⁴ – on the basis of both qualification levels associated with different occupations, the distribution of occupations by industry, and the distribution of hard-to-fill and skill-shortage vacancies by occupation. The 4-fold grouping of occupations by level⁶⁵ is presented in **Table 15**.

Table 15: Occupational groupings

Level	SOC2000 Major Groups
1: Managerial & professional	1: Managerial and senior official occupations 2: Professional occupations 3: Associate professional and technical occupations
2: Skilled trades	5: Skilled trades occupations
3: Less skilled service occupations	4: Administrative and secretarial occupations 6: Personal service occupations 7: Sales and customer service occupations
4: Semi-skilled & unskilled manual occupations	8: Process, plant and machine operatives 9: Elementary occupations

Table 16 shows the occupational profile of total, hard-to-fill and skill-shortage vacancies by LLSC area. In **Table 17** the occupational structure of vacancies is expressed as a ratio of the occupational structure of employment,⁶⁶ in order to provide an insight into the occupational structure of vacancies relative to the occupational structure of employment.

⁶⁴ In order to obviate, as far as possible, the problem of presenting statistics based on very small numbers of vacancies.

⁶⁵ The ordering of qualifications by broad qualification level is based on the convention of ascribing higher numbers to more advanced/higher level qualifications than to less advanced/lower level qualifications.

⁶⁶ The denominator used in the ratio calculation is employment in establishments reporting total / hard-to-fill / skill-shortage vacancies.

Table 16: Occupational profile (%) of vacancies by LLSC area and region (weighted data)

Code	Area	Total				Hard-to-fill				Skill-shortage			
		1	2	3	4	1	2	3	4	1	2	3	4
	North West	23.9	9.7	45.5	20.9	20.9	13.9	46.5	18.7	23.6	15.1	52.4	9.0
1	Cumbria	11.8	5.9	59.1	23.2	7.6	2.6	69.4	20.3	6.8	1.2	88.5	3.6
2	Merseyside/Halton	18.4	7.6	59.5	14.5	21.8	25.0	40.5	12.7	19.5	48.3	19.6	12.6
3	Lancashire	17.8	8.8	48.0	25.4	17.7	10.5	60.6	11.2	7.7	6.3	82.4	3.6
4	Cheshire/Warrington	29.2	15.6	38.3	16.9	22.3	16.8	39.3	21.6	59.2	13.3	5.4	22.2
5	Greater Manchester	31.4	8.5	34.4	25.7	28.3	14.5	33.8	23.4	41.6	20.1	25.3	13.0
	North East	29.2	7.9	40.2	22.7	31.0	8.9	33.2	26.9	40.0	8.5	26.9	24.7
10	Tyne and Wear	27.0	8.1	44.9	20.0	25.8	4.4	36.8	33.1	25.7	3.8	38.7	31.9
11	County Durham	25.2	8.7	39.2	26.9	20.5	12.9	39.5	27.1	36.9	3.6	16.2	43.3
12	Tees Valley	38.5	8.4	27.4	25.7	47.7	14.6	14.8	22.9	68.4	18.2	7.9	5.6
13	Northumberland	28.6	4.7	45.5	21.2	37.2	8.6	45.5	8.7	60.7	21.0	18.4	0.0
	West Midlands	22.4	11.4	40.1	26.1	20.3	20.0	34.4	25.3	30.7	34.1	16.8	18.4
20	Birmingham/Solihull	22.5	3.2	54.3	20.0	19.5	4.7	48.5	27.3	34.6	8.9	18.6	38.0
21	Staffordshire	24.2	30.1	32.1	13.7	22.8	53.5	13.3	10.3	24.5	63.5	7.3	4.7
22	Shropshire	24.9	9.0	40.5	25.5	11.9	14.5	45.7	27.8	19.8	26.4	29.6	24.1
23	Herefordshire/Worcestershire	17.0	15.7	46.4	21.0	12.7	21.0	50.3	16.0	20.9	40.3	28.3	10.6
24	The Black Country	17.2	8.7	25.9	48.2	23.1	9.2	16.7	51.0	50.1	14.0	17.3	18.6
25	Coventry/Warwickshire	28.7	10.3	28.9	32.1	30.8	19.2	23.1	26.8	35.9	27.4	16.4	20.2
	Yorkshire and The Humber	24.1	11.8	32.0	32.2	23.0	8.3	24.7	44.0	34.3	13.5	21.7	30.5
30	North Yorkshire	29.9	7.1	33.6	29.4	25.3	10.9	27.8	36.1	43.0	6.4	28.9	21.7
31	South Yorkshire	20.4	17.2	30.6	31.8	15.7	8.8	22.0	53.6	23.0	30.0	14.4	32.5
32	West Yorkshire	27.2	7.0	36.0	29.8	28.9	6.5	25.1	39.4	49.1	11.0	20.1	19.8
33	Humberside	18.5	17.0	23.6	40.8	18.3	8.9	25.0	47.8	15.6	12.9	22.2	49.2
	East Midlands	26.1	10.5	34.6	28.8	26.4	16.8	31.5	25.3	40.8	17.3	27.9	14.0
40	Lincolnshire/Rutland	31.8	7.9	28.1	32.1	7.0	13.8	49.3	29.9	32.6	32.7	16.7	18.0
41	Northamptonshire	18.8	8.8	40.1	32.3	19.4	18.0	29.7	33.0	28.5	29.6	25.6	16.3
42	Leicestershire	25.9	19.1	19.9	35.0	30.9	31.9	14.1	23.2	47.0	22.3	14.4	16.2
43	Derbyshire	33.6	13.8	29.0	23.6	34.0	13.2	27.5	25.4	50.9	16.1	15.3	17.6
44	Nottinghamshire	22.7	6.5	47.2	23.7	38.8	10.4	33.8	17.0	37.4	7.6	46.0	9.0
	Eastern	34.3	9.1	27.6	29.1	46.1	11.3	20.2	22.4	56.2	14.0	16.0	13.8
50	Bedfordshire	49.4	10.9	24.4	15.3	36.2	18.9	26.5	18.3	41.4	27.2	14.8	16.6
51	Essex	27.8	6.3	26.4	39.5	51.8	8.6	17.5	22.1	57.2	14.9	14.0	13.9
52	/Cambridgeshire	39.7	7.5	28.8	24.0	43.1	8.1	23.5	25.3	39.5	16.4	10.3	33.7
53	Hertfordshire	40.6	9.1	33.5	16.8	59.8	8.7	22.2	9.2	70.8	7.5	19.0	2.7
54	Norfolk	12.0	13.3	16.1	58.6	11.0	22.3	10.4	56.3	14.2	28.7	7.3	49.7
55	Suffolk	28.8	13.5	28.0	29.7	34.8	12.3	15.3	37.6	35.8	28.1	26.4	9.7
	London	41.0	9.5	31.7	17.8	51.2	17.0	19.8	12.1	65.4	11.3	15.2	8.1
60	London Central	53.3	12.4	25.5	8.8	62.0	20.2	11.1	6.7	75.5	10.8	11.0	2.7
61	London North	26.3	7.9	49.5	16.3	18.1	22.7	42.3	16.9	27.0	23.5	33.3	16.2
62	London East	40.4	7.3	26.0	26.3	60.6	13.2	11.1	15.2	79.0	4.2	13.3	3.6
63	London West	33.5	9.2	33.0	24.2	36.4	12.6	29.5	21.4	24.1	20.3	30.2	25.4
64	London South	22.8	7.5	50.7	18.9	27.0	9.6	46.6	16.8	31.9	20.8	15.1	32.2

Table 16 Continued

	South East	27.5	8.6	39.2	24.7	25.5	9.6	39.6	25.4	31.0	13.0	35.1	20.8
70	Surrey	20.6	9.4	47.4	22.6	23.0	12.7	34.7	29.6	30.0	13.0	41.7	15.4
71	East Sussex/West Sussex/Brighton & Hove	32.6	8.0	30.2	29.2	29.0	10.8	25.4	34.8	28.9	12.5	14.1	44.4
72	Oxon/Bucks/Milton Keynes	20.7	9.7	42.2	27.4	14.3	7.5	53.7	24.5	31.3	20.7	41.6	6.4
73	Kent/Medway	20.1	8.6	42.5	28.9	24.2	11.0	34.1	30.7	44.1	11.9	22.8	21.2
74	Hamps/Isle of Wight/Portsm'th/S'thampton	34.3	8.6	37.4	19.7	33.6	9.4	43.0	14.0	26.2	12.2	52.7	8.8
75	Berkshire	34.1	6.3	34.9	24.7	25.7	5.3	40.8	28.2	42.9	8.5	15.0	33.6
	South West	24.2	15.1	35.6	25.0	24.8	22.8	26.5	25.9	31.6	34.2	22.2	11.9
80	Devon/Cornwall	28.7	11.6	29.0	30.7	29.4	17.5	17.4	35.7	52.1	10.5	25.9	11.5
81	Somerset	23.4	4.1	56.1	16.4	27.2	7.7	41.3	23.8	64.8	2.7	24.4	8.1
82	Gloucestershire	36.2	16.8	23.2	23.8	41.5	23.1	13.1	22.4	37.6	34.3	7.1	21.0
83	Bournemouth/Dorset/Poole	12.3	41.2	24.6	22.0	9.2	51.5	19.0	20.2	9.7	77.4	6.1	6.9
84	Wiltshire/Swindon	18.0	11.7	49.5	20.8	16.4	15.9	50.9	16.8	20.9	20.6	56.2	2.2
85	Former Avon	21.1	7.0	34.4	37.6	18.1	11.5	23.1	47.3	38.4	14.8	20.4	26.4
	ENGLAND	30.2	10.1	35.6	24.0	32.9	14.4	30.2	22.5	42.6	17.3	25.4	14.7

Note: see Table 15 for broad occupational structure categorisation

Table 17: Ratio of occupational vacancy structure to occupational employment structure by LLSC area and region (weighted data) (Note: see Table 15 for broad occupational structure categorisation)

Code	Area	Total				Hard-to-fill				Skill-shortage			
		1	2	3	4	1	2	3	4	1	2	3	4
	North West	68	150	118	105	54	218	123	108	60	242	134	59
1	Cumbria	40	104	165	81	22	35	267	66	16	55	416	11
2	Merseyside/Halton	43	129	153	116	42	474	115	160	32	1545	65	202
3	Lancashire	60	82	134	106	52	76	209	48	25	41	316	13
4	Cheshire/Warrington	72	325	109	85	56	292	103	133	132	186	16	153
5	Greater Manchester	97	153	82	127	79	343	78	137	121	446	51	114
	North East	67	122	123	130	57	139	118	260	72	110	102	245
10	Tyne and Wear	67	126	136	99	50	68	112	351	57	33	113	322
11	County Durham	61	104	149	114	62	120	155	92	109	51	85	109
12	Tees Valley	74	149	81	309	73	340	58	508	98	521	33	171
13	Northumberland	85	79	122	92	85	77	172	46	186	67	65	0
	West Midlands	66	139	114	115	54	223	110	114	75	381	56	93
20	Birmingham/Solihull	56	36	170	103	46	65	175	120	75	104	64	232
21	Staffordshire	69	332	103	55	59	684	41	50	57	823	24	24
22	Shropshire	76	124	125	93	37	195	142	100	54	227	140	79
23	Herefordshire/Worcestershire	56	134	132	91	42	124	168	70	67	236	123	37
24	The Black Country	61	114	69	179	78	114	46	200	153	184	41	104
25	Coventry/Warwickshire	87	169	70	164	75	219	71	151	78	395	59	106
	Yorkshire and The Humber	62	149	97	156	59	100	76	218	81	126	74	173
30	North Yorkshire	92	70	89	149	78	102	73	191	116	41	98	124
31	South Yorkshire	49	236	101	156	38	102	75	251	65	215	70	109
32	West Yorkshire	69	97	112	139	69	100	82	189	104	129	64	155
33	Humberside	49	222	69	203	47	108	73	260	35	182	63	404
	East Midlands	76	119	117	106	63	170	127	111	86	145	141	69
40	Lincolnshire/Rutland	99	73	94	120	19	151	163	125	59	265	101	110
41	Northamptonshire	79	97	123	94	73	155	106	98	101	182	113	50
42	Leicestershire	80	235	77	103	66	284	70	104	114	173	60	75
43	Derbyshire	104	152	102	80	85	128	108	113	110	135	78	90
44	Nottinghamshire	48	85	150	179	70	131	152	122	66	79	254	57
	Eastern	89	110	80	153	106	150	65	124	129	130	54	86
50	Bedfordshire	127	147	68	86	80	295	84	110	83	322	51	130
51	Essex	69	97	80	199	111	127	58	135	112	220	52	90
52	Cambridgeshire	91	97	98	126	87	154	83	152	81	226	36	228
53	Hertfordshire	122	98	79	111	173	97	53	64	176	57	51	28
54	Norfolk	35	113	48	288	28	191	39	255	49	146	31	182
55	Suffolk	75	156	96	124	83	145	66	141	140	176	91	33
	London	91	159	84	158	106	243	60	104	127	139	47	101
60	London Central	108	268	65	128	117	422	33	80	133	294	32	58
61	London North	60	152	125	147	37	502	121	152	45	1129	111	197
62	London East	83	125	75	243	120	140	36	167	156	39	40	64
63	London West	95	118	94	112	100	182	91	91	60	180	105	130
64	London South	58	93	127	155	57	90	143	174	75	111	57	259

Table 17 Continued

	South East	74	102	102	156	63	104	114	166	70	103	114	180
70	Surrey	49	119	120	211	50	179	93	307	65	108	112	314
71	East Sussex/West Sussex/Brighton & Hove	86	121	73	203	64	125	79	248	56	173	55	297
72	Oxon/Bucks/Milton Keynes	63	108	124	115	45	74	183	88	85	149	144	36
73	Kent/Medway	62	110	100	168	68	125	86	192	101	140	64	171
74	Hamps/Isle of Wight/Portsm'th/S'thampton	93	84	107	110	92	67	129	87	66	53	236	59
75	Berkshire	85	66	93	198	57	86	109	250	91	88	39	686
	South West	68	187	101	121	69	226	80	126	77	305	71	75
80	Devon/Cornwall	78	149	87	141	83	184	55	152	129	114	73	78
81	Somerset	62	49	141	120	73	79	102	190	144	71	50	293
82	Gloucestershire	92	163	79	113	105	182	51	101	88	188	31	130
83	Bournemouth/Dorset/Poole	39	452	70	89	28	364	63	92	32	274	30	33
84	Wiltshire/Swindon	50	173	142	96	45	202	148	82	49	284	182	13
85	Former Avon	65	96	85	191	55	123	61	238	86	228	75	121
	ENGLAND	79	134	99	132	79	175	92	131	94	177	82	104

Nationally, managerial & professional occupations account for nearly 30 per cent of total vacancies, nearly 33 per cent of hard-to-fill vacancies and nearly 43 per cent of skill-shortage vacancies (Table 16). At the regional scale there is some variation in the occupational profile of vacancies. For instance:

- London's occupational profile of vacancies is biased more in favour of managerial & professional occupations than the England average,⁶⁷ whereas
- in the South East a higher proportion of all types of vacancies are in less skilled service occupations and semi-skilled and unskilled manual occupations than nationally, and
- in the North West around half of all vacancies are in less skilled service occupations.

At the LLSC area scale there are marked variations in the occupational profile of hard-to-fill and skill-shortage vacancies.⁶⁸

The ratios presented in Table 17 highlight the importance of vacancies in skilled trades occupations⁶⁹ - especially in the South West, West Midlands, Yorkshire & the Humber and the North West. Again marked variations are evident at local level.

Table 18 shows the occupational structure of vacancies by the four-fold occupational categorisation presented in Table 15 for LLSC areas grouped into 'low', 'medium' and 'high' unemployment rate categories. In general, the variations between these areas in occupational profiles of vacancies are not that marked. However, it is notable that managerial & professional occupations account for a larger percentage of skill-shortage vacancies in 'high' unemployment areas than in 'low' unemployment rate areas. By contrast, skilled trade occupations comprise a higher proportion of all skill-shortage vacancies in 'low' and 'medium' unemployment rate areas than in 'high' unemployment rate areas. To some extent this might reflect a disproportionate lack of people with high level/managerial skills in high unemployment areas – indicating skills mismatch (i.e. a lack of available labour with the necessary skills to fill managerial and professional roles). The higher share of hard-to-fill and skill-shortage vacancies accounted for by skilled trade occupations and less skilled service occupations in low unemployment areas than in high unemployment areas might reflect cost of living differences,⁷⁰ as well as skill shortages. The qualitative case studies highlight the fact the many hard-to-fill vacancies had the characteristics of a 'wage problem'. Moreover, high labour turnover in some occupations⁷¹ might also be a factor here.⁷²

⁶⁷ In part, reflecting the occupational profile of employment.

⁶⁸ In the econometric analyses multivariate techniques control for occupational (and industrial) structure.

⁶⁹ In all regions the values are greater than 100.

⁷⁰ Which are generally higher in much of southern England (especially in London and the surrounding area) than further north.

⁷¹ Perhaps for less skilled service occupations, in particular.

⁷² The qualitative case studies highlight the fact the many hard-to-fill vacancies had the characteristics of a 'wage problem'.

Table 18: Occupational profile (%) of vacancies in low, medium and high unemployment areas (weighted data)

Unemployment rate	Total				Hard-to-fill				Skill-shortage			
	1	2	3	4	1	2	3	4	1	2	3	4
Low	28.5	10.8	37.6	23.1	29.1	13.3	34.8	22.8	38.2	18.8	27.3	15.6
Medium	33.0	10.8	32.0	24.3	36.8	16.5	26.0	20.7	44.3	18.2	25.1	12.4
High	28.2	8.2	38.7	25.0	33.1	12.3	28.5	26.0	48.7	12.2	21.6	17.6
ENGLAND	30.2	10.1	35.6	24.0	32.9	14.4	30.2	22.5	42.6	17.3	25.4	14.7

Note: see Table 15 for broad occupational structure categorisation

Table 19 shows the occupational structure of vacancies for UALAD ‘families’. The key feature of note here is the much larger than average share of total, hard-to-fill and skill-shortage vacancies in Inner London accounted for by managerial & professional occupations.⁷³ Rural Areas and Prosperous England are characterised by greater than average shares of hard-to-fill and skill-shortage vacancies in skilled trades occupations. Coast and Services areas, Prosperous England and Education Centres and Outer London display the highest proportions of hard-to-fill and skill-shortage vacancies in less skilled services occupations than any of the other UALAD ‘families’.⁷⁴

Table 19: Occupational profile (%) of vacancies by UALAD ‘families’ (weighted data)

UALAD ‘family’	Total				Hard-to-fill				Skill-shortage			
	1	2	3	4	1	2	3	4	1	2	3	4
Rural Areas	19.8	12.7	38.2	29.3	20.9	17.1	31.7	30.3	18.3	26.9	29.5	25.3
Urban Fringe	32.8	11.9	32.7	22.7	35.1	16.1	29.0	19.8	47.0	19.1	23.5	10.4
Coast and Services	22.5	7.1	37.7	32.7	20.0	10.4	39.8	29.8	20.4	8.5	47.7	23.3
Prosperous England	26.2	10.4	39.3	24.1	27.8	12.6	36.4	23.2	37.9	20.8	28.6	12.8
Mining, Manufacturing and Industry	26.0	9.8	38.5	25.7	29.4	13.5	28.0	29.1	40.7	19.5	18.5	21.4
Education Centres and Outer London	26.7	6.3	40.7	26.2	27.2	11.1	35.3	26.4	34.1	17.8	25.9	22.2
Inner London	51.2	10.9	25.2	12.7	63.2	18.7	12.1	6.0	78.4	8.1	10.9	2.7
ENGLAND	30.2	10.1	35.6	24.0	32.9	14.4	30.2	22.5	42.6	17.3	25.4	14.7

Note: see Table 15 for broad occupational structure categorisation

Industrial profile of vacancies

Vacancies are unevenly distributed by industry – as illustrated in national level graphs presented in **Appendix 3**. For example, around 30 per cent of all skill-shortage vacancies are in other private services and computer & related/R&D (see Figure A2.1). Around 44 per cent of hard-to-fill vacancies are in other private services, wholesale/retail/repair and health & social work. Computer & related/R&D easily records the highest density of skill-shortage and hard-to-fill vacancies (see Figure A2.2), with construction recording the second highest density of vacancies. At LLSC area level, **Tables 20** and **21** show the broad industrial profile of hard-to-fill and skill-shortage vacancies, respectively.⁷⁵ The broad industry categories used are:

- A. primary and energy
- B. materials processing
- C. engineering⁷⁶

⁷³ In part, this reflects the particular occupational profile of employment in Inner London.

⁷⁴ Again, this is in part a reflection of the occupational profile of employment in these areas.

⁷⁵ The sectors identified in ESS2001 were grouped into broad categories, in order to obviate (at least to some extent) problems of small numbers.

- D. construction
- E. trading⁷⁷ and transport
- F. business services
- G. public services.

Business services account for the single largest proportion (30 per cent) of hard-to-fill vacancies at national level, but 49 per cent of all such vacancies in London (and over half of all hard-to-fill vacancies in London Central and London East), 33 per cent in the Eastern region and 32 per cent in the South East. Business services account for an even larger share of skill-shortage vacancies: 37 per cent of the total nationally and 64 per cent in London, 49 per cent in the Eastern region and only 12 per cent in the North East and 14 per cent in the North West. 28 per cent of hard-to-fill vacancies nationally are in the trading & transport, but this broad sector accounts for 38 per cent of such vacancies in the North West and 37 per cent in Yorkshire & the Humber. Trading & transport and public services each account for about a quarter of all skill-shortage vacancies nationally. Yet the proportions of skill-shortage vacancies accounted for by these two sectors are smaller than the England average in London, and much larger than average in the North West and North East. There are marked intra-regional variations in the profile of hard-to-fill and skill-shortage vacancies by broad industrial sector.⁷⁸

Tables 22 and 23 show the density of hard-to-fill and skill-shortage vacancies, respectively, by broad industry. In the northern-most regions of England and in the East Midlands the lower than average incidence of hard-to-fill and skill-shortage vacancies is confirmed by lower than average densities of vacancies across nearly all broad industrial categories. Conversely, in the southern-most regions of England higher than average densities of hard-to-fill and skill-shortage vacancies are recorded across most, but not all, broad industrial categories. Adopting an industry perspective, the density of hard-to-fill and skill-shortage vacancies in engineering is greatest in the South West, the Eastern region and the South East, while in business services and public services these same regions and record the highest vacancy densities. At the intra-regional scale, marked local variations in the density of both hard-to-fill and skill-shortage vacancies are once again evident.⁷⁹

Establishment Size structure profile of vacancies

Table 24 shows the distribution of total, hard-to-fill and skill-shortage vacancies by three broad size category of establishment; 0-24 employees, 25-199 and 200 or more employees

Across England as a whole, skill-shortage vacancies are more concentrated in small establishments (62 per cent are in small establishments with 0-24 employees) than are hard-to-fill vacancies (59 per cent are in establishments in this size category) and

⁷⁶ Materials processing and engineering together constitute manufacturing.

⁷⁷ Incorporating wholesale and retail distribution.

⁷⁸ It should be noted that the sampling strategy adopted for ESS2001 did not include industry by LLSC area quotas, and so to some extent the local industrial profiles recorded will be a function of the industrial distribution of establishments sampled. The econometric component of the 'Skills, Local Areas and Unemployment' project takes into account industrial structure in multivariate analysis.

⁷⁹ Again, the fact that local samples are not necessarily representative of the broad industrial structure of local employment needs to be borne in mind here.

total vacancies (54 per cent are in establishments with 0-24 employees). However, although in all regions there are more skill-shortage vacancies in small establishments than in medium and large establishments, it is not always the case that skill-shortage vacancies are more concentrated in such establishments than hard-to-fill vacancies. The proportion of all skill-shortage vacancies in small establishments ranges from 43 per cent in the East Midlands to over 75 per cent in the South West. In the North East over a quarter of skill-shortage vacancies are in large establishments, but in the South East and South West the share of total skill-shortage vacancies accounted for by such establishments is less than 10 per cent. At the LLSC area level there are marked variations in the profile of total, hard-to-fill and skill-shortage vacancies by establishment size.⁸⁰

Table 25 shows regional and LLSC area variations in the percentage of establishments reporting total, hard-to-fill and skill-shortage vacancies. It is clear that a greater share of large establishments (with 200 or more employees) report hard-to-fill and skill-shortage vacancies than medium or small establishments. In general, in regions and LLSC areas where the percentage of all establishments reporting hard-to-fill and skill-shortage vacancies is greater than the national average, this pattern is replicated across establishment size categories. Hence, in southern regions a greater than average percentage of establishments report vacancies in most size categories. In contrast, in the North East, Yorkshire and the Humber, the North West and the East Midlands in none of the size categories identified does the share of establishments reporting vacancies exceed the England average.

Table 26 shows the density of hard-to-fill and skill-shortage vacancies by establishment size band for each region and local area. Although Table 25 shows that a greater percentage of large establishments than of medium-size and small establishments report hard-to-fill and skill-shortage vacancies, Table 26 shows that the density of such vacancies is lower in large establishments than in smaller ones. This pattern is evident in all regions and most LLSC areas. London and the Eastern region are the only regions to record a greater than national average density of hard-to-fill and skill-shortage vacancies in all establishment size categories identified. However, in the other southern regions the density of vacancies is greater than average in most size categories. At the intra-regional scale, there are some marked local variations. For instance, in the South East, Kent/Medway LLSC area records a lower than average density of vacancies in all establishment size categories except the medium-size category for hard-to-fill vacancies. Conversely, in Surrey the density of hard-to-fill and skill-shortage vacancies is greater than the England average in all establishment size categories; whereas in Berkshire the density of hard-to-fill vacancies exceeds the national average in all size categories, but the density of skill-shortage vacancies is particularly marked in the medium-size category. In all northern and midlands regions the density of hard-to-fill and skill-shortage vacancies is lower than average in most establishment size categories.

⁸⁰ Multivariate techniques used for econometric analysis emphasise the importance of controlling for establishment size in exploring the local variations in the incidence of vacancies.

Table 20: Industrial profile (%) of hard-to-fill vacancies by LLSC area and region (weighted data)

		Broad industry (see text for key)						
		A	B	C	D	E	F	G
	North West	2.1	2.8	5.8	2.8	37.7	17.5	31.3
1	Cumbria	2.9	0.2	0.0	0.0	75.9	14.5	6.5
2	Merseyside/Halton	0.0	3.1	1.8	4.3	26.9	8.5	55.5
3	Lancashire	0.8	1.4	4.7	6.0	14.4	1.2	71.4
4	Cheshire/Warrington	6.3	3.4	0.8	2.5	30.1	31.2	25.8
5	Greater Manchester	0.0	4.3	15.4	1.9	44.5	23.0	10.8
	North East	3.8	1.9	2.6	5.4	32.9	11.4	42.0
10	Tyne and Wear	0.6	2.9	1.9	1.5	37.6	15.6	39.9
11	County Durham	15.8	1.4	5.4	2.4	42.0	3.8	29.2
12	Tees Valley	0.3	0.5	0.0	17.3	28.3	11.3	42.3
13	Northumberland	2.7	1.3	5.7	2.7	6.4	7.9	73.2
	West Midlands	4.3	5.5	5.8	15.8	30.5	18.9	19.1
20	Birmingham/Solihull	0.0	1.1	4.5	1.8	55.9	19.2	17.6
21	Staffordshire	0.0	2.2	6.5	49.4	10.8	11.8	19.4
22	Shropshire	2.0	8.5	10.0	8.4	34.4	16.5	20.1
23	Herefordshire/Worcestershire	1.1	13.7	4.0	7.6	25.8	31.7	16.1
24	The Black Country	30.2	0.8	8.8	7.1	19.4	20.5	13.3
25	Coventry/Warwickshire	0.0	8.4	4.3	23.5	24.1	10.9	28.8
	Yorkshire and The Humber	9.7	2.8	5.4	6.9	37.0	17.6	20.6
30	North Yorkshire	4.5	1.4	1.5	5.9	33.9	29.3	23.5
31	South Yorkshire	33.0	4.5	5.2	3.2	25.0	12.4	16.7
32	West Yorkshire	0.4	1.9	9.2	12.0	36.8	15.3	24.4
33	Humberside	0.0	3.7	0.9	1.6	59.6	19.4	14.8
	East Midlands	1.0	5.0	6.6	10.2	28.2	17.2	31.7
40	Lincolnshire/Rutland	3.6	1.9	1.6	11.5	55.9	7.5	18.1
41	Northamptonshire	0.0	6.0	9.8	19.4	34.8	15.2	14.8
42	Leicestershire	1.8	7.6	4.2	10.4	18.6	28.5	28.9
43	Derbyshire	0.0	5.4	8.9	7.6	13.1	24.4	40.5
44	Nottinghamshire	0.0	4.7	8.4	4.0	18.6	13.1	51.3
	Eastern	2.0	6.1	6.6	5.5	18.7	35.5	25.7
50	Bedfordshire	4.1	4.3	9.3	11.7	17.6	26.1	26.8
51	Essex	0.0	2.1	11.9	2.6	23.7	37.6	22.0
52	Cambridgeshire	0.0	10.9	2.3	3.5	12.3	31.3	39.7
53	Hertfordshire	0.8	2.6	3.4	5.1	16.0	51.7	20.5
54	Norfolk	8.1	17.7	7.9	10.5	31.3	8.4	16.2
55	Suffolk	8.0	8.3	14.2	4.8	17.0	10.7	36.9
	London	0.3	2.2	1.7	3.0	24.1	48.6	20.0
60	London Central	0.5	1.6	0.4	0.8	24.3	62.7	9.9
61	London North	0.1	2.7	4.7	18.1	20.4	20.9	33.1
62	London East	0.0	2.4	1.2	1.9	20.3	52.7	21.4
63	London West	0.1	2.6	6.3	3.8	30.3	29.3	27.5
64	London South	0.1	4.1	1.7	2.5	26.6	20.0	45.0

Table 20 Continued

	South East	2.3	2.2	5.1	4.2	28.1	30.7	27.4
70	Surrey	2.0	2.0	2.7	7.7	26.9	17.2	41.5
71	East Sussex/West Sussex/Brighton & Hove	0.9	1.2	8.6	3.1	19.2	34.6	32.5
72	Oxon/Bucks/Milton Keynes	3.6	0.6	5.4	1.1	43.1	31.8	14.4
73	Kent/Medway	7.6	6.7	7.0	3.2	29.4	12.5	33.7
74	Hamps/Isle of Wight/Portsm'th/S'thampton	1.1	3.2	3.9	5.8	19.5	42.8	23.7
75	Berkshire	0.9	0.4	5.3	2.4	35.2	35.4	20.5
	South West	1.8	2.5	14.5	11.8	27.7	20.7	21.0
80	Devon/Cornwall	0.3	2.5	13.2	6.6	32.3	23.9	21.2
81	Somerset	0.0	2.9	4.8	6.6	38.2	16.7	30.8
82	Gloucestershire	0.9	1.3	31.6	2.1	18.8	21.9	23.4
83	Bournemouth/Dorset/Poole	8.5	2.8	2.8	35.3	31.2	6.4	12.9
84	Wiltshire/Swindon	0.0	2.9	10.1	12.0	26.6	28.7	19.7
85	Former Avon	0.0	3.9	17.2	7.7	24.5	26.0	20.7
	ENGLAND	2.3	3.3	5.7	6.3	27.7	30.1	24.7

Table 21: Industrial profile (%) of skill-shortage vacancies by LLSC area and region (weighted data)

		Broad industry (see text for key)						
		A	B	C	D	E	F	G
	North West	0.3	2.6	9.9	3.0	38.1	14.1	32.0
1	Cumbria	0.0	0.1	0.0	0.0	92.0	1.9	6.0
2	Merseyside/Halton	0.0	2.6	2.1	8.4	45.6	14.6	26.7
3	Lancashire	1.2	1.0	4.9	3.9	6.3	0.9	81.8
4	Cheshire/Warrington	0.0	1.6	0.4	7.8	15.2	15.5	59.5
5	Greater Manchester	0.0	5.6	24.5	1.6	29.1	31.7	7.5
	North East	0.1	1.6	4.3	9.0	31.6	12.0	41.4
10	Tyne and Wear	0.0	1.4	2.9	2.6	43.4	11.2	38.6
11	County Durham	0.0	4.2	11.1	7.2	40.2	2.6	34.7
12	Tees Valley	0.6	1.1	0.0	25.9	9.9	16.7	45.8
13	Northumberland	0.0	0.0	15.1	7.2	0.0	19.2	58.4
	West Midlands	0.1	3.1	6.8	29.2	22.3	19.7	18.7
20	Birmingham/Solihull	0.0	0.4	10.2	3.2	37.5	24.3	24.4
21	Staffordshire	0.0	0.9	2.4	62.0	5.8	12.5	16.4
22	Shropshire	0.0	20.1	2.5	18.5	9.7	24.9	24.2
23	Herefordshire/Worcestershire	0.0	5.1	8.3	24.6	41.0	15.0	6.0
24	The Black Country	0.6	1.7	8.3	12.2	28.4	29.2	19.6
25	Coventry/Warwickshire	0.0	2.0	11.3	24.7	19.2	20.8	22.0
	Yorkshire and The Humber	0.1	4.3	5.7	12.5	31.6	27.3	18.4
30	North Yorkshire	0.3	0.3	2.4	0.0	18.1	47.0	31.9
31	South Yorkshire	0.0	16.8	7.9	14.6	25.9	12.8	22.0
32	West Yorkshire	0.2	3.8	10.3	27.2	15.2	23.4	19.9
33	Humberside	0.0	1.2	1.1	2.4	65.0	25.4	4.9
	East Midlands	0.0	4.5	10.4	11.3	15.0	24.4	34.4
40	Lincolnshire/Rutland	0.0	4.3	2.3	19.6	28.5	10.8	34.5
41	Northamptonshire	0.0	10.6	15.6	19.5	21.7	14.8	17.9
42	Leicestershire	0.0	4.7	6.6	12.3	16.7	50.8	8.9
43	Derbyshire	0.0	5.5	9.0	15.3	7.2	40.2	22.9
44	Nottinghamshire	0.0	1.8	13.2	4.0	13.4	5.6	62.0
	Eastern	2.5	8.3	4.8	6.9	10.6	48.7	18.2
50	Bedfordshire	8.7	2.4	14.5	20.3	15.1	22.1	16.9
51	Essex	0.0	1.6	3.6	1.5	28.4	43.3	21.7
52	Cambridgeshire	0.0	26.7	2.4	5.7	10.4	36.4	18.5
53	Hertfordshire	0.0	2.8	2.3	4.6	5.1	66.9	18.3
54	Norfolk	20.2	33.1	9.8	15.2	8.5	7.5	5.7
55	Suffolk	0.0	7.2	21.2	14.9	6.9	12.7	37.1
	London	0.0	2.3	1.9	3.4	12.9	63.7	15.8
60	London Central	0.0	0.5	0.4	1.0	6.2	79.2	12.6
61	London North	0.3	0.4	6.8	21.1	12.1	9.2	50.2
62	London East	0.0	3.0	1.3	2.5	10.4	71.6	11.1
63	London West	0.0	4.7	6.1	3.5	47.1	26.7	11.8
64	London South	0.0	10.5	4.3	5.8	25.2	26.0	28.3

Table 21 Continued

	South East	3.1	2.8	8.8	4.6	22.8	34.1	23.8
70	Surrey	2.0	1.6	4.6	6.8	32.4	19.6	33.1
71	East Sussex/West Sussex/Brighton & Hove	1.6	0.8	11.7	2.7	12.7	51.6	19.0
72	Oxon/Bucks/Milton Keynes	14.6	0.6	13.3	1.0	26.3	40.3	3.9
73	Kent/Medway	6.0	8.9	9.7	2.6	31.7	13.3	27.6
74	Hamps/Isle of Wight/Portsm'th/S'thampton	0.0	4.7	6.6	6.2	14.8	35.5	32.1
75	Berkshire	3.0	0.7	11.4	5.1	43.6	25.4	10.8
	South West	0.5	2.2	20.9	20.7	19.1	24.0	12.7
80	Devon/Cornwall	0.0	1.2	6.2	9.9	47.1	12.5	23.1
81	Somerset	0.0	5.0	8.4	5.3	37.7	5.1	38.4
82	Gloucestershire	1.4	1.0	44.2	3.2	10.6	32.1	7.5
83	Bournemouth/Dorset/Poole	0.0	2.6	3.0	64.4	25.5	3.2	1.2
84	Wiltshire/Swindon	0.0	3.4	16.8	17.7	6.1	41.5	14.5
85	Former Avon	0.0	1.2	3.8	17.8	21.9	27.5	27.8
	ENGLAND	1.1	3.6	7.8	9.2	20.2	37.1	21.0

Table 22: Density of hard-to-fill vacancies by broad industry by LLSC area and region
(weighted data)

		Broad industry (see text for key)							
		A	B	C	D	E	F	G	All
	North West	2.73	0.32	0.84	0.84	1.54	1.48	1.41	1.28
1	Cumbria	3.69	0.03	0.00	0.00	6.36	2.26	0.42	2.16
2	Merseyside/Halton	0.00	0.26	0.26	0.76	0.86	0.47	1.15	0.81
3	Lancashire	1.01	0.16	0.74	1.58	0.67	0.13	3.09	1.35
4	Cheshire/Warrington	7.33	0.53	0.12	1.42	1.20	2.98	1.58	1.49
5	Greater Manchester	0.00	0.44	1.44	0.50	1.50	1.58	0.62	1.16
	North East	2.37	0.17	0.29	0.86	1.14	0.91	1.02	0.91
10	Tyne and Wear	1.11	0.35	0.21	0.33	1.24	1.24	1.41	1.07
11	County Durham	11.72	0.08	0.45	0.44	2.53	0.36	0.76	0.97
12	Tees Valley	0.16	0.09	0.00	1.90	0.77	0.81	0.75	0.77
13	Northumberland	0.47	0.07	0.64	0.29	0.23	0.57	1.06	0.65
	West Midlands	3.40	0.91	0.50	5.38	1.59	1.75	1.04	1.42
20	Birmingham/Solihull	0.00	0.34	0.49	1.02	4.12	1.24	1.06	1.67
21	Staffordshire	0.00	0.22	0.60	25.43	0.67	1.72	1.10	1.57
22	Shropshire	1.22	1.31	0.87	2.09	1.27	1.76	0.75	1.15
23	Herefordshire/Worcestershire	0.45	2.16	0.68	2.87	1.23	5.59	1.34	1.79
24	The Black Country	25.36	0.12	0.36	1.37	0.86	1.82	0.59	1.06
25	Coventry/Warwickshire	0.00	1.89	0.34	6.23	1.09	0.77	1.36	1.24
	Yorkshire and The Humber	4.36	0.21	0.54	1.39	1.28	1.14	0.65	0.94
30	North Yorkshire	0.96	0.15	0.16	1.10	1.45	1.83	0.55	0.90
31	South Yorkshire	49.68	0.36	0.37	0.60	0.77	0.66	0.51	0.86
32	West Yorkshire	0.40	0.12	1.05	2.93	1.51	1.15	1.05	1.10
33	Humberside	0.00	0.32	0.12	0.27	1.50	1.30	0.39	0.82
	East Midlands	0.48	0.34	0.64	2.28	1.05	1.31	1.21	1.02
40	Lincolnshire/Rutland	0.57	0.21	0.21	2.92	1.68	0.67	0.96	1.11
41	Northamptonshire	0.00	0.38	0.96	5.74	1.43	1.27	1.03	1.25
42	Leicestershire	4.62	0.34	0.36	2.10	0.80	1.94	1.22	0.99
43	Derbyshire	0.00	0.27	0.55	1.38	0.44	1.45	0.95	0.75
44	Nottinghamshire	0.00	0.52	1.16	0.86	0.80	1.11	1.69	1.14
	Eastern	1.73	1.68	1.67	2.40	1.34	4.14	2.07	2.18
50	Bedfordshire	3.07	1.01	1.26	3.20	1.07	1.51	1.39	1.43
51	Essex	0.00	0.62	2.33	1.13	1.24	5.33	1.97	2.04
52	Cambridgeshire	0.00	2.30	0.74	2.75	1.49	3.79	3.36	2.61
53	Hertfordshire	1.54	2.59	2.26	3.22	1.61	7.97	3.57	3.74
54	Norfolk	2.34	2.92	1.47	3.68	2.02	0.84	0.81	1.58
55	Suffolk	2.63	0.76	1.57	0.77	0.57	1.04	1.22	1.01
	London	1.38	0.80	1.39	2.29	1.79	3.17	1.58	2.13
60	London Central	1.73	1.07	1.10	1.88	2.74	5.74	1.10	3.20
61	London North	1.98	0.87	2.84	7.36	1.00	1.71	1.62	1.66
62	London East	0.00	0.64	0.69	1.38	1.63	1.94	1.77	1.70
63	London West	0.58	0.43	1.87	1.55	1.19	1.98	1.58	1.43
64	London South	0.92	1.29	0.89	0.80	1.51	1.21	2.34	1.62

Table 22 Continued

	South East	2.44	0.98	1.51	2.37	2.32	3.46	2.46	2.47
70	Surrey	2.09	2.10	1.98	5.94	3.28	1.88	3.76	3.03
71	East Sussex/West Sussex/Brighton & Hove	0.67	0.43	1.74	1.54	1.32	4.06	1.88	1.95
72	Oxon/Bucks/Milton Keynes	8.82	0.23	1.71	1.06	4.73	4.02	2.78	3.41
73	Kent/Medway	2.60	1.48	1.17	0.70	1.19	1.14	1.46	1.30
74	Hamps/Isle of Wight/Portsm'th/S'thampton	1.67	1.47	0.96	3.27	1.66	5.09	2.82	2.69
75	Berkshire	3.51	0.29	3.15	1.82	3.21	3.62	2.21	2.88
	South West	1.37	0.65	3.17	5.14	1.81	2.48	1.36	1.95
80	Devon/Cornwall	0.18	0.39	2.06	1.77	1.61	3.63	0.89	1.46
81	Somerset	0.00	0.53	1.02	2.56	1.41	1.21	1.43	1.26
82	Gloucestershire	0.77	0.71	11.14	1.68	2.35	3.64	3.01	3.46
83	Bournemouth/Dorset/Poole	14.70	0.97	1.00	20.13	2.23	1.31	0.98	2.49
84	Wiltshire/Swindon	0.00	0.93	2.76	11.19	2.73	5.46	1.53	2.75
85	Former Avon	0.00	0.70	1.66	1.46	1.01	1.12	0.98	1.11
	ENGLAND	2.28	0.65	1.15	2.56	1.65	2.67	1.51	1.73

Table 23: Density of skill-shortage vacancies by broad industry by LLSC area and region
(weighted data)

		Broad industry (see text for key)							
		A	B	C	D	E	F	G	All
	North West	0.20	0.15	0.70	0.44	0.76	0.58	0.71	0.63
1	Cumbria	0.00	0.01	0.00	0.00	5.54	0.21	0.28	1.56
2	Merseyside/Halton	0.00	0.09	0.13	0.63	0.62	0.34	0.23	0.34
3	Lancashire	1.01	0.08	0.51	0.69	0.19	0.06	2.35	0.90
4	Cheshire/Warrington	0.00	0.03	0.01	0.58	0.08	0.19	0.46	0.19
5	Greater Manchester	0.00	0.33	1.32	0.25	0.57	1.26	0.25	0.67
	North East	0.04	0.07	0.24	0.68	0.53	0.46	0.49	0.44
10	Tyne and Wear	0.00	0.10	0.18	0.33	0.82	0.51	0.78	0.61
11	County Durham	0.00	0.08	0.30	0.44	0.79	0.08	0.30	0.32
12	Tees Valley	0.16	0.09	0.00	1.38	0.13	0.58	0.39	0.37
13	Northumberland	0.00	0.00	0.64	0.29	0.00	0.52	0.32	0.25
	West Midlands	0.03	0.23	0.26	4.40	0.52	0.81	0.45	0.63
20	Birmingham/Solihull	0.00	0.05	0.45	0.73	1.10	0.63	0.59	0.67
21	Staffordshire	0.00	0.07	0.17	25.26	0.29	1.45	0.74	1.24
22	Shropshire	0.00	1.13	0.08	1.69	0.13	0.97	0.33	0.42
23	Herefordshire/Worcestershire	0.00	0.24	0.41	2.73	0.58	0.78	0.15	0.53
24	The Black Country	0.22	0.10	0.15	1.03	0.55	1.13	0.38	0.46
25	Coventry/Warwickshire	0.00	0.17	0.34	2.46	0.33	0.55	0.39	0.47
	Yorkshire and The Humber	0.02	0.12	0.22	0.98	0.42	0.68	0.23	0.36
30	North Yorkshire	0.03	0.02	0.12	0.00	0.37	1.40	0.35	0.43
31	South Yorkshire	0.00	0.29	0.12	0.60	0.18	0.15	0.15	0.19
32	West Yorkshire	0.07	0.08	0.41	2.30	0.22	0.61	0.29	0.38
33	Humberside	0.00	0.07	0.10	0.27	1.07	1.12	0.08	0.54
	East Midlands	0.00	0.13	0.42	1.04	0.23	0.77	0.54	0.42
40	Lincolnshire/Rutland	0.00	0.07	0.05	0.74	0.13	0.14	0.27	0.17
41	Northamptonshire	0.00	0.19	0.43	1.64	0.25	0.35	0.35	0.36
42	Leicestershire	0.00	0.11	0.30	1.29	0.37	1.80	0.20	0.52
43	Derbyshire	0.00	0.12	0.25	1.26	0.11	1.09	0.24	0.34
44	Nottinghamshire	0.00	0.12	1.14	0.53	0.36	0.30	1.27	0.71
	Eastern	1.08	1.16	0.62	1.52	0.39	2.90	0.76	1.11
50	Bedfordshire	3.07	0.27	0.94	2.63	0.44	0.61	0.42	0.68
51	Essex	0.00	0.19	0.28	0.25	0.60	2.46	0.78	0.82
52	Cambridgeshire	0.00	2.07	0.28	1.63	0.46	1.62	0.57	0.96
53	Hertfordshire	0.05	2.05	1.15	2.14	0.38	7.63	2.37	2.77
54	Norfolk	2.34	2.19	0.73	2.14	0.22	0.30	0.11	0.63
55	Suffolk	0.00	0.16	0.56	0.57	0.06	0.30	0.29	0.24
	London	0.08	0.38	0.69	1.17	0.43	1.87	0.56	0.96
60	London Central	0.05	0.16	0.55	1.13	0.31	3.19	0.62	1.41
61	London North	1.98	0.05	1.47	3.10	0.22	0.27	0.89	0.60
62	London East	0.00	0.52	0.50	1.19	0.55	1.73	0.60	1.12
63	London West	0.00	0.28	0.63	0.50	0.65	0.63	0.24	0.50
64	London South	0.00	0.98	0.69	0.56	0.43	0.47	0.44	0.49

Table 23 Continued

	South East	1.29	0.48	1.01	0.99	0.73	1.48	0.83	0.96
70	Surrey	0.73	0.59	1.16	1.82	1.37	0.74	1.04	1.05
71	East Sussex/West Sussex/Brighton & Hove	0.67	0.17	1.36	0.78	0.50	3.48	0.63	1.12
72	Oxon/Bucks/Milton Keynes	8.82	0.05	1.03	0.23	0.70	1.24	0.18	0.83
73	Kent/Medway	0.66	0.63	0.52	0.19	0.41	0.39	0.38	0.42
74	Hamps/Isle of Wight/Portsm'th/S'thampton	0.00	1.03	0.79	1.70	0.61	2.05	1.86	1.31
75	Berkshire	3.51	0.14	1.98	1.12	1.15	0.75	0.34	0.83
	South West	0.17	0.26	2.11	4.16	0.58	1.33	0.38	0.90
80	Devon/Cornwall	0.00	0.05	0.28	0.76	0.67	0.55	0.28	0.42
81	Somerset	0.00	0.28	0.54	0.62	0.42	0.11	0.54	0.38
82	Gloucestershire	0.77	0.34	10.36	1.68	0.88	3.55	0.64	2.30
83	Bournemouth/Dorset/Poole	0.00	0.49	0.58	19.84	0.98	0.36	0.05	1.35
84	Wiltshire/Swindon	0.00	0.60	2.51	8.95	0.34	4.31	0.62	1.50
85	Former Avon	0.00	0.04	0.07	0.62	0.17	0.22	0.24	0.21
	ENGLAND	0.50	0.32	0.69	1.67	0.53	1.46	0.57	0.77

Table 24: Establishment size profile (%) of vacancies by LLSC area and region (weighted data)

		Total			Hard-to-fill			Skill-shortage		
		0-24	25-199	200+	0-24	25-199	200+	0-24	25-199	200+
	North West	50.4	29.6	19.9	61.2	27.1	11.6	65.4	23.6	11.0
1	Cumbria	75.2	20.5	4.3	82.5	15.7	1.8	89.4	9.0	1.6
2	Merseyside/Halton	44.5	37.0	18.5	36.1	37.0	26.9	70.2	24.0	5.8
3	Lancashire	46.1	39.3	14.7	59.7	36.1	4.2	77.4	17.3	5.2
4	Cheshire/Warrington	59.0	16.4	24.6	73.4	15.1	11.4	26.1	19.6	54.3
5	Greater Manchester	43.1	31.5	25.5	52.8	32.3	15.0	46.0	38.5	15.4
	North East	46.2	33.1	20.6	59.5	20.7	19.7	56.6	16.4	27.1
10	Tyne and Wear	55.6	27.3	17.0	73.8	9.0	17.2	74.8	6.7	18.5
11	County Durham	42.9	46.3	10.8	71.5	25.1	3.4	52.9	40.8	6.2
12	Tees Valley	26.9	33.8	39.3	20.7	39.5	39.8	12.2	23.6	64.2
13	Northumberland	47.0	34.0	19.1	58.6	23.5	17.9	63.3	21.6	15.1
	West Midlands	55.1	28.7	16.2	62.1	27.8	10.1	59.9	24.9	15.1
20	Birmingham/Solihull	56.4	21.1	22.5	60.6	26.3	13.1	52.5	26.3	21.2
21	Staffordshire	60.0	24.3	15.7	68.4	18.7	12.9	75.7	10.2	14.2
22	Shropshire	53.3	39.7	7.0	60.6	36.4	3.0	55.8	43.3	0.9
23	Herefordshire/Worcestershire	71.4	23.8	4.8	78.4	19.0	2.6	67.2	27.6	5.2
24	The Black Country	51.3	35.8	12.9	58.7	30.1	11.2	40.9	36.9	22.2
25	Coventry/Warwickshire	39.8	37.6	22.6	42.0	43.1	14.9	50.3	31.4	18.4
	Yorkshire and The Humber	50.1	31.1	18.8	58.2	25.8	16.0	55.6	25.8	18.6
30	North Yorkshire	42.3	37.0	20.7	56.9	32.2	10.9	73.6	22.2	4.2
31	South Yorkshire	47.1	35.3	17.6	59.0	27.6	13.4	28.4	49.9	21.7
32	West Yorkshire	52.3	24.9	22.8	58.6	21.2	20.3	47.9	28.1	24.0
33	Humberside	57.8	32.2	10.0	57.4	27.2	15.4	66.4	12.9	20.7
	East Midlands	50.1	33.4	16.5	52.3	31.0	16.8	43.4	37.4	19.1
40	Lincolnshire/Rutland	51.4	36.4	12.3	71.5	16.0	12.5	35.6	36.3	28.1
41	Northamptonshire	31.7	50.3	18.0	27.7	55.1	17.2	17.5	70.5	12.0
42	Leicestershire	35.0	38.9	26.1	44.4	33.4	22.2	54.8	35.7	9.5
43	Derbyshire	47.2	44.9	7.9	51.3	40.3	8.5	25.5	61.0	13.6
44	Nottinghamshire	69.8	12.8	17.4	61.5	16.1	22.4	57.1	14.1	28.8
	Eastern	58.6	26.3	15.1	55.0	28.2	16.8	67.0	23.3	9.6
50	Bedfordshire	57.2	32.4	10.3	52.2	36.1	11.8	64.1	32.9	3.0
51	Essex	65.7	20.4	14.0	48.3	34.2	17.6	29.7	53.1	17.2
52	Cambridgeshire	13.8	45.4	40.7	16.8	38.2	45.0	25.6	35.9	38.6
53	Hertfordshire	77.7	15.7	6.6	80.8	13.9	5.3	92.3	6.4	1.3
54	Norfolk	61.5	29.1	9.4	59.3	34.3	6.4	53.1	39.7	7.3
55	Suffolk	37.5	40.4	22.1	37.3	39.0	23.7	56.1	28.9	15.0
	London	57.4	22.4	20.1	63.2	21.0	15.8	61.5	21.7	16.8
60	London Central	56.8	21.1	22.1	74.4	13.3	12.3	72.0	12.7	15.3
61	London North	68.3	20.6	11.1	59.0	29.1	11.9	35.5	46.2	18.3
62	London East	67.0	15.4	17.6	62.8	20.3	16.9	65.8	19.6	14.6
63	London West	41.9	39.2	18.8	46.0	43.7	10.3	34.7	51.5	13.8
64	London South	33.1	33.1	33.8	35.4	26.5	38.1	32.9	29.9	37.1

Table 24 Continued

	South East	50.5	32.8	16.6	55.3	32.8	11.9	58.0	34.1	7.9
70	Surrey	51.7	32.3	16.0	48.5	35.6	15.9	43.8	42.6	13.6
71	East Sussex/West Sussex/Brighton & Hove	50.1	34.8	15.1	54.2	34.4	11.3	67.2	26.5	6.3
72	Oxon/Bucks/Milton Keynes	45.0	35.1	19.9	52.0	29.8	18.2	70.5	28.1	1.4
73	Kent/Medway	40.6	34.6	24.8	49.7	37.5	12.8	49.5	29.1	21.4
74	Hamps/Isle of Wight/Portsm'th/S'thampton	70.0	23.0	7.0	73.5	21.7	4.7	69.4	27.0	3.7
75	Berkshire	25.9	46.4	27.6	39.3	49.4	11.3	16.2	71.4	12.4
	South West	57.9	27.8	14.3	62.2	28.1	9.7	75.5	19.2	5.3
80	Devon/Cornwall	47.8	33.5	18.7	47.8	34.1	18.0	62.2	22.3	15.6
81	Somerset	68.1	21.4	10.4	62.3	26.1	11.6	69.2	24.9	5.9
82	Gloucestershire	70.8	16.3	12.9	83.8	12.7	3.5	86.9	12.6	0.5
83	Bournemouth/Dorset/Poole	60.8	28.7	10.5	68.0	24.1	7.9	87.5	8.9	3.7
84	Wiltshire/Swindon	62.2	26.4	11.4	60.1	31.6	8.3	67.0	25.1	7.9
85	Former Avon	31.2	46.5	22.3	30.4	56.6	13.0	14.7	75.8	9.5
	ENGLAND	54.1	28.3	17.6	59.0	27.4	13.6	62.3	25.4	12.3

Table 25: Percentage of establishments reporting hard-to-fill and skill-shortage vacancies by size band by LLSC area and region (weighted data)

		Hard-to-fill				Skill-shortage			
		0-24	25-199	200+	All	0-24	25-199	200+	All
	North West	5.8	15.9	20.1	6.6	3.2	7.7	11.1	3.6
1	Cumbria	9.0	14.8	21.6	9.3	7.9	7.0	14.4	7.9
2	Merseyside/Halton	4.4	12.8	16.7	5.6	3.6	4.5	8.8	3.8
3	Lancashire	6.8	18.5	11.9	9.2	5.0	8.5	9.6	5.8
4	Cheshire/Warrington	5.1	13.8	23.4	5.4	0.3	4.1	11.5	0.4
5	Greater Manchester	5.1	18.0	25.0	6.2	2.9	12.0	12.5	3.7
	North East	5.4	12.2	21.1	6.1	2.8	5.9	10.7	3.1
10	Tyne and Wear	6.5	10.3	14.5	6.7	3.8	5.1	2.9	3.9
11	County Durham	7.3	15.0	17.8	8.5	2.8	8.5	11.9	3.7
12	Tees Valley	2.4	12.1	35.5	4.1	0.7	5.3	25.5	1.6
13	Northumberland	3.2	11.7	16.9	4.1	1.3	4.5	5.0	1.6
	West Midlands	8.0	17.6	30.8	8.9	2.9	8.1	17.6	3.4
20	Birmingham/Solihull	16.4	21.1	35.6	17.2	5.6	9.6	23.2	6.3
21	Staffordshire	7.2	19.0	28.5	8.2	6.0	8.7	20.0	6.3
22	Shropshire	5.3	17.1	27.6	6.2	1.4	7.6	9.5	1.9
23	Herefordshire/Worcestershire	8.9	15.3	32.8	9.3	1.8	6.7	12.9	2.1
24	The Black Country	6.7	12.1	26.2	7.3	1.8	7.9	16.9	2.4
25	Coventry/Warwickshire	3.6	20.7	30.0	5.5	1.6	8.0	12.4	2.3
	Yorkshire and The Humber	3.5	13.1	24.3	4.4	1.8	6.1	10.2	2.2
30	North Yorkshire	3.9	15.8	30.6	5.0	3.0	6.7	10.1	3.3
31	South Yorkshire	3.2	12.5	22.5	5.1	0.9	4.9	7.3	1.7
32	West Yorkshire	4.0	11.9	21.3	4.6	1.1	6.6	10.8	1.6
33	Humberside	2.9	13.4	27.4	3.4	2.3	7.0	16.6	2.5
	East Midlands	3.7	16.4	26.5	4.8	1.7	7.7	13.4	2.2
40	Lincolnshire/Rutland	3.9	13.1	33.3	4.5	0.3	4.5	13.6	0.6
41	Northamptonshire	2.5	24.4	31.8	6.5	1.0	10.1	9.0	2.6
42	Leicestershire	5.5	16.0	18.6	7.1	3.7	7.0	11.8	4.3
43	Derbyshire	2.3	14.2	22.4	3.1	0.7	7.8	15.9	1.2
44	Nottinghamshire	5.0	14.1	28.0	5.5	3.5	8.8	15.6	3.8
	Eastern	6.9	24.1	39.7	8.2	4.5	9.4	17.2	4.8
50	Bedfordshire	6.6	19.7	41.5	8.0	4.4	10.2	15.8	4.9
51	Essex	4.7	23.3	32.2	5.6	1.6	9.5	13.1	2.0
52	Cambridgeshire	4.8	27.9	55.5	9.2	1.8	9.8	26.1	3.5
53	Hertfordshire	10.3	30.8	42.3	10.9	8.6	12.2	10.3	8.7
54	Norfolk	5.6	19.4	20.1	6.9	1.8	8.0	16.6	2.4
55	Suffolk	3.5	24.0	39.1	5.8	1.4	6.2	18.3	2.1
	London	7.3	21.2	27.1	8.2	4.0	10.1	15.1	4.4
60	London Central	9.2	20.6	28.4	9.9	5.8	8.5	18.5	6.1
61	London North	4.1	19.5	32.1	4.8	0.8	11.4	13.4	1.2
62	London East	10.0	16.8	22.7	10.5	7.1	10.2	14.2	7.3
63	London West	5.1	28.5	26.5	6.9	1.1	13.1	11.0	2.0
64	London South	3.7	20.0	29.4	5.3	1.2	7.9	13.3	1.8

Table 25 Continued

	South East	7.5	30.1	35.9	9.0	3.2	12.0	15.6	3.8
70	Surrey	10.8	36.2	45.0	14.1	4.6	13.3	22.8	5.8
71	East Sussex/West Sussex/Brighton & Hove	9.2	26.9	39.6	10.9	6.6	10.1	20.4	7.0
72	Oxon/Bucks/Milton Keynes	14.6	34.2	31.3	16.4	4.7	14.0	8.8	5.5
73	Kent/Medway	2.9	26.4	30.9	4.2	0.9	9.0	16.3	1.4
74	Hamps/Isle of Wight/Portsm'th/S'thampton	6.4	26.7	36.0	7.0	2.5	12.8	14.3	2.8
75	Berkshire	13.4	31.3	35.6	17.8	3.0	14.5	11.3	5.7
	South West	6.8	22.5	31.4	7.8	3.9	8.6	13.1	4.2
80	Devon/Cornwall	7.9	19.5	30.2	9.3	3.6	7.8	9.9	4.1
81	Somerset	2.1	25.3	32.0	2.5	0.9	7.7	12.8	1.1
82	Gloucestershire	10.2	24.9	33.2	11.0	6.4	13.2	22.0	6.8
83	Bournemouth/Dorset/Poole	10.5	21.3	20.9	11.2	6.4	7.6	4.9	6.4
84	Wiltshire/Swindon	16.4	26.5	51.0	17.6	12.1	11.4	31.9	12.2
85	Former Avon	6.8	20.8	25.7	10.6	0.6	6.0	5.9	2.0
	ENGLAND	6.4	20.4	29.0	7.5	3.3	8.9	14.2	3.7

Table 26: Density of hard-to-fill and skill-shortage vacancies by size band by LLSC area and region (weighted data)

		Hard-to-fill				Skill-shortage			
		0-24	25-199	200+	All	0-24	25-199	200+	All
	North West	2.42	0.96	0.47	1.28	1.26	0.41	0.22	0.63
1	Cumbria	3.89	1.02	0.18	2.16	3.03	0.42	0.12	1.56
2	Merseyside/Halton	1.11	0.66	0.77	0.81	0.91	0.18	0.07	0.34
3	Lancashire	3.80	1.10	0.16	1.35	3.28	0.35	0.14	0.90
4	Cheshire/Warrington	2.10	0.96	0.70	1.49	0.09	0.16	0.42	0.19
5	Greater Manchester	2.31	1.08	0.44	1.16	1.17	0.75	0.27	0.67
	North East	1.79	0.52	0.53	0.91	0.82	0.20	0.35	0.44
10	Tyne and Wear	2.36	0.29	0.55	1.07	1.37	0.12	0.34	0.61
11	County Durham	2.58	0.53	0.12	0.97	0.63	0.28	0.07	0.32
12	Tees Valley	0.63	0.87	0.79	0.77	0.18	0.25	0.61	0.37
13	Northumberland	1.12	0.45	0.37	0.65	0.45	0.16	0.12	0.25
	West Midlands	2.80	1.07	0.46	1.43	1.20	0.43	0.31	0.63
20	Birmingham/Solihull	5.28	1.23	0.49	1.67	1.83	0.49	0.31	0.67
21	Staffordshire	3.41	0.91	0.56	1.57	2.99	0.39	0.48	1.24
22	Shropshire	1.83	0.99	0.17	1.15	0.62	0.43	0.02	0.42
23	Herefordshire/Worcestershire	2.66	1.02	0.33	1.79	0.67	0.43	0.20	0.53
24	The Black Country	2.09	0.78	0.41	1.06	0.63	0.41	0.35	0.46
25	Coventry/Warwickshire	1.99	1.40	0.52	1.24	0.90	0.38	0.24	0.47
	Yorkshire and The Humber	1.70	0.67	0.48	0.94	0.63	0.26	0.21	0.36
30	North Yorkshire	1.75	0.84	0.27	0.90	1.08	0.28	0.05	0.43
31	South Yorkshire	2.19	0.56	0.33	0.86	0.23	0.22	0.12	0.19
32	West Yorkshire	2.06	0.68	0.64	1.10	0.58	0.31	0.26	0.38
33	Humberside	0.94	0.68	0.71	0.82	0.71	0.21	0.63	0.54
	East Midlands	1.56	0.83	0.62	1.02	0.54	0.42	0.29	0.42
40	Lincolnshire/Rutland	1.67	0.57	0.65	1.11	0.12	0.19	0.22	0.17
41	Northamptonshire	1.74	1.34	0.75	1.25	0.31	0.49	0.15	0.36
42	Leicestershire	1.79	0.81	0.64	0.99	1.16	0.45	0.14	0.52
43	Derbyshire	0.92	0.76	0.33	0.75	0.21	0.52	0.24	0.34
44	Nottinghamshire	2.15	0.61	0.69	1.14	1.24	0.33	0.55	0.71
	Eastern	3.39	1.66	1.31	2.17	2.12	0.70	0.38	1.11
50	Bedfordshire	2.31	1.21	0.68	1.43	1.35	0.53	0.08	0.68
51	Essex	2.55	2.21	1.19	2.04	0.63	1.38	0.47	0.82
52	Cambridgeshire	2.58	2.24	3.06	2.61	1.45	0.77	0.96	0.96
53	Hertfordshire	5.92	1.68	1.10	3.74	5.01	0.57	0.19	2.77
54	Norfolk	2.55	1.36	0.43	1.58	0.91	0.63	0.20	0.63
55	Suffolk	1.34	1.12	0.65	1.01	0.48	0.20	0.10	0.24
	London	4.32	1.40	0.91	2.13	1.90	0.65	0.44	0.96
60	London Central	7.92	1.56	0.93	3.20	3.38	0.65	0.51	1.41
61	London North	2.26	1.50	0.80	1.66	0.49	0.86	0.45	0.60
62	London East	3.81	1.10	0.71	1.70	2.62	0.70	0.40	1.12
63	London West	2.21	1.60	0.48	1.43	0.58	0.66	0.22	0.50
64	London South	1.83	1.20	1.89	1.62	0.51	0.41	0.56	0.49

Table 26 Continued

	South East	3.97	2.23	1.02	2.48	1.61	0.90	0.26	0.96
70	Surrey	5.05	2.48	1.77	3.03	1.57	1.03	0.52	1.05
71	East Sussex/West Sussex/Brighton & Hove	3.45	1.65	0.77	1.95	2.46	0.73	0.25	1.12
72	Oxon/Bucks/Milton Keynes	6.81	2.64	1.75	3.41	2.25	0.60	0.03	0.83
73	Kent/Medway	1.70	1.46	0.59	1.30	0.54	0.36	0.31	0.42
74	Hamps/Isle of Wight/Portsm'th/S'thampton	3.83	2.23	0.57	2.69	1.76	1.34	0.22	1.31
75	Berkshire	6.90	3.37	0.78	2.88	0.82	1.41	0.25	0.83
	South West	3.36	1.54	0.67	1.95	1.89	0.49	0.17	0.90
80	Devon/Cornwall	2.44	1.37	0.75	1.46	0.91	0.26	0.19	0.42
81	Somerset	1.30	1.43	0.90	1.26	0.43	0.41	0.14	0.38
82	Gloucestershire	6.92	1.14	0.62	3.46	4.76	0.75	0.06	2.30
83	Bournemouth/Dorset/Poole	4.24	1.82	0.73	2.49	2.94	0.36	0.18	1.35
84	Wiltshire/Swindon	5.11	2.30	0.77	2.75	3.10	0.99	0.40	1.50
85	Former Avon	1.95	1.40	0.39	1.11	0.17	0.34	0.05	0.21
	ENGLAND	3.08	1.32	0.76	1.73	1.44	0.55	0.30	0.77

Conclusion

The disaggregated statistics from ESS2001 data by occupation, industry and establishment size at local level need to be treated with extreme caution, due to the relatively small sample sizes involved, and the lack of representative sampling on all of these dimensions at local level. However, the statistics presented show marked intra-regional (and regional) variations in the occupational, industrial and establishment size profile of hard-to-fill and skill-shortage vacancies at local level.

6. Conclusions and key issues

The exploratory analyses presented in this report have confirmed the existence of important regional and local variations in the incidence of skill deficiencies. At a broad regional scale a North-South divide is evident: generally, there is a greater incidence of skill deficiencies in southern England than in much of the rest of the country. However, a focus on the regional level disguises marked intra-regional variations. In many regions there are local areas characterised by a higher than average incidence of skill deficiencies alongside others where the incidence of such deficiencies is lower than average.

Examination of local variations in hard-to-fill and skill-shortage vacancies alongside unemployment and non-employment rate measures revealed (in most instances) the a priori expected negative relationship. In general, low unemployment rate areas tend to have a higher average incidence of hard-to-fill and skill-shortage vacancies than high unemployment rate areas, and vice versa. However, the relationships found in 2001 tend to be even weaker than those found in 1999. This implies considerable variation in the relationship between unemployment and vacancies at the local level. On the basis of the bivariate analyses presented here it seems that the level of skill deficiencies cannot be explained solely in terms of the 'tightness' of the local labour market, as measured by the unemployment rate, underlining the complexity of the association between unemployment and vacancies at local level. (In the complementary econometric analyses the relationships are explored further using multivariate techniques, controlling for differences in, and interactions between, industrial, occupational, establishment size and other characteristics at the level of individual establishments [rather than that of local areas], and taking account of the local labour market context.)

Adopting a simple four-fold categorisation, local areas were identified with:

- A: a higher than average rate of unemployment coexisting with a higher than average incidence of hard-to-fill and skill-shortage vacancies, (the cores of large metropolitan areas are the archetypal exemplars of the 'paradox' of high unemployment co-existing alongside a higher than average incidence of vacancies);
- B: a lower than average rate of unemployment coexisting with a higher than average incidence of hard-to-fill and skill-shortage vacancies, (many local areas in southern England are in this category);
- C: a lower than average rate of unemployment coexisting with a lower than average incidence of hard-to-fill and skill-shortage vacancies, (local areas from the Midlands are most numerous in this category);
- D: a higher than average rate of unemployment coexisting with a lower than average incidence of hard-to-fill and skill-shortage vacancies, (many of the traditionally more 'depressed' urban areas in northern England are in this category, and the problem of 'lack of work experience' emerges alongside a 'low number of applicants with skills' as a particularly important reason for skill deficiencies).

The main emphasis in this project is on local areas in category A – i.e. where there are relatively high levels of unemployment alongside a relatively high incidence of vacancies. There are several possible reasons for this 'paradox'. The situation of

high unemployment alongside vacancies available could reflect skills mismatch – i.e. a mismatch between the skills of the unemployed and the vacancies available. The incidence of skills mismatch may vary between local areas. There may be problems with mechanisms allocating people with skills to jobs. Indeed, over time, demand-deficient unemployment can become ‘translated’ into structural unemployment, and so persist when and where conditions for the original demand-deficiency no longer exist. There may be problems with the motivation and intentions of the unemployed preventing them from seeking effectively for jobs. There may be shortcomings in the efficiency and effectiveness of employers’ search for labour, such that individuals with the necessary skills are overlooked for some reason – so resulting in discrimination for some groups in the labour market. Of course, all of these reasons might apply to a varying extent. These reasons are explored in the complementary case studies in order to gain greater insights into how the ‘paradox’ arises through examining recruitment rationales and processes in more detail, and to inform the development of appropriate policy responses.

Although the emphasis in this project is on the external labour market, it is important not to focus solely on the external labour market at the expense of the internal labour market. In order to achieve policy goals of enhancing regional and local productivity, it is necessary for those in employment to move out of entry level jobs, in order to create ‘spaces’ at that level for those currently non-employed (often with lower level skills or lacking work experience) to enter employment.

The local and regional patterns revealed in these exploratory analyses provide useful comparative information for the development of skills strategies and raise important issues concerning balanced regional development both between and within regions.

Appendix 1: ‘Checking’ and ‘cleaning’ the ESS2001 data file for geographical analyses

The ESS2001 database made available to the researchers for analysis purposes contained Government Office Region and LLSC variables. However, the first stage of the project was concerned with geographical coding and entailed checking the quality of spatial coding in the variables in the ESS2001 database. This was achieved by merging the ESS database with data from the 1999 All Fields Postcode Directory (AFPD), using the postcode of the establishment. The postcodes for all but 200 establishments were found within the AFPD.

The ESS2001 region code matched that from the AFPD in the great majority of cases. Discrepancies occasionally occurred on the boundaries of regions. Overall, the regional coding of the database was judged to be of acceptable accuracy.

The LLSC codes were checked by merging in the “lookup table” of postcodes to Local Education Authorities (LEAs) and LLSCs created for analysis of the ESS1999 data. Though the majority of LLSC codes were the same in both the ESS2001 database and this “lookup table”, a number of problems were identified. In particular, there were some fairly substantial discrepancies between the two sources in the allocation of establishments to London LLSCs.⁸¹ It was decided that the pre-coded LLSC variable in the ESS2001 database should be replaced.

The approach taken was to start with the most reliable coding available, and work through other sources until all cases were coded to LLSCs. LLSCs areas are defined on the basis of administrative counties and groups of local authority districts. The AFPD for 1999 contains a local authority district code (and also a TTWA code). Thus, the first stage was to recode the district code for each individual case to a LLSC code. However, not all cases could be matched with the AFPD (e.g. where they had a very recent postcode), and some AFPD records did not have a district code. In these instances, the LLSC code was taken from the postcode to LLSC “lookup table”. The steps detailed above left a few establishments with no LLSC code. The location of the postcode of each was found using the www.streetmap.co.uk website, and a LLSC code was allocated manually. All instances where the LLSC codes so derived were different from the pre-coded LLSC variable on the ESS2001 database were checked manually by reference to the postcode to ward and local authority district facility available via the ONS Neighbourhood Statistics service, and any necessary adjustments were made accordingly.

As a result of the procedures outlined above, all cases in the ESS2001 database were allocated LLSC, TTWA and UALAD codes.

⁸¹ These discrepancies were plotted and were also notified to IFF – from whom the original database was obtained.

Appendix 2: Analyses of unemployment/non-employment : vacancy relationships by broad region

Figure A2.1: Relationship between the density of skill shortage vacancies and the claimant unemployment rate, March 2000-February 2001: LLSC areas by broad region

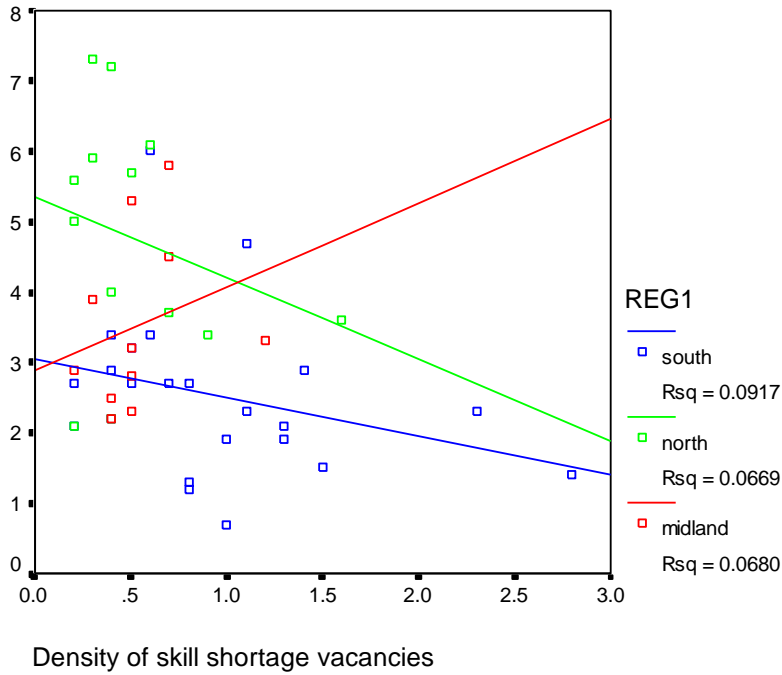
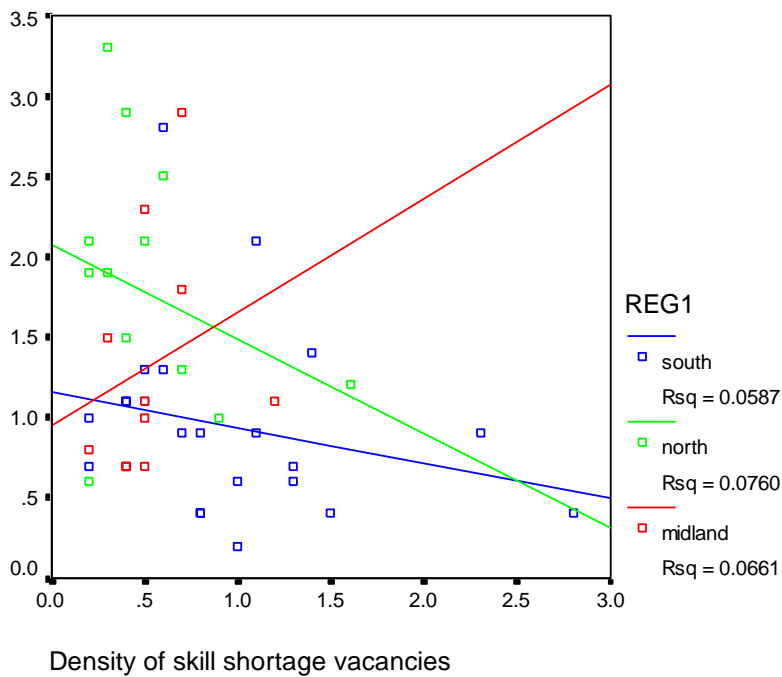


Figure A2.2: Relationship between the density of skill shortage vacancies and the longer-term claimant unemployment rate,⁸² March 2000-February 2001: LLSC areas by broad region



⁸² Defined as unemployed for at least 6 months.

Figure A2.3: Relationship between the density of skill shortage vacancies and the ILO unemployment rate, March 2000-February 2001: LLSC areas by broad region

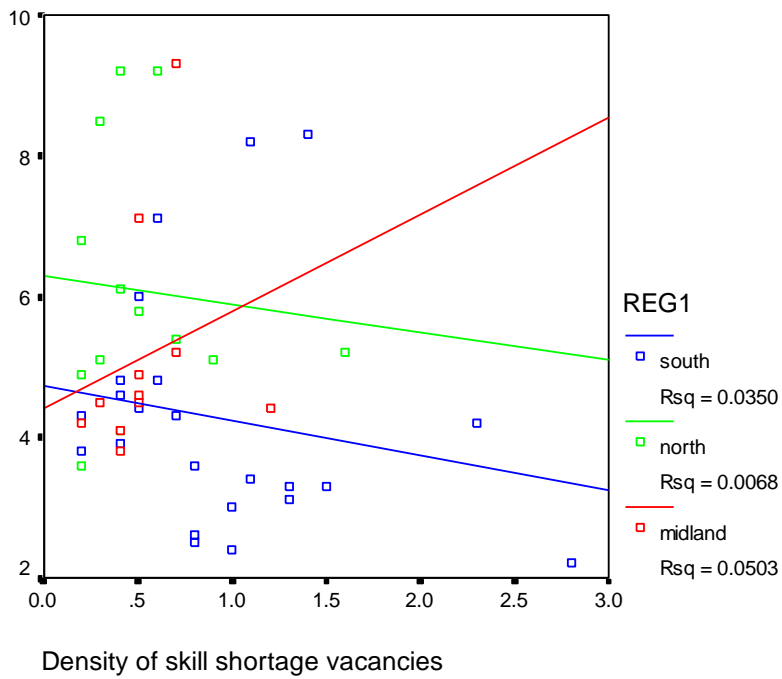
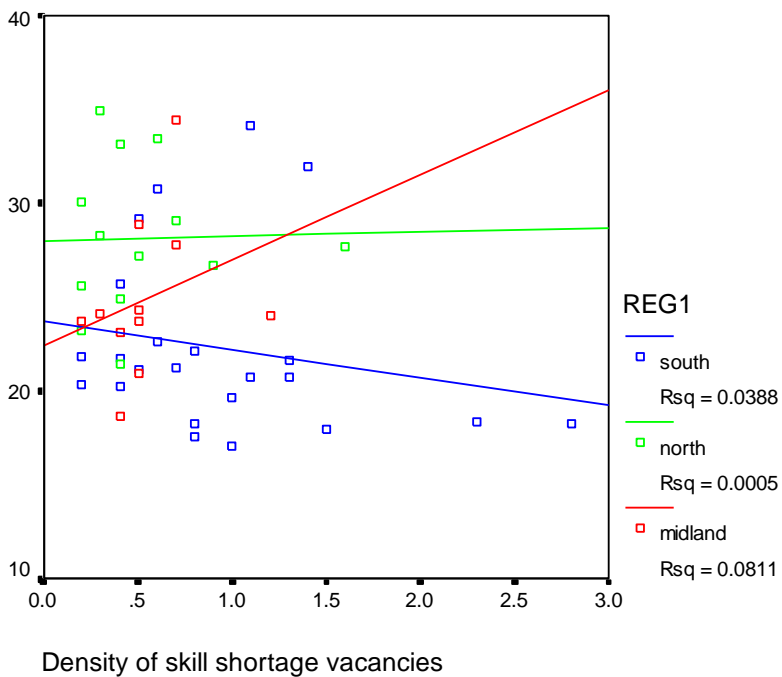


Figure A2.4: Relationship between the density of skill shortage vacancies and the non-employment rate for persons of working age, March 2000-February 2001: LLSC areas by broad region



Appendix 3: Industrial distribution of vacancies

Figure A3.1: Industrial profile of total, hard-to-fill and skill-shortage vacancies – England

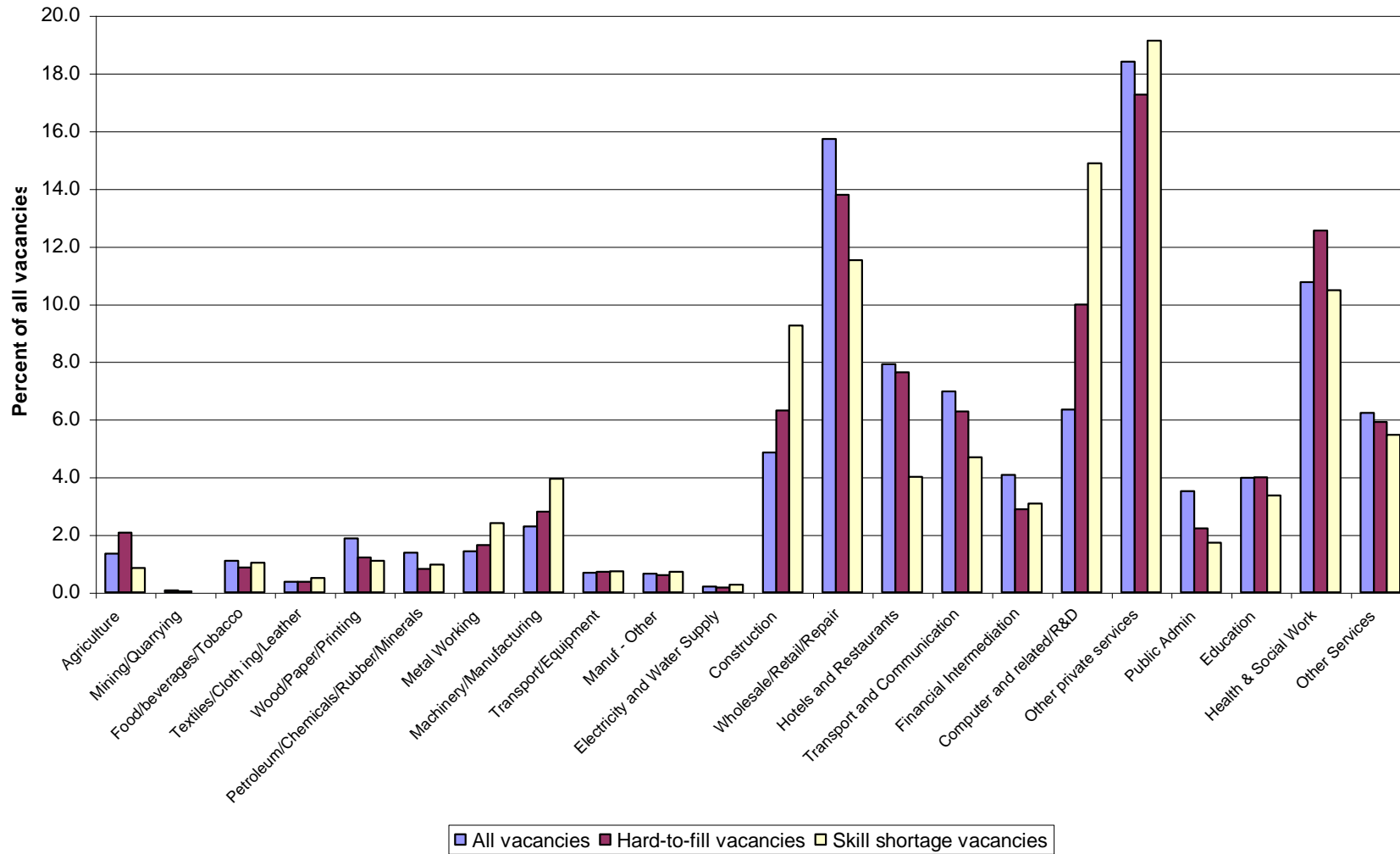
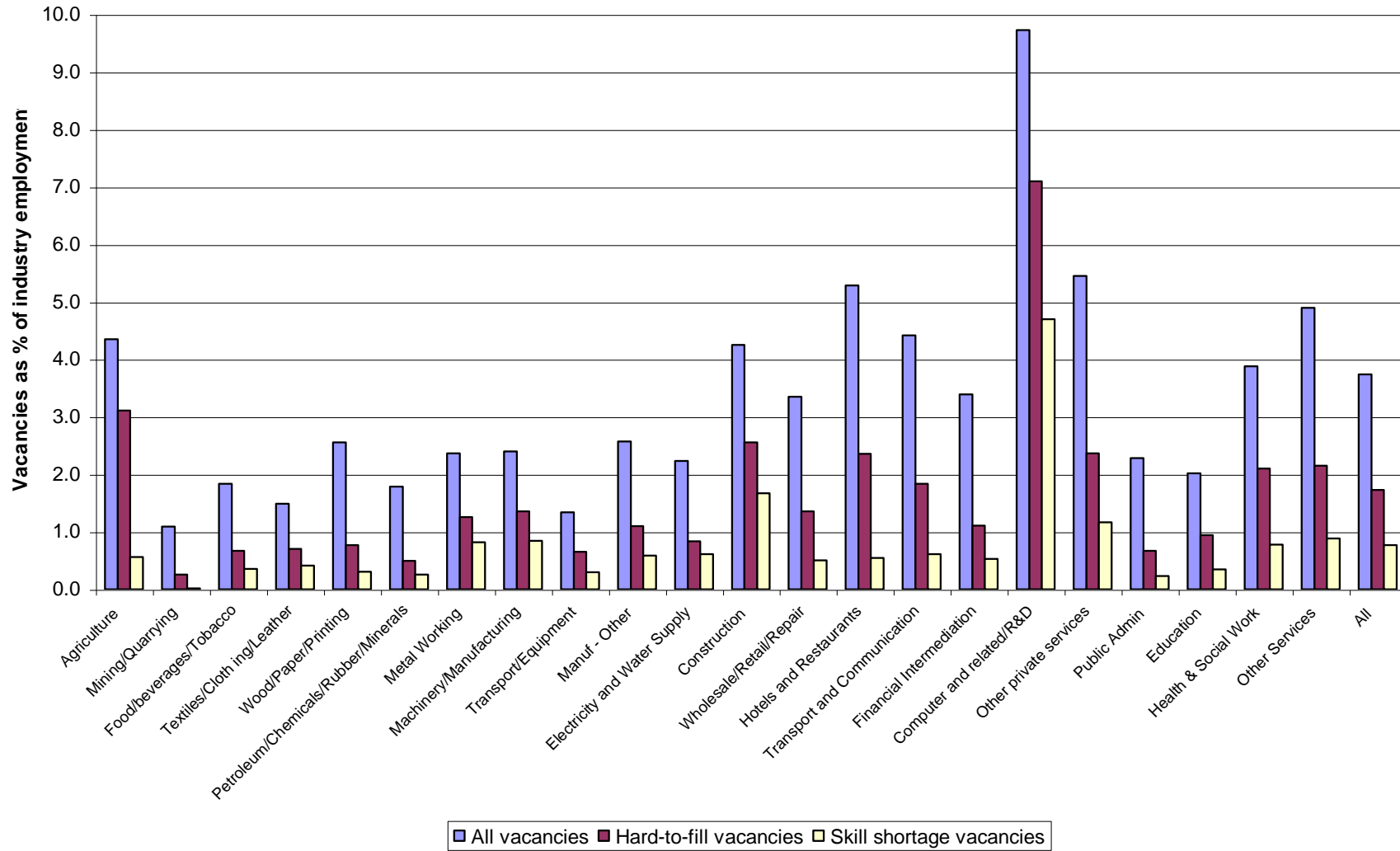
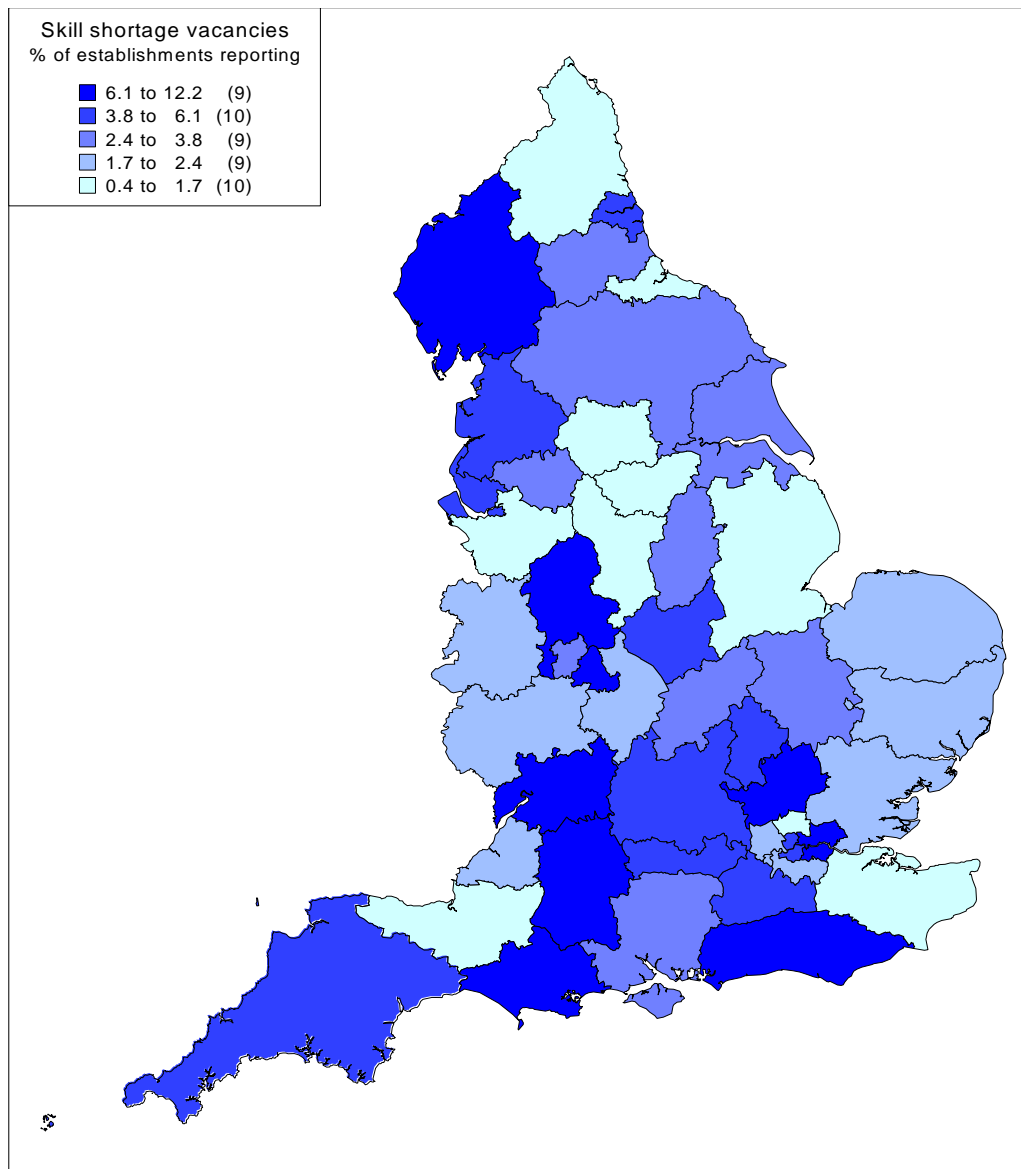


Figure A3.2: Density of total, hard-to-fill and skill-shortage vacancies by industry – England



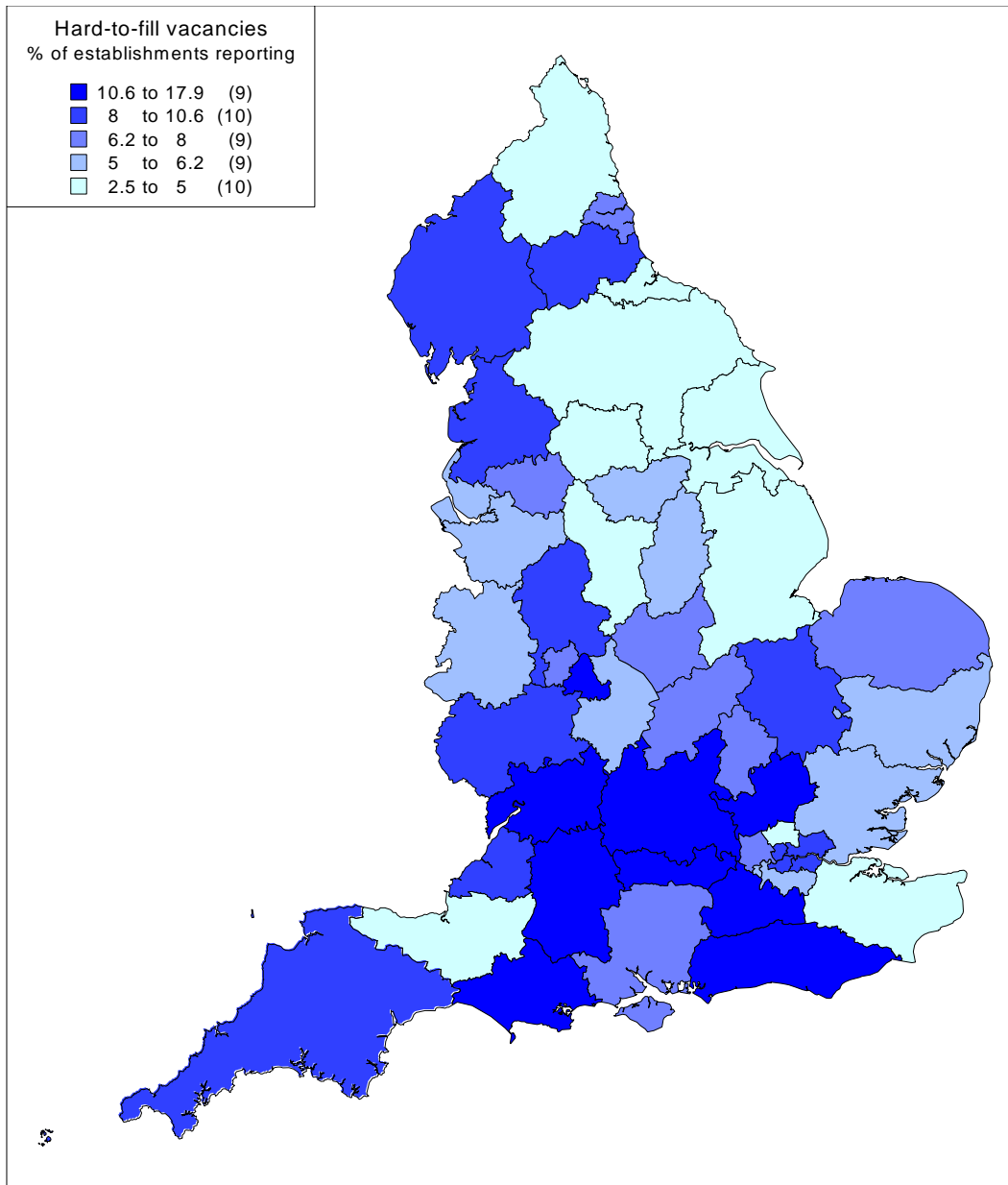
Appendix 4 Maps

Figure 3: Percentage of establishments reporting skill-shortage vacancies – LLSC areas



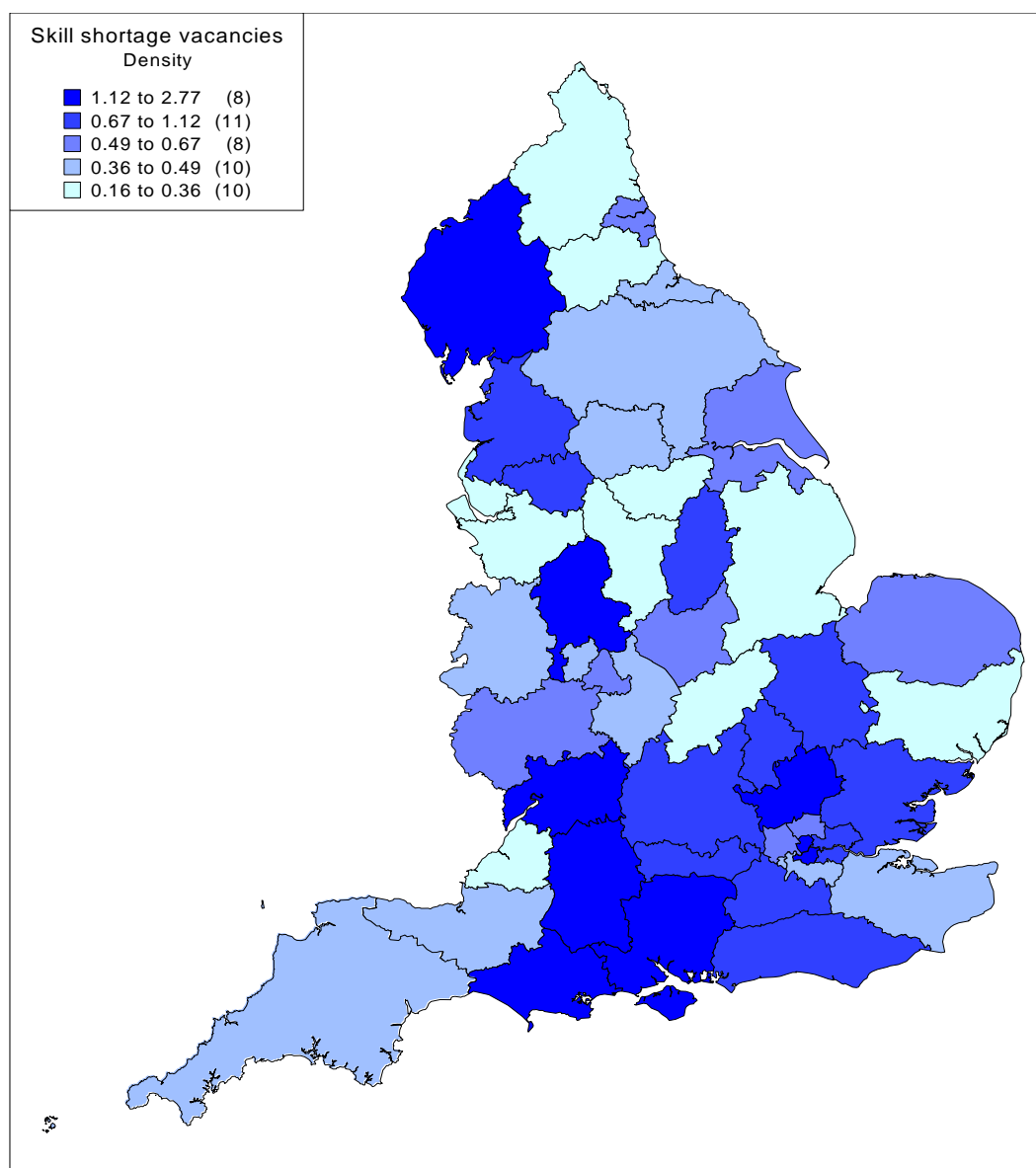
- Berkshire, Wiltshire/Swindon, Birmingham/Solihull and Oxfordshire/Buckinghamshire/Milton Keynes head the rankings on percentage of establishments reporting hard-to-fill vacancies, with around 16-18 per cent of establishments reporting such vacancies. Again, Somerset, Derbyshire and Humberside display the smallest percentages of establishments reporting hard-to-fill vacancies.
- Wiltshire/Swindon LLSC area records the largest percent of establishments with skill-shortage vacancies (over 12 per cent of establishments). Hertfordshire, Cumbria, London East, East Sussex/West Sussex/Brighton & Hove and Gloucestershire display the next highest percentages of establishments (approximately 7-9 per cent) with such vacancies. Cheshire/Warrington, Lincolnshire/Rutland and Somerset LLSC areas record the lowest percentages of establishments with skill-shortage vacancies.

Figure 4: Percentage of establishments reporting hard-to-fill vacancies – LLSC areas



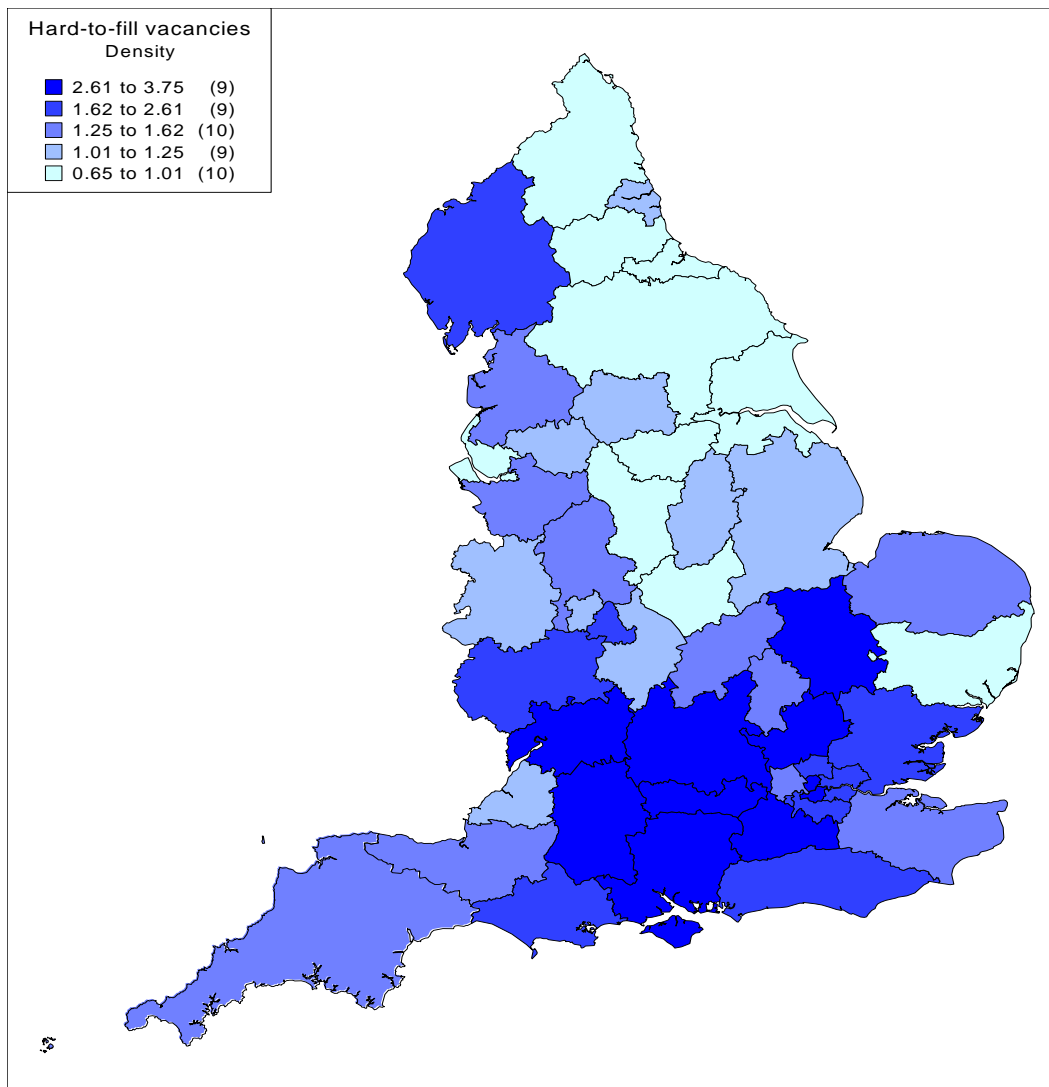
- Fifteen LLSC areas record higher than average percentages of establishments reporting total, hard-to-fill and skill-shortage vacancies (see Table 3):
 - from the South West region - Wiltshire/Swindon , Bournemouth/Dorset/Poole, Devon/Cornwall, Gloucestershire,
 - from the Eastern region – Hertfordshire, Bedfordshire
 - from the South East region – Surrey, Berkshire, Oxon/Bucks/Milton Keynes, East Sussex/West Sussex/Brighton & Hove
 - from London - London East, London Central
 - from the West Midlands - Birmingham/Solihull, Staffordshire
 - from the North West - Lancashire
- Only three of these areas lie outside the four southern-most regions of England.

Figure 7: Density of skill-shortage vacancies – LLSC areas



- Hertfordshire and Gloucestershire head the rankings on the *density of hard-to-fill vacancies*, with such vacancies accounting for 3.74 per cent and 3.46 per cent of employment, respectively. Again, Northumberland, Derbyshire and Tees Valley record the lowest densities of hard-to-fill vacancies. Cumbria and Herefordshire/Worcestershire are the sole representatives from regions outside southern England recording a density of hard-to-fill vacancies in excess of the England average.
- Hertfordshire and Gloucestershire also head the rankings on the *density of skill-shortage vacancies*, with such vacancies accounting for 2.77 per cent and 2.30 per cent of employment, respectively – substantially more than in any other LLSC areas. Cumbria and Lancashire are the only LLSC areas from outside the four southernmost regions of England with a density of skill-shortage vacancies in excess of the England average. Lincolnshire/Rutland, Cheshire/Warrington and South Yorkshire record the lowest densities of skill shortage vacancies of any LLSC areas.

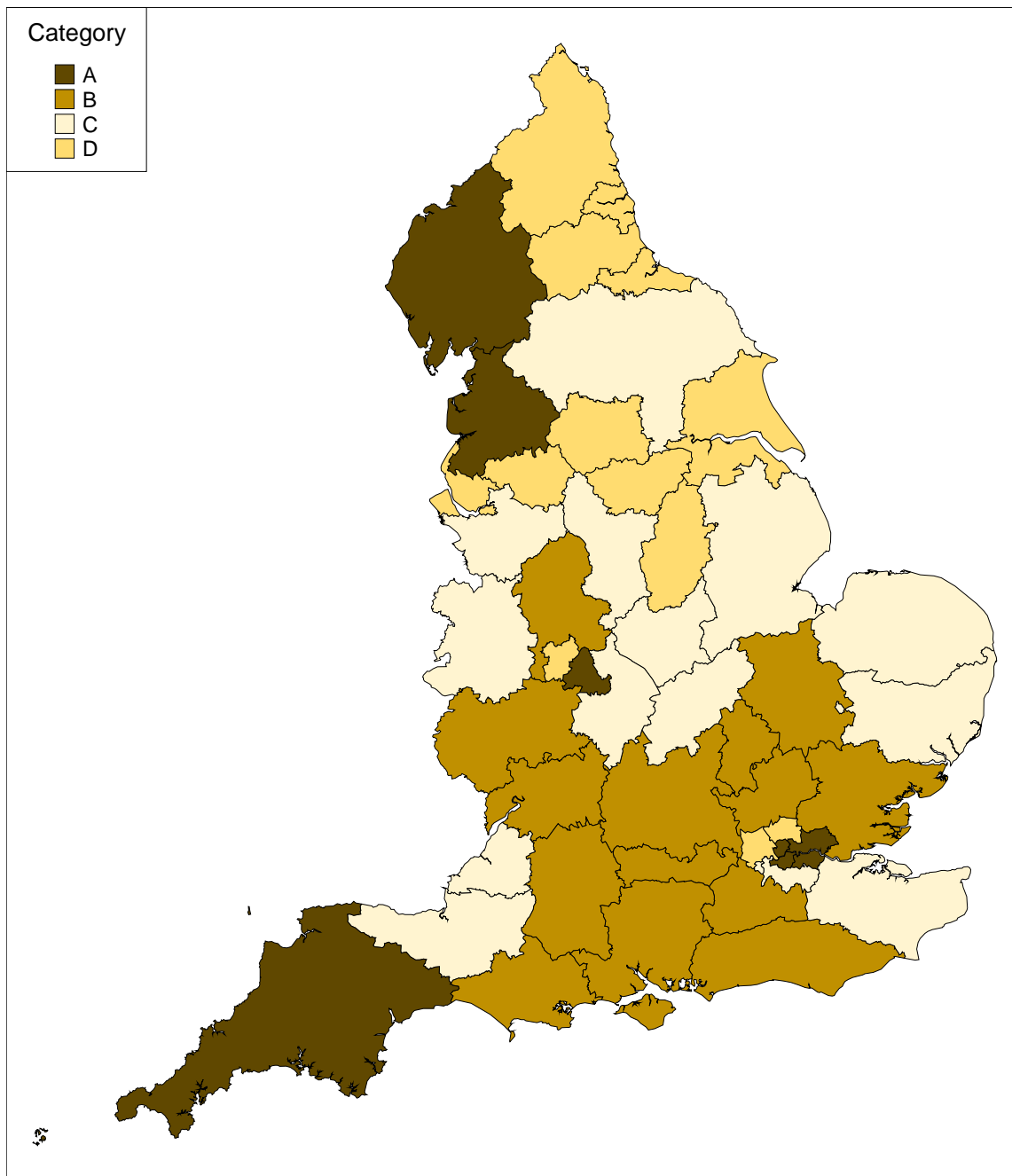
Figure 8: Density of hard-to-fill vacancies – LLSC areas



- Table 5 shows that twelve LLSC areas record higher than average densities of total, hard-to-fill and skill-shortage vacancies:
 - from the South West region – Gloucestershire, Wiltshire/Swindon, Bournemouth/Dorset/Poole
 - from the Eastern region – Hertfordshire, Cambridgeshire, Essex
 - from the South East region – Surrey, Oxfordshire/Buckinghamshire/Milton Keynes, Berkshire, Hampshire/Isle of Wight/Portsmouth/Southampton, East Sussex/West Sussex/Brighton & Hove
 - from London - London Central

All of these areas are located in southern England.
- Nine LLSC areas record higher than average values on all establishment-based and density measures identified:
 - from the South West region – Gloucestershire, Wiltshire/Swindon, Bournemouth/Dorset/Poole
 - from the Eastern region – Hertfordshire
 - from the South East region – Surrey, Oxfordshire/Buckinghamshire/Milton Keynes, Berkshire, East Sussex/West Sussex/Brighton & Hove
 - from London - London Central.

Figure 31: Classification of LLSC areas – groups A-D



A: > average values on vacancy measures *and*
> average values on unemployment / non-employment measures

B: > average values on vacancy measures *and*
< average values on unemployment / non-employment measures

C: < average values on vacancy measures *and*
< average values on unemployment / non-employment measures

D: < average values on vacancy measures *and*
> average values on unemployment / non-employment measure