



UK COMMISSION FOR  
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# Secondary Analysis of Employer Surveys: Urban and Rural Differences in Jobs, Training, and Skills

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# **Secondary analysis of employer surveys: Urban and rural differences in jobs, training, and skills**

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# Table of Contents

<b>Executive Summary</b>	<b>iv</b>
<b>1 Introduction</b>	<b>1</b>
<b>2 Comparison of establishment and employment characteristics in urban and rural areas</b>	<b>3</b>
2.1 Establishment characteristics	3
2.2 Employment characteristics	7
2.3 Overview	11
<b>3 Vacancies and skill gaps in urban and rural areas</b>	<b>12</b>
3.1 Patterns of vacancies and skill gaps in urban and rural areas	12
3.1.1 Descriptive analyses	12
3.1.2 Multivariate analyses	19
3.2 Causes of hard-to-fill vacancies	20
3.3 Consequences of hard-to-fill vacancies	24
3.4 Responses to hard-to-fill vacancies	25
3.5 Overview	26
<b>4 Training and skills development issues</b>	<b>27</b>
4.1 Awareness and use of schemes and external initiatives relating to training and skills development	27
4.2 Provision of training and providers used	27
4.3 Funding of training	31
4.4 Training and vocational qualifications	31
4.5 Approaches to staff development	35
4.6 Overview	35

<b>5</b>	<b>Conclusions and implications</b>	<b>37</b>
5.1	Conclusions	37
5.2	Discussion of challenges and experiences in rural areas	38
5.3	Implications for the vision of employer ownership of skills	40
	<b>Bibliography</b>	<b>42</b>
	<b>Appendix</b>	<b>43</b>

## Tables

1	Regional and national distribution of establishments, 2011	3
2	Sectoral distribution of establishments, 2011	4
3	Size distribution of establishments, 2011	5
4	Size distribution of establishments in selected areas and all rural areas, 2011	6
5	Regional distribution of employment, 2011 (percentage of UK total)	7
6	Sectoral distribution of employment, 2011	8
7	Sectoral distribution of employment in selected and all rural areas	8
8	Employment by size of urban and rural establishments (percentage of employees), 2011	10
9	Occupational structure of employment by urban and rural location, 2011	11
10	Vacancies experienced by establishments in urban and rural areas, 2011	13
11	Vacancies experienced by establishments in selected areas and all rural areas, 2011	14
12	Vacancy densities and skills gaps by occupation for urban and rural areas, UK 2011	16
13	Vacancy densities and skills gaps by industry sector for urban and rural areas, UK 2011	17
14	Vacancy densities and skills gaps by size of establishment for urban and rural areas, UK 2011	18
15	Main causes of having a hard to fill vacancy by urban and rural location, 2011 (percentages of responses to the question)	21
16	The effect of having hard-to-fill vacancies, by urban and rural location (percentage of establishments), 2011	24
17	Responses to having hard-to-fill vacancies, by urban and rural location (percentage of establishments), 2011	25
18	Planning staff development and training, 2012	29
19	Establishments which have provided internal or external training for employees in the last 12 months (percentage of all establishments), 2012	29
20	External training providers used in the last 12 months, 2012	30

<b>21</b>	<b>Vocational training and reasons for not training (percentages of establishments), 2012</b>	<b>32</b>
<b>22</b>	<b>Establishments which agree that training employees to achieve vocational qualifications has benefits (percentages of establishments), 2012</b>	<b>33</b>
<b>23</b>	<b>Establishments which agree that vocational qualifications have other benefits (percentages of establishments), 2012</b>	<b>33</b>
<b>24</b>	<b>Importance of factors which establishments look for when recruiting (percentages of establishments), 2012</b>	<b>34</b>
<b>25</b>	<b>Approaches of establishments to staff development (percentages of establishments), 2012</b>	<b>35</b>
<b>A1</b>	<b>Logit regressions of whether have vacancies, hard-to-fill vacancies, skill shortages and skill gaps</b>	<b>47</b>
<b>A2</b>	<b>Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, full sample</b>	<b>50</b>
<b>A3</b>	<b>Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, sub sample for establishments with certain types of vacancies/ skill gaps</b>	<b>53</b>
<b>A4</b>	<b>Logit regressions for external training sources used</b>	<b>56</b>
<b>A5</b>	<b>Logit regressions for approach of establishments to staff development</b>	<b>58</b>

## Foreword

The UK Commission for Employment and Skills is a social partnership, led by Commissioners from large and small employers, trade unions and the voluntary sector. Our ambition is to transform the UK's approach to investing in the skills of people as an intrinsic part of securing jobs and growth. Our strategic objectives are to:

- Maximise the **impact** of employment and skills policies and employer behaviour to support jobs and growth and secure an internationally competitive skills base;
- Work with businesses to develop the best market solutions which leverage greater **investment** in skills;
- Provide outstanding labour market **intelligence** which helps businesses and people make the best choices for them.

The third objective, relating to intelligence, reflects an increasing outward focus to the UK Commission's research activities, as it seeks to facilitate a better informed labour market, in which decisions about careers and skills are based on sound and accessible evidence. Relatedly, impartial research evidence is used to underpin compelling messages that promote a call to action to increase employers' investment in the skills of their people.

Intelligence is also integral to the two other strategic objectives. In seeking to lever greater investment in skills, the intelligence function serves to identify opportunities where our investments can bring the greatest leverage and economic return. The UK Commission's third strategic objective, to maximise the impact of policy and employer behaviour to achieve an internationally competitive skills base, is supported by the development of an evidence base on best practice: "what works?" in a policy context.

Our research programme provides a robust evidence base for our insights and actions, drawing on good practice and the most innovative thinking. The research programme is underpinned by a number of core principles including the importance of: ensuring 'relevance' to our most pressing strategic priorities; 'salience' and effectively translating and sharing the key insights we find; international benchmarking and drawing insights from good practice abroad; high quality analysis which is leading edge, robust and action orientated; being responsive to immediate

needs as well as taking a longer term perspective. We also work closely with key partners to ensure a co-ordinated approach to research.

This report looks in detail at the results of two of our key strategic labour market information products, the UK Commission's Employer Skills Survey 2011 and the UK Commission's Employer Perspectives Survey 2012. These two surveys form important parts of the evidence base that underpins our insight and policy work, and together form a rich source of information on UK business.

This report examines the differences between the urban and rural employer population, the skills issues they face, and their responses. It finds that there are some important differences between urban and rural areas in the sectoral, occupational and size profile of establishments and employment.

However, urban/rural differences in vacancies and skill gaps are a function of differences in the profile of establishments and employment rather than locational factors *per se*. The findings will be of interest to businesses, policymakers, and training and education professionals with an interest in rural business and skills. Sharing the findings of our research and engaging with our audience is important to further develop the evidence on which we base our work. Evidence Reports are our chief means of reporting our detailed analytical work. All of our outputs can be accessed on the UK Commission's website at [www.ukces.org.uk](http://www.ukces.org.uk)

But these outputs are only the beginning of the process and we are engaged in other mechanisms to share our findings, debate the issues they raise and extend their reach and impact.

We hope you find this report useful and informative. If you would like to provide any feedback or comments, or have any queries please e-mail [info@ukces.org.uk](mailto:info@ukces.org.uk), quoting the report title or series number.

**Lesley Giles**

**Deputy Director**

**UK Commission for Employment and Skills**



# Executive Summary

## Introduction

Previous research has shown that employers and employees in rural areas are likely to be disadvantaged with respect to both skills needs and the opportunities for those skills needs to be addressed because of their small and sparsely distributed populations, remote location and distances travelled over a poorer transport infrastructure. This paper uses the UK Commission's Employer Skills Survey 2011 and Employer Perspectives Survey 2012 to explore differences and commonalities in vacancies, skills deficiencies and approaches to training and staff development.

## Urban and rural differences – vacancies and recruitment

Although the employment structures of urban and rural areas have become more similar over time some important differences remain between urban and rural areas in the sectoral, occupational and size profile of establishments and employment. The primary sector is more important in rural than in urban areas, while financial services and public administration provide smaller shares of employment in rural than in urban areas. Professional, associate professional and administrative/clerical staff account for smaller shares of employment in rural than in urban areas, while operatives and elementary staff constitute a relatively larger share of total employment. The establishments size profile of employment is skewed more towards small establishments in rural than in urban areas.

There is a slightly higher incidence of hard-to-fill vacancies in rural than in urban areas, but factors other than skills are a more important component in such vacancies in rural than in urban areas. Multivariate analyses including all establishments (whether or not they reported vacancies or skill gaps) showed a significantly higher density of hard-to-fill vacancies in rural than in urban areas controlling for compositional differences in the regional, sectoral, size structure and other features of establishments. However, when establishments reporting no vacancies and skills gaps are eliminated there are no significant differences between urban and rural areas once compositional differences are accounted for. This indicates that urban/rural differences in vacancies and skill gaps are a function of differences in the profile of establishments and employment rather than locational factors *per se*. In other words, urban and rural differences can be explained by the types and sizes of businesses that are likely to be found in those areas, rather than purely as a result of being urban and or rural.

This does not mean that locational factors are entirely unimportant. A limited labour pool in rural areas, exacerbated by remote location and poor public transport, is a factor that increases the incidence of hard-to-fill and skill shortage vacancies in rural areas. Rural areas differ between one another, as well as with urban areas. Rural areas that are situated more “peripherally”, or further from urban centres, while appearing similar in occupational or sectoral composition to other rural areas, may face particular challenges in terms of accessibility and transport. Such challenges are likely to have effects on the available labour pool and training and skills provision.

The foremost consequence of hard-to-fill vacancies is an increased workload on other staff, particularly so in rural areas. Establishments in rural areas are more likely to have to outsource work or withdraw from markets than establishments in urban areas. In rural areas establishments are more likely to cite delays in developing new products and services than in urban areas.

Increased spending on recruitment and using new recruitment channels are the main responses to hard-to-fill vacancies. Rural establishments are more likely to ‘do nothing’ in response to hard-to-fill vacancies than urban establishments. But they are also more likely to redefine existing jobs or increase training than establishments in urban areas.

### **Urban and rural differences – training and planning**

Similar proportions of establishments in rural and in urban areas seek external information and advice on skills and training issues. Establishments in rural areas had slightly greater awareness, and made slightly greater use, of Business Link (and its national variants) than establishments in urban areas.

Establishments in rural areas were slightly less likely to plan and less likely to train than those in urban areas, but were more likely to train without having planned to do so. They were less likely to have a dedicated budget for training. This is indicative of a somewhat more informal approach to training in rural areas than in urban areas.

There is a general similarity in the types of training provider used in rural and in urban areas. Multivariate analysis reveals that, controlling for a range of compositional factors, establishments in rural areas make greater use of FE Colleges than establishments in urban areas. There is little difference between rural and urban areas in the ways that training is funded. A lack of relevant training courses and a lack of providers locally were more frequently cited by establishments as reasons for not training in rural areas than in urban areas.

Rural establishments were less likely than urban establishments to provide training leading to vocational qualifications and were less convinced of the benefits of doing so, for their staff or for the business. Lack of interest amongst staff, insufficient knowledge of qualifications available and lack of Government funding were cited more by rural than by urban establishments as reasons for not training for vocational qualifications, as were perceived costs, time taken and bureaucracy. Rural establishments also placed less importance on vocational (and academic) qualifications in recruiting than urban establishments.

### **Implications**

There are likely to be particular challenges for targeting and delivery of policy, and especially in relation to embedding the employer ownership of skills agenda in rural areas because of certain characteristics of rural areas:

- the high proportion of SMEs;
- the high proportion of sole establishments;
- limited exposure to international markets and competitive pressure which might drive up demand for skills;
- lower than average levels of training;
- the lower value placed on vocational and academic qualifications compared with establishments in urban areas; and
- less emphasis placed on planning and more emphasis on informal approaches to training by comparison with urban areas.

But there is evidence that by comparison with those in urban areas, establishments in rural areas are more likely:

- to increase training when faced with hard-to-fill vacancies (albeit they are also more likely to do nothing); and

Urban and rural differences in jobs, training, and skills

- to undertake training without having planned to do so.

Both rural and urban areas are diverse. This report explores some of the detail underlying this diversity, and the factors that contribute to it.

# 1 Introduction

The geographical distribution of labour, skills and training opportunities across the UK is uneven. In order to inform economic growth and skills development and support policies across the whole of the UK it is important to identify the nature of barriers to access to jobs and training in different geographical areas. This report presents analyses of data from the UK Commission's Employer Skills Survey 2011 (Davies et al., 2012) and Employer Perspectives Survey 2012 (Shury et al., 2012) to explore skills challenges faced by employers, and their experiences and attitudes in dealing with them.

Green (2011) showed that employers and employees in rural areas are likely to be disadvantaged with respect to both skills needs and the opportunities for those skills needs to be addressed because of their small and sparsely distributed populations, remote location and distances travelled over a poorer transport infrastructure. Difficulties in physically accessing training are also likely to be most acute in rural areas. These factors may contribute to locking some businesses into a situation of low skills equilibrium (Owen et al., 2012).

Though rural and urban labour markets have become more similar in terms of employment by sector over time (Green and Hardill, 2003; Commission for Rural Communities, 2010; Shucksmith, 2012; Defra, 2013), it remains the case that in rural areas labour markets tend to have a limited labour pool on which to draw, a higher than average representation of small businesses, a greater than average reliance on informal networks in access to employment, and that knowledge-intensive sectors and occupations tend to be under-represented. Previous analysis of the UK Commission Employer Skills Surveys has found that employers in rural areas are less likely than urban employers to recruit graduates, more likely to find skills lacking in education leavers recruited in the last 12 months, less aware of apprenticeships and some business support services, and less likely to train than employers in urban areas.

The aim of the study is to use the most recent data from the UK Commission's Employer Skills Survey 2011 and Employer Perspectives Survey 2012 in order to explore differences and commonalities between employers located in rural and urban areas.

The following broad areas of enquiry are explored:

## Urban and rural differences in jobs, training, and skills

- Does rural/urban location affect the experience of skills deficiencies and behaviour?
- To what extent is this a function of different sector structures in urban and rural areas? Once sector and other explanatory variables have been controlled for, does rural/urban location matter?
- Does urban/rural location affect the number, incidence and density of vacancies, hard-to-fill vacancies and skills shortage vacancies reported by survey respondents? Do the reasons given by employers for having vacancies vary?
- Does rural/ urban location affect training patterns? Does it affect the type of training provided? Does it affect the types of training provider used?
- Does rural/urban location affect access to and use of support services?
- What implications does this have for employees in terms of access to training and progression opportunities?

The definition of urban and rural areas used is based on the separate definitions of urban and rural areas created by the national statistical agencies of England and Wales, Scotland and Northern Ireland, which take into account the urban hierarchy and density of population in each country. The main modification to these classifications was to define all settlements in which the population is less than 10,000 as 'rural', in order to be consistent across the UK.

The remainder of this paper is structured as follows:

- Section 2 compares establishment and employment characteristics in urban and rural areas.
- Section 3 explores variations and similarities in vacancy densities and skill gaps in urban and rural areas.
- Section 4 is concerned with training and skills development issues in urban and rural areas.
- Section 5 presents the conclusions and implications of the analyses.

## **2 Comparison of establishment and employment characteristics in urban and rural areas**

This section sets the context by providing background information on similarities and contrasts in the profile of establishments and employment in urban and rural areas. Multivariate analyses in subsequent sections investigate whether urban-rural location matters once the structure of establishments has been controlled for.

### **2.1 Establishment characteristics**

Across the UK as a whole, 27 per cent of establishments were located in rural areas. By region and nation the highest shares of establishments in rural areas were in Wales (47 per cent), Northern Ireland (44 per cent) and the South West (40 per cent) (Table 1). The shares of establishments in rural areas also exceeded the UK average in Scotland, the East of England, the East Midlands and the South East.

**Table 1 Regional and national distribution of establishments, 2011**

Region or nation	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
East Midlands	7253	7	9	7	32
East of England	8372	9	13	10	35
London	9925	18	0	13	0.0
North East	5529	3	3	3	24
North West	8735	12	7	10	18
South East	10592	14	15	15	28
South West	8377	8	15	10	40
West Midlands	7851	9	7	8	23
Yorkshire and The Humber	7522	8	7	8	24
Wales	5958	3	8	8	47
Scotland	2487	7	11	8	36
Northern Ireland	3921	3	6	3	44
United Kingdom	86522	1.27m	0.46m	1.74m	27

*Base: All establishments.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

There are important differences in the sectoral profile of establishments in urban and rural areas. The sector with the highest share of rural establishments was agriculture, hunting, forestry and fishing (Table 2). Rural areas contained the great majority of establishments in the primary sector (i.e. extractive industries and agriculture). A higher proportion of construction establishments were in rural areas than urban ones. The financial and public administration sectors were markedly less well represented in rural than urban areas.



**Table 2 Sectoral distribution of establishments, 2011**

<b>Industry sector</b>	<b><i>Unweighted base</i></b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
Agriculture, hunting, forestry and fishing	921	1	178	5	87
Mining and quarrying	185	0	0	0	77
Manufacturing	7653	6	6	6	28
Electricity, gas and water supply	1406	0.0	1	1	32
Construction	6576	9	12	10	33
Wholesale and retail trade	15163	24	16	21	20
Hotels and restaurants	8421	9	9	9	27
Transport, storage and communications	7810	7	6	7	25
Financial services	1853	3	1	2	12
Real estate, renting and business activities	14297	21	16	20	21
Public admin. and defence, compulsory social security	1584	2	1	1	18
Education	5422	3	3	3	25
Health and social work	8067	8	5	7	18
Community, social and personal service activities	7164	8	6	7	21
<b>Total</b>	<b>86522</b>	<b>1.27m</b>	<b>0.46m</b>	<b>1.74m</b>	<b>27</b>

*Base: All establishments.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

The majority (80 per cent) of establishments in rural areas were small (fewer than ten employees), compared with 72 per cent of those in urban areas. Rural areas were most strongly represented among establishments with one to four employees (Table 3). The share of total establishments accounted for by urban areas increased as the size of establishment increased.

**Table 3**            **Size distribution of establishments, 2011**

<b>Establishment size</b>	<b><i>Unweighted base</i></b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs (column %)</b>	<b>% located in rural areas</b>
1-4	17905	49	60	52	31
5-9	22758	23	20	22	24
10-24	25012	16	12	15	22
25-49	10239	6	4	6	20
50-99	5712	3	2	3	18
100-249	3270	2	1	2	16
250+	1626	1	0	1	16
<b>Total</b>	<b>86522</b>	<b>1.27m</b>	<b>0.46m</b>	<b>1.74m</b>	<b>27</b>

*Base: All establishments.*

Table 4 shows the size profile of establishments in selected rural areas. Compared with the profile of establishments in all rural areas, the smallest establishments account for a greater share of total establishment in Mid Wales (where 66 per cent of establishments have 1-4 workers), but for a smaller share in the other three rural areas; in the Highlands and Islands 49 per cent of establishments were in this size category, compared with 60 per cent across all rural areas. However, the Highlands and Islands, Northern Ireland South West WDF and the South West region of England all had higher shares of establishments with 5-9 workers than the average for all rural areas in the UK, so highlighting the preponderance of small establishments in all of the selected areas shown in Table 4. In Mid Wales 94 per cent of establishments had less than 25 workers, compared with 93 per cent across all rural areas, and 91 per cent in the South West Region of England.

**Table 4** Size distribution of establishments in selected areas and all rural areas, 2011

Establishment size	South West England	Mid Wales	Highlands and Islands	N. Ireland South West WDF	Unweighted base	All rural areas
	(column %)	(column %)	(column %)	(column %)		
1-4	54	66	49	56	5329	60
5-9	22	17	30	21	5669	20
10-24	14	11	14	15	5922	12
25-49	5	3	4	6	2089	4
50-99	2	1	2	2	1064	2
100-249	1	1	1	0	586	1
250+	1	0	0	0	257	0
Total (000s)	168	10	21	9		464
Unweighted base	8377	788	287	452	20916	

*Base: All establishments in areas presented.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

In rural areas 75 per cent of establishments were the only establishment in the organisation, compared with 59 per cent in urban areas.

Almost nine in ten (87 per cent) establishments in rural areas were mainly seeking to make a profit compared with 84 per cent in urban areas, while charities and voluntary organisations and those in the public sector were more likely than average to be located in urban areas.

Establishments in rural areas were slightly more likely than average to be geared to regional and national markets than those in urban areas and less likely than average to be internationally focused. The single largest shares of establishments (45 per cent in rural areas and 47 per cent in urban areas) were geared to local markets.

There was very little difference between establishments located in urban and rural areas in terms of the role of the establishment in recruitment and training decisions. Rural establishments were slightly more likely than urban areas to have independence in decision making but were less likely to have influence over decisions made in a head office.

## 2.3 Employment characteristics

Overall, 18 per cent of employment was located in rural areas. As 27 per cent of establishments were in rural areas, this shows that there was a smaller share of employment in rural areas than of establishments. This reflects the relatively greater importance of small establishments in employment terms in rural areas than in urban areas.

The volume of employment in rural areas was largest in the South East, South West and East of England. Across the UK the share of employment located in rural areas was highest in Wales, the South West and Northern Ireland (Table 5).

**Table 5 Regional distribution of employment, 2011 (percentage of UK total)**

Region	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% of employment rural
East Midlands	7253	7	9	7	23
East of England	8372	8	13	9	27
London	9925	18	0	15	0
North East	5529	4	3	4	16
North West	8735	12	7	11	12
South East	10592	13	16	14	21
South West	8377	7	14	8	29
West Midlands	7851	9	7	9	14
Yorkshire and The Humber	7522	8	7	8	15
Wales	5958	4	8	4	32
Scotland	2487	8	11	9	24
Northern Ireland	3921	3	5	3	28
Total employment (000s)	86522	22132	4858	26990	18

*Base: All employees.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

In urban areas, the sectors accounting for the most employment were wholesale and retail trade and real estate, renting and business activities, followed by health and social work (Table 6). In rural areas, these sectors were still substantial, but the shares of employment in agriculture, manufacturing and construction were higher than in urban areas. As alluded to above, regions are themselves diverse: the North West, for example, includes predominantly rural Cumbria and the urbanised Greater Manchester-Liverpool conurbation.

**Table 6** Sectoral distribution of employment, 2011

<b>Sector</b>	<b><i>Unweighted base</i></b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% of employment rural</b>
Agriculture, hunting, forestry and fishing	921	0	6	1	83
Mining and quarrying	185	0	1	0	47
Manufacturing	7653	8	12	9	24
Electricity, gas and water supply	1406	1	2	1	35
Construction	6576	4	8	5	29
Wholesale and retail trade	15163	17	14	16	16
Hotels and restaurants	8421	6	8	6	22
Transport, storage and communications	7810	8	7	8	16
Financial services	1853	4	1	4	5
Real estate, renting and business activities	14297	17	13	16	14
Public admin. and defence, compulsory social security	1584	6	4	6	14
Education	5422	10	8	9	16
Health and social work	8067	14	11	13	15
Community, social and personal service activities	7164	5	5	5	18
<b>Total employment (000s)</b>	<b>86522</b>	<b>22132</b>	<b>4858</b>	<b>26990</b>	<b>18</b>

*Base: All employees.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

Some of the differences evident in Table 6 are more pronounced at the local scale, as illustrated in Table 7 which shows shares of employment in selected rural areas in the nations of the UK. For instance agriculture accounted for 13 per cent of total employment in Mid Wales and for eight per cent of total employment in the Highlands and Islands, compared with six per cent across all rural areas. In these two areas five per cent of employment was in manufacturing, compared with an average across all rural areas of 12 per cent. In Northern Ireland South West WDF the wholesale and retail and public administration sectors had substantially larger shares of total employment than the average across all rural areas. These statistics illustrate the diversity of rural areas.

**Table 7 Sectoral distribution of employment in selected and all rural areas, 2011**

Sector	South West	Mid Wales	Highlands and	N. Ireland South	<i>Unweighted</i>	% of
	England	(column %)	Islands	West WDF		
	(column %)	(column %)	(column %)	(column %)	<i>base</i>	rural
Agriculture, hunting, forestry and fishing	2	13	8	5	780	6
Mining and quarrying	0	0	1	1	129	1
Manufacturing	9	5	5	9	2165	12
Electricity, gas and water supply	1	4	4	0	477	2
Construction	5	4	6	10	2179	8
Wholesale and retail trade	17	18	16	28	2944	14
Hotels and restaurants	8	11	10	6	2179	8
Transport, storage and communications	6	4	7	5	2024	7
Financial services	4	0	1	2	255	1
Real estate, renting and business activities	14	8	8	7	3005	13
Public admin. and defence, compulsory social security	6	5	6	8	266	4
Education	10	8	8	8	1423	8
Health and social work	14	10	16	9	1594	11
Community, social and personal service activities	5	8	5	4	1496	5
Total employment (000s)	2262	79	228	84		4858
<i>Unweighted base</i>	8377	788	287	452	20916	

*Base: All employees in areas presented.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

In total, 43 per cent of employment in rural areas was in establishments with 1-24 employees, compared with 30 per cent in urban areas. By contrast 19 per cent of employment in rural areas was in establishments with 250 or more employees, compared with 29 per cent in urban areas (Table 8). This illustrates that any barriers in provision of training experienced by small establishments, holding other factors constant, will have a greater impact on employees in rural areas than in urban areas. It also indicates the particular importance of engaging SMEs in rural areas in economic, skills and training policies and initiatives targets at employers.

**Table 8 Employment by size of urban and rural establishments (percentage of employees), 2011**

<b>Number of employees</b>	<b>Unweighted base</b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
1-4	17905	8	15	9	30
5-9	22758	9	12	9	23
10-24	25012	14	17	14	21
25-49	10239	12	13	13	19
50-99	5712	13	12	13	17
100-249	3270	16	13	15	15
250+	1626	29	19	27	13
Total employment (000s)	86522	22132	4858	26990	18

*Base: All employment.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

The share of total employment in establishments seeking to make a profit was higher in rural areas (78 per cent) than in urban areas (70 per cent). Conversely, the percentage of employment in charities and the public sector was higher in urban areas (nine per cent and 21 per cent, respectively) than in rural areas (seven per cent and 15 per cent, respectively).

Table 9 shows the proportion of establishments employing occupational groups.

Managers, professionals, and associate professional occupations accounted for a higher share of total employment in urban areas (37 per cent in total) than in rural areas (34 per cent in total) (Table 9). These occupational groups are considered the three requiring the highest level skills.

In rural areas, managers and skilled manual occupations were more prominent in terms of total employment than in urban areas. Sales and customer service occupations were more common in urban areas, while machine operatives and elementary occupations accounted for a larger share of employment in rural than urban areas. The occupations contributing the single largest shares of total employment located in rural areas were managers, elementary occupations, and administrative and clerical staff.

Managers and elementary occupations as the most common occupational types was common between urban and rural areas, while the third most common occupation in urban areas was sales/customer service occupations.

**Table 9 Occupational structure of employment by urban and rural location, 2011**

	<i>Unweighted base</i>	<i>% of employment in urban areas</i>	<i>% of employment in rural areas</i>	<i>% of all employment</i>
<b>SOC major group</b>				
1 Managers	82426	18	21	18
2 Professionals	16337	12	8	12
3 Associate professionals	13731	7	5	7
4 Administrative/clerical staff	50656	13	11	13
5 Skilled trades	20507	6	10	7
6 Caring, leisure and other services staff	12712	9	8	9
7 Sales/customer service staff	26739	14	9	13
8 Machine operatives	13369	7	10	7
9 Elementary staff	30609	14	18	15
Total employment (000s)	86522	22132	4858	26990

*Base: All establishments.*

*Unweighted base refers to establishments that employ each occupational type.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

## 2.4 Overview

There are some important differences between urban and rural areas in the sectoral and occupational profile of establishments and employment, albeit the literature indicates that sectoral differences have become less pronounced over time. The primary sector accounts for a greater share of employment in rural than in urban areas.

Of particular importance for engagement of employers and for targeting and delivery of policy is the relatively greater preponderance of small establishments in urban



than in rural areas. Over four out of ten employees in rural areas are in establishments with fewer than 25 employees and only one in five employees are in establishments with 250 or more employees. This compares with three in ten employees in each of the establishment size categories in urban areas. For the employer ownership of skills agenda (UK Commission for Employment and Skills, 2011) and government investment in training initiatives this highlights the importance of engaging SMEs in rural areas, whether directly or through programmes that identify SMEs as suppliers to larger companies.

### **3 Vacancies and skill gaps in urban and rural areas**

This section presents evidence on the incidence of vacancies and skill gaps by occupation, sector, size and type of establishment in urban and rural areas. It begins by describing the rural/urban patterns on such indicators and then explores them further by presenting the results of multivariate analyses examining the extent to which observed differences between urban and rural areas remain once sector, establishment size and other explanatory variables have been controlled for.

#### **3.1 Patterns of vacancies and skill gaps in urban and rural areas**

##### **3.1.1 Descriptive analyses**

Table 10 shows types of vacancies experienced by establishments in urban and rural areas. In total, one in six establishments reported having vacancies. The percentage of establishments with vacancies was higher for establishments in urban areas (15 per cent) than for those in rural areas (11 per cent). The main difference between urban and rural establishments was the larger percentage of urban establishments where vacancies existed, but they were not considered hard to fill. The cause of hard-to-fill vacancies was slightly more likely to be due to skill shortages for establishments in urban areas, while the share of establishments experiencing difficulty filling vacancies for reasons other than skills shortages was slightly higher in rural than in urban areas.

**Table 10** Vacancies experienced by establishments in urban and rural areas, 2011

<b>Vacancies experienced by establishment</b>	<b>Unweighted base</b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
No vacancies	68721	85	88	86	27
Vacancies not hard-to-fill	11015	10	6	9	19
Vacancies hard-to-fill, but not due to skill shortages	1177	1	1	1	31
Vacancies hard-to-fill, partly due to skill shortages	175	0	0	0	30
Vacancies hard-to-fill, all due to skill shortages	3780	3	3	3	25
Don't Know if vacancies hard-to-fill	946	1	1	1	22
Don't know if have vacancies	708	1	0	1	16
<b>Total</b>	<b>86500</b>	<b>1.27m</b>	<b>0.46m</b>	<b>1.74m</b>	<b>27</b>

*Base: All establishments.*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

Table 11 shows whether or not establishments in selected rural areas experienced vacancies, and if they did so, the types of vacancies experienced. In these selected rural areas the proportions of establishments with no vacancies ranged from 84 per cent in the Highlands and Islands to 91 per cent in Northern Ireland South West WDF, compared with 88 per cent across all rural areas. Establishments in the Highlands and Islands and in South West England were more likely than the average across all rural establishments to report that vacancies were not hard-to-fill. Establishments in Mid Wales were more likely than in the other selected rural areas and across all rural areas to hard-to-fill vacancies due to skill shortages. They were also more likely than the average across all rural areas to not know if vacancies were hard-to-fill.

**Table 11 Vacancies experienced by establishments in selected areas and all rural areas, 2011**

<b>Vacancies experienced by establishment</b>	<b>South West England (column %)</b>	<b>Mid Wales (column %)</b>	<b>Scottish Highlands and Islands (column %)</b>	<b>N. Ireland South West WDF (column %)</b>	<b><i>Unweighted base</i></b>	<b>All rural areas (column %)</b>
No vacancies	87.3	89.0	83.6	91.3	17118	88
Vacancies not hard-to-fill	7.9	3.8	9.9	4.5	2160	6
Vacancies hard-to-fill, but not due to skill shortages	1.1	1.1	1.2	0.9	369	1
Vacancies hard-to-fill, partly due to skill shortages	0.1	0.1	0.2	0.0	45	0
Vacancies hard-to-fill, all due to skill shortages	2.4	3.7	3.1	2.0	906	3.1
Don't Know if vacancies hard-to-fill	0.5	2.1	1.4	1.3	201	1
Don't know if have vacancies	0.6	0.2	0.5	0.0	117	0
<b>Total (000s)</b>	168	10	21	9		464
<i>Unweighted count</i>	8377	788	287	452	20916	

*Base: All establishments in areas presented.*

*\*\*: Figure not shown because of a low base (fewer than 25 respondents)*

*Figures in italics: base size <50, treat figures with caution*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

Vacancies represented just over two per cent of total employment in both urban and rural areas. Hard-to-fill vacancies represented 0.4 per cent of total employment in urban areas but 0.6 per cent in rural areas (see 'all occupations' row in Table 10). The density of skill shortage vacancies was slightly higher (0.4 compared to 0.3 per cent) in rural than in urban areas. Around five per cent of employees had skills deficiencies in urban and in rural areas.

Table 12 presents these density variables for Standard Occupational Classification (SOC) major groups, contrasting urban with rural areas. The pattern of vacancy densities by occupation is broadly similar in both urban and rural areas. While vacancy density was higher in rural than urban areas for most occupations, it was lower for managers, administrative and clerical occupations and sales and customer service occupations (in the latter two cases reflecting the lower representation of these occupations in employment). All occupations' hard-to-fill vacancy density was equal to or higher in rural than urban. This pattern was repeated for skill shortage vacancy density. Likewise the pattern of skills gaps was similar for rural and urban areas, but the incidence of skills gaps was relatively low in rural areas for managers and professionals and relatively high for associate professionals vis-à-vis the situation in urban areas. The percentage of people in lower skilled occupations with skills gaps was also higher in rural areas than in urban areas.

Patterns by sector are presented in Table 13. Again, the overall pattern of densities was similar in urban and rural areas. There were lower vacancy densities in rural areas than in urban areas in agriculture, construction and transport, storage and communication, but there were higher densities in manufacturing and public sector services. Turning to hard-to-fill vacancies, the notable differences were higher densities in hotels and restaurants and lower densities in construction and community, personal and social service activities in rural than in areas. Hotels and restaurants also had a much higher density of skill shortage vacancies in rural than in urban areas. Rural areas were less likely than urban areas to experience skills gaps in the energy and utilities sector and in health and social work, but more likely to experience skills gaps in hotels and restaurants, transport, storage and communications.

## Urban and rural differences in jobs, training, and skills

Vacancy density declined as establishment size increased (Table 14). This contrast was more marked in urban than rural areas. The density of hard-to-fill and skill shortage vacancies was greatest in the smallest establishments in both urban and rural areas, but the decline in vacancy density with size of establishment was more marked in urban than in rural areas. In contrast, the percentage of workers who were not fully proficient (skills gap density) increased as size of establishment increased, in both urban and rural areas.

**Table 12 Vacancy densities and skills gaps by occupation for urban and rural areas, UK 2011**

SOC major group	Urban				Rural			
	All vacancies	Hard to fill vacancies	Skill shortage vacancies	Skills gaps	All vacancies	Hard to fill vacancies	Skill Shortage vacancies	Skills gaps
1 managers	0.4	0.1	0.1	3.4	0.3	0.1	0.1	2.8
2 professionals	2.5	0.6	0.5	4.4	3.2	0.9	0.7	2.5
3 associate professionals	5.3	1.1	0.9	4.8	5.0	1.3	1.1	5.8
4 administrative/clerical staff	1.7	0.2	0.2	4.9	1.4	0.2	0.2	4.6
5 skilled trades	2.7	1.0	0.9	5.3	3.0	1.3	1.0	5.8
6 caring, leisure and other services staff	3.0	0.7	0.4	5.5	3.3	0.9	0.6	4.9
7 sales/customer service staff	2.3	0.4	0.2	8.2	2.1	0.4	0.2	9.3
8 machine operatives	1.7	0.3	0.2	5.9	2.3	0.6	0.4	6.1
9 elementary staff	1.9	0.3	0.2	7.5	2.3	0.7	0.3	8.1
<b>All occupations</b>	<b>2.2</b>	<b>0.4</b>	<b>0.3</b>	<b>5.5</b>	<b>2.2</b>	<b>0.6</b>	<b>0.4</b>	<b>5.4</b>
Total (000s)	481	99	71	1221	106	29	20	265
<i>Unweighted establishments</i>	<i>13412</i>	<i>3812</i>	<i>3004</i>	<i>16142</i>	<i>3681</i>	<i>1320</i>	<i>951</i>	<i>4678</i>

Base: All employees.

Vacancy totals rounded to nearest 100.

Source: UK Commission's Employer Skills Survey 2011: UK Results

**Table 13 Vacancy densities and skills gaps by industry sector for urban and rural areas, UK 2011**

Industry sector	Urban				Rural			
	All vacancies	Hard to fill vacancies	Skill shortage vacancies	Skills gaps	All vacancies	Hard to fill vacancies	Skill Shortage vacancies	Skills gaps
Agriculture, hunting, forestry and fishing	2.8	0.6	0.6	4.6	2.3	0.9	0.6	4.7
Mining and quarrying	7.1	2.5	2.0	2.7	7.2	0.5	0.3	3.6
Manufacturing	1.4	0.4	0.4	6.0	1.9	0.5	0.4	6.0
Electricity, gas and water supply	1.4	0.3	0.2	6.4	1.5	0.2	0.1	4.3
Construction	2.2	1.0	0.3	4.8	1.5	0.4	0.3	4.6
Wholesale and retail trade	1.7	0.3	0.2	6.7	1.8	0.4	0.2	6.4
Hotels and restaurants	3.3	0.7	0.4	8.9	3.3	1.2	0.8	9.5
Transport, storage and communications	2.6	0.4	0.3	4.4	2.0	0.6	0.5	6.0
Financial services	2.2	0.4	0.4	4.5	2.0	0.7	0.7	2.8
Real estate, renting and business activities	2.9	0.5	0.5	5.1	2.7	0.8	0.6	5.1
Public admin. and defence, compulsory social security	1.7	0.3	0.1	5.3	1.9	0.5	0.4	5.6
Education	1.3	0.2	0.1	3.9	1.6	0.2	0.1	2.9
Health and social work	1.8	0.3	0.2	5.4	1.9	0.4	0.3	3.9
Community, social and personal service activities	3.7	1.1	0.8	5.5	3.5	0.9	0.6	6.0
<b>All sectors</b>	<b>2.2</b>	<b>0.4</b>	<b>0.3</b>	<b>5.5</b>	<b>2.2</b>	<b>0.6</b>	<b>0.4</b>	<b>5.4</b>
Total (000s)	481	99	71	1221	1066	29	20	265
<i>Unweighted establishments</i>	<i>13412</i>	<i>3812</i>	<i>3004</i>	<i>16142</i>	<i>3681</i>	<i>1320</i>	<i>951</i>	<i>4678</i>

Base: All employees.

Vacancy totals rounded to nearest 100. Source: UK Commission's Employer Skills Survey 2011: UK Results



**Table 14** Vacancy densities and skills gaps by size of establishment for urban and rural areas, UK 2011

Number of people working at site	Urban				Rural			
	All vacancies	Hard to fill vacancies	Skill shortage vacancies	Skills gaps	All vacancies	Hard to fill vacancies	Skill Shortage vacancies	Skills gaps
1-4	5.0	1.6	0.9	3.6	3.2	1.4	0.9	3.7
5-24	2.9	0.6	0.5	5.5	2.4	0.8	0.5	5.6
25-99	2.1	0.4	0.3	5.5	2.0	0.5	0.4	5.3
100-249	1.8	0.3	0.3	5.8	2.1	0.2	0.2	6.0
250+	1.2	0.1	0.1	5.9	1.3	0.1	0.1	6.4
<b>All types</b>	<b>2.2</b>	<b>0.4</b>	<b>0.3</b>	<b>5.5</b>	<b>2.2</b>	<b>0.6</b>	<b>0.4</b>	<b>5.4</b>
Total (000s)	481	99	71	1221	106	29	20	265
<i>Unweighted establishments</i>	<i>13412</i>	<i>3812</i>	<i>3004</i>	<i>16142</i>	<i>3681</i>	<i>1320</i>	<i>951</i>	<i>4678</i>

Base: All employees.

Source: UK Commission's Employer Skills Survey 2011: UK Results

### **3.1.2 Multivariate analyses**

In order to test whether urban-rural differences in the incidence of vacancies and skills gaps remain once region, sector, size and type of establishment and other key variables (relating to market orientation and the occupational and qualifications profile of the workforce) have been accounted for, logit regression models were estimated. If the regression coefficient for the indicator of rural location is not statistically significant, it may be concluded that observed urban-rural differences are a consequence of compositional differences in the characteristics of establishments. In other words, the different sectoral and occupational mix of rural and urban areas causes the observed differences between the two types, rather than any discrete difference associated with being a rural or urban establishment.

The models estimated the influence of a range of independent variables on the probability of an establishment having vacancies, hard-to-fill vacancies, skill shortage vacancies and skill gaps. The regression coefficients revealed no statistically significant difference between urban and rural areas for vacancies and skills gaps once other establishment characteristics have been controlled for. Establishments in rural areas were more likely than those in urban areas to have hard-to-fill vacancies, but less likely to have skill shortage vacancies (Table A1).

In a second set of analyses including all establishments regressing density (i.e. the proportion of total employment) measures (of vacancies, hard-to-fill vacancies, skill shortage vacancies and skills gaps) on urban/rural location and the same set of independent variables as in Table A1, there were no statistically significant differences between urban and rural areas for the density of vacancies, skill shortage vacancies and skill gaps. Rural areas had a significantly higher density of hard-to-fill vacancies than urban areas (Table A2).

In order to eliminate possible bias arising from the 'statistical noise' of inclusion in the second set of multivariate analyses of establishments reporting no vacancies/ skill gaps, a third set of regression analyses were conducted using a constrained sample containing only those establishments reporting vacancies, hard-to-fill vacancies, skill shortage vacancies and skill gaps, respectively. The results revealed no significant differences between urban and rural areas after controlling for the characteristics of establishments (Table A3). The goodness of fit of this model for this third set of analyses was better than for the second set of analyses, implying that use of the constrained sample is more appropriate.

More detailed commentaries on the results of the multivariate analyses are presented in the Technical Appendix. One clear result relating to the independent variables used in the analyses is that size of establishment is an important factor in determining the likelihood of the establishment having vacancies and skill gaps.

In summary, the regression models indicate that, in general, urban or rural location has limited or no statistically significant influence on the incidence of vacancies and skill gaps. Establishments in rural areas are more likely than those in urban areas to report hard-to-fill vacancies but not skill shortage vacancies. Once establishments not reporting vacancies or skill gaps are excluded from the analysis, urban or rural location appears to have no statistically significant influence on the density of vacancies, hard-to-fill vacancies, skill shortage vacancies and skills gaps.

### **3.2 Hard-to-fill vacancies**

Multivariate analysis of this set of variables was not undertaken. In the sections on causes, effects, and responses to hard-to-fill vacancies, the UK Commission's Employer Skills Survey asked respondents to indicate which of a list of possible options applied to them.

Multiple responses were allowed; in other words, employers could list one or several causes, effects or responses. Because of the multiple answers allowed, multivariate analysis of this set of variables was not undertaken.

#### **3.2.1 Causes of hard-to-fill vacancies**

A small minority (4.5 per cent) of all establishments reported hard-to-fill vacancies. The main cause of having a hard-to-fill vacancy reported by employers in both urban and rural areas was a low number of applicants with required skills (Table 15).

Establishments located in urban areas were more likely than those in rural areas to report a 'low number of applicants with the required skills'. Rural establishments were more likely to report a 'low number of applicants generally' and 'not enough people interested in doing this type of job'. They were also more strongly represented than average among establishments reporting poor recruitment channels and the 'benefits trap' as causes.

Competition with other employers was more important for urban establishments while rural establishments were more likely to identify a remote location and poor public transport as a problem. This indicates that establishments in rural areas faced the fundamental challenge of a smaller pool of potential workers to recruit from, which is likely to be exacerbated by remoteness and poor public transport.

These same general differentials between urban and rural establishments are apparent in the case of skill shortage vacancies.

**Table 15 Main causes of having a hard to fill vacancy by urban and rural location, 2011 (percentages of responses to the question)**

Main cause	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
Too much competition from other employers	324	6	4	6	19
Not enough people interested in doing this type of job	919	16	27	19	38
Poor terms and conditions (e.g. pay) offered for post	594	12	12	12	27
Low number of applicants with the required skills	2106	41	34	39	23
Low number of applicants with the required attitude, motivation or personality	810	17	16	17	25
Low number of applicants generally	631	11	15	12	33
Lack of work experience the company demands	1095	22	20	21	25
Lack of qualifications the company demands	652	12	13	12	29
Poor career progression / lack of prospects	133	3	2	2	23
Job entails shift work/unsociable hours	498	9	8	9	25
Seasonal work	75	1	2	1	44
Remote location/poor public transport	435	5	13	7	48
Poor recruitment channels/mechanisms (inc. lack/cost of advertising)	94	2	2	2	29
Not full-time/permanent work	101	2	2	2	30
Difficulty with work permits/immigration issues for non-EU staff	19	**	**	**	**
Low number of suitable applicants inc. Age of applicants	78	2	2	2	36
Benefits trap	53	1	2	1	41
Lack of funding for the position	40	1	1	1	37
Other	198	4	4	4	30
No particular reason	41	1	0	1	10
Don't know	89	2	2	3	33
Total (100%)	5132	57000	21000	78000	27

Base: All establishments with hard-to-fill vacancies.

\*\* : Figure not shown because of a low base (fewer than 25 respondents)

*Figures in italics: base size <50, treat figures with caution*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

### 3.2.2 Consequences of hard-to-fill vacancies

The consequences of hard-to-fill vacancies are shown in Table 16. The most common response by far was that the workload for other staff had increased, and this percentage was higher for rural (85 per cent) than urban establishments (81 per cent). The next most common responses in urban and rural areas were difficulty meeting customer service objectives, delay in developing new products or services, increased operating costs and losing business or orders to competitors.

**Table 16 The effect of having hard-to-fill vacancies, by urban and rural location (percentage of establishments), 2011**

<b>Consequence for establishment</b>	<b><i>Unweighted base</i></b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
Lose business or orders to competitors	<i>1735</i>	39	38	39	26
Delay developing new products or services	<i>1902</i>	40	42	40	28
Have difficulties meeting quality standards	<i>1734</i>	34	34	34	27
Experience increased operating costs	<i>2085</i>	39	41	39	28
Have difficulties introducing new working practices	<i>1578</i>	31	34	32	29
Increase workload for other staff	<i>4225</i>	81	85	82	28
Outsource work	<i>1259</i>	24	29	25	31
Withdraw from offering certain products or services altogether	<i>996</i>	23	27	24	30
Have difficulties meeting customer services objectives	<i>2345</i>	47	44	46	26
Have difficulties introducing technological change	<i>974</i>	20	23	21	29
None	<i>342</i>	7	5	7	22
Don't know	<i>16</i>	**	**	**	**
<b>Total</b>	<i>5132</i>	57000	21000	78000	27

*Base: All establishments with hard-to-fill vacancies.*

*\*\*: Figure not shown because of a low base (fewer than 25 respondents)*

*Figures in italics: base size <50, treat figures with caution*

*Source: UK Commission's Employer Skills Survey 2011: UK Results*

Establishments in rural areas were more likely than urban establishments to have to outsource work or to withdraw altogether from offering certain products or services. They were also slightly more likely to face delays in developing new products or services, to have difficulties in introducing new working practices and to have difficulties in introducing technological change. This may be symptomatic of particular difficulties faced by rural establishments in breaking out of the low skills equilibrium and moving up the value chain.

### **3.2.3 Responses to hard-to-fill vacancies**

Responses taken by establishments to overcome the difficulties encountered as a consequence of hard-to-fill vacancies are shown in Table 17. The two most common responses were to increase spending on job advertising and recruitment (41 per cent of establishments) and/or to use new recruitment channels (31 per cent of establishments). The latter strategy was more commonly used by establishments in urban than rural areas. The third and fourth most common responses overall (and which were more common in rural than urban areas) were to redefine existing jobs or to do nothing.

**Table 17 Responses to having hard-to-fill vacancies, by urban and rural location (percentage of establishments), 2011**

<b>Response by establishment</b>	<b>Unweighted base</b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
Increasing salaries	267	5	4	5	22
Increasing the training given to your existing workforce	470	8	9	8	28
Redefining existing jobs	632	13	15	13	30
Increasing advertising / recruitment spend	2142	41	38	40	26
Increasing / expanding trainee programmes	453	7	9	7	33
Using NEW recruitment methods or channels	1663	31	25	30	23
Recruiting workers who are non-UK nationals	186	3	3	3	26
Bringing in contractors to do the work, or contracting it out	267	5	5	5	29
Being prepared to offer training to less well qualified recruits	335	5	8	6	36
Making the job more attractive e.g. recruitment incentives, enhanced T&Cs, working hours	78	1	2	1	36
Other	140	3	4	3	31
Nothing	600	13	15	14	30
Don't know	124	3	4	3	24
<b>Total</b>	<b>5132</b>	<b>57000</b>	<b>21000</b>	<b>78000</b>	<b>27</b>

Base: All establishments with hard-to-fill vacancies.

Source: UK Commission's Employer Skills Survey 2011: UK Results

Establishments in rural areas were also more likely than those in urban areas to increase/expand their trainee programmes (nine per cent of establishments in rural areas and seven per cent of establishments in urban areas) and/or to increase the training given to their existing workforce (nine per cent in rural areas and eight per cent in urban areas). Establishments in rural areas were more likely than those in urban areas to offer training to less well qualified recruits. This suggests that establishments in rural areas were slightly more likely than those in urban areas to respond to hard-to-fill vacancies through increased training. This may be a response to a smaller available pool of labour.

### 3.3 Overview

Despite a lower incidence of vacancies in rural areas than in urban areas there is a slightly higher incidence of hard-to-fill vacancies in rural than in urban areas. Factors other than skills are a more important component in hard-to-fill vacancies in rural than in urban areas, for example difficulties with transport, or low numbers of applicants generally.

There are some detailed differences in vacancies (of all types) and skill gaps between urban and rural areas by occupation and sector but the general patterns are similar. Size differentials in vacancy densities are more marked in urban than in rural areas.

Multivariate analyses including all establishments (whether or not they reported vacancies or skill gaps) showed a significantly higher density of hard-to-fill vacancies in rural than in urban areas controlling for compositional differences in the regional, sectoral, size structure and other features of establishments. But when those establishments reporting no vacancies and skills gaps are eliminated there are no significant differences between urban and rural areas once compositional differences are accounted for.

The main reason for hard-to-fill vacancies in urban and rural areas is a small number of applicants with the required skills. A lack of 'quantity' of applicants is a particular issue in rural areas, as is remote location and poor public transport. This may help explain why competition with other employers is cited more frequently as a reason for hard-to-fill vacancies in urban than in rural areas.

The foremost consequence of hard-to-fill vacancies is an increased workload on other staff, particularly so in rural areas. Establishments in rural areas are more likely to have to outsource work or withdraw from markets than establishments in urban areas. Also, in rural areas establishments are more likely to cite delays in developing new products and services than in urban areas.

Increased spending on recruitment and using new recruitment channels are the main responses to hard-to-fill vacancies. Rural establishments are more likely to 'do nothing' in response to hard-to-fill vacancies than urban establishments. They are also more likely to redefine existing jobs or increase training than establishments in urban areas. We speculate that this may be because of a smaller overall pool of labour on which rural establishments are able to draw.



## **4 Training and skills development issues**

This section presents evidence on employers' awareness of external schemes and initiatives relating to skills and training, the provision of training and training providers used, funding of training, issues relating to training and vocational qualifications and approaches to staff development.

### **4.1 Awareness and use of schemes and external initiatives relating to training and skills development**

Almost one in three establishments (31 per cent) sought external advice or information on skills or training issues in the previous year. Establishments in rural areas (32 per cent) were slightly more likely than those in urban areas (nearly 31 per cent) to seek advice. In both urban and rural areas the most commonly consulted sources were professional bodies, commercial or not-for-profit training providers and colleges, all used by at least a third of establishments which had received advice in the previous 12 months.

Almost three quarters (72 per cent) of establishments had heard of Business Link (or its variants in Northern Ireland, Scotland, or Wales), with awareness higher in rural (75 per cent) than urban areas (71 per cent). Overall, 15 per cent of rural establishments had used this service, compared with 13 per cent of urban establishments. The next most commonly known source of advice was the National Skills Academy (of which 31 per cent of establishments were aware), for which awareness levels were higher in urban (32 per cent) than in rural areas (28 per cent). Rural establishments (17 per cent) were more likely than urban establishments (14 per cent) to have made use of a scheme or initiative over the previous year.

### **4.2 Provision of training and providers used**

Rural establishments were less likely to plan staff development (27 per cent did not do so) than urban establishments (20 per cent did not plan) and to train their employees (30 per cent in rural areas did not train compared with 26 per cent in urban areas). Among establishments undertaking training in urban and rural areas, a greater share of training in rural establishments than in urban establishments was unplanned (Table 18). However, establishments in rural areas were also more likely to undertake training without having planned to do so.

**Table 18 Planning staff development and provision of training, 2012**

<b>Action</b>	<b>Unweighted Base</b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
Plan and train	11672	67	58	65	24
Don't plan but do train	947	8	11	9	35
Plan but don't train	1323	13	15	14	29
Don't plan and don't train	1035	12	15	13	31
Total	14977	1.24m	0.45m	1.70m	27

Base: All establishments.

Source: UK Commission's Employer Perspectives Survey 2012: UK Results

Urban establishments were more likely to have provided internal training (or both internal and external training) than rural establishments (Table 19). A greater share of rural establishments (14 per cent) than of urban establishments (nine per cent) had provided external training only. However, in both urban and rural establishments the amount of internal training exceeded the amount of external training.

**Table 19 Establishments that provided internal or external training for employees in the last 12 months (percentage of all establishments), 2012**

<b>Type of training:</b>	<b>Unweighted base</b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
Any training	12619	75	70	73	26
Internal only	3555	28	23	26	23
External only	1342	9	14	11	35
Internal & external	7722	38	33	36	24
No training	2358	26	30	29	30
Total	14977	1248500	457000	1705500	27

Base: All establishments.

Source: UK Commission's Employer Perspectives Survey 2012: UK Results

Commercial organisations were the most commonly-used source of external training (Table 20) used by 75 per cent of establishments using external training providers, followed by FE Colleges (25 per cent of establishments) and non-profit making organisations (24 per cent of establishments). Establishments in rural areas were slightly more likely than establishments in urban areas to use the services of commercial organisations (77 per cent in rural areas and 75 per cent in urban areas) and of FE colleges (27 per cent in rural areas and 25 per cent in urban areas), but slightly less likely to make use of Universities and other HEIs (12 per cent in rural areas and 13 per cent in urban areas) or non-profit making organisations (22 per cent in rural areas and 25 per cent in urban areas).

**Table 20 External training providers used in the last 12 months, 2012**

Training provider	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
Commercial organisations	<i>7091</i>	75	77	75	27
Non-profit making organisations	<i>2510</i>	25	22	24	25
FE Colleges	<i>3011</i>	25	27	25	29
Universities or other Higher Education institutions	<i>1810</i>	13	12	13	25
Manufacturers and suppliers	<i>0</i>	**	**	**	**
Other	<i>59</i>	1	1	1	27
Don't know	<i>592</i>	8	5	7	20
Total	<i>9062</i>	585500	213000	798500	27

*Base: All establishments who used external training.*

*\*\*: Figure not shown because of a low base (fewer than 25 respondents)*

*Figures in italics: base size <50, treat figures with caution*

*Source: UK Commission's Employer Perspectives Survey 2012*

In order to test whether urban-rural differences in use of the four main external training providers remains once region, sector and size of establishment have been accounted for, logit regression models were estimated (Table A4). The models show that urban-rural differences play no statistically significant role in the use of particular external training sources, except for a greater use of FE colleges in rural areas. Likewise, the regression coefficients for individual regions are mostly not statistically significant. However, establishments in London were much less likely to make use of FE colleges, while establishments in Wales and Scotland were much more likely to make use of HE establishments. There are some differences in the use of external training sources across sectors. Size is an important factor, with larger establishments more likely to use all external training providers than small establishments.

For those establishments using external training providers, the most important reason for selecting any training provider was that they provided relevant courses. This was more important for rural establishments (cited by 64 per cent of those using private providers to deliver training and 70 per cent of those using public sector providers) than for urban establishments (58 per cent and 66 per cent, respectively).

Likewise, establishments in rural areas not using external training providers were more likely than those in urban areas to cite the fact that courses were not relevant as a reason for not using such providers. Rural establishments were also more likely than those in urban areas to cite the fact that there were no providers locally; especially in the case of universities and HEIs.

### **4.3 Funding of training**

There was little difference between urban and rural areas in sources of funding for training.

For 52 per cent of establishments in both urban and rural areas, funding of training at FE colleges was provided entirely by the establishment or organisation, whereas for 29 per cent of establishments the establishment or organisation partly funded training. For 45 per cent of all establishments training at universities and other HEIs was provided entirely by the establishment or organisations, whereas for 33 per cent of establishments funding was partly from the establishment or organisation. In the case of universities and HEIs the share of rural establishments using HEIs for training that was partly funded from the establishment was slightly higher than for urban establishments, but the proportion of rural establishments where the entirety of funding was provided by the establishment or organisation was slightly lower than for urban establishments.

### **4.4 Training and vocational qualifications**

Four in ten (38 per cent) of those establishments that trained arranged or provided funding for training designed to lead to a recognised vocational qualification in the previous 12 months (Table 21). Rural establishments were less likely than urban establishments to provide such training.

The three most frequently cited reasons for not training were: the lack of interest among staff (30 per cent of establishments which did not train), lack of sufficient knowledge of what qualifications were available (28 per cent of establishments which did not train) and the lack of Government funding (25 per cent of establishments which did not train). Each of these reasons was cited more frequently by rural establishments than by urban establishments which did not train. The perceived costs, time taken, complication and bureaucracy associated with vocational qualifications were also appeared to be more of a deterrent for rural establishments than for urban establishments to provide vocational training.

**Table 21 Vocational training and reasons for not training (percentages of establishments), 2012**

Reason	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
Percentage of establishments that train who arranged or funded training designed to lead to a recognised vocational qualification in the last 12 months	6065	38	36	38	24
<i>Reasons for not training towards a vocational qualification:</i>					
Don't know enough about what vocational qualifications are available	1811	28	29	28	27
Don't think vocational qualifications are as rigorous as other qualifications	795	12	11	12	25
Staff don't want vocational qualifications	1956	29	33	30	28
Vocational qualifications are too expensive to deliver	1402	21	25	22	30
Vocational qualifications take too long to deliver	1288	19	21	20	28
Vocational qualifications are too complicated for our needs	1276	19	21	20	28
Vocational qualifications are too much bureaucracy	1241	19	24	20	31
The government does not provide funding or grants to cover the costs	1583	24	27	25	28
Cutbacks in our training budget	1271	19	18	19	26
Relevant vocational qualifications are not available to us	1201	18	20	19	28
The training that we already provide is sufficient	1322	22	22	22	27
No reason / not against them	190	3	3	3	31
Not our decision – head office deals with this	94	2	1	1	16
Vocational qualifications don't fit our business needs for any other reason	64	1	2	1	36
Don't know	633	9	5	8	16
<b>Total</b>	<b>6554</b>	<b>573000</b>	<b>205500</b>	<b>778500</b>	<b>26</b>

*Base: Upper panel - All establishments who train.*

*Lower panel - All establishments who do not provide vocational training.*

*Source: UK Commission's Employer Perspective Survey 2012: UK Results*

For those establishments which had provided vocational training, the main form of qualification that training led to was NVQs/SVQs (67 per cent of establishments which had provided vocational training), followed by Apprenticeships (25 per cent of such establishments), City & Guilds (20 per cent of such establishments) and BTEC awards (18 per cent of such establishments). Rural establishments were less likely than urban establishments to arrange or fund such training.

Over 90 per cent of establishments that arranged training leading to vocational qualifications agreed or agreed slightly that this led to an increase in knowledge and understanding amongst their employees, the development of new skills and reliable standards of competence (Table 22). The proportions of such establishments reporting better business performance was 87 per cent and improved staff retention was 78 per cent. With the exception of competence standards, rural establishments were slightly less likely than urban establishments to agree about the benefits of training employees.

**Table 22 Establishments that agreed that training employees to achieve vocational qualifications has benefits (percentages of establishments), 2012**

Benefit	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
Better business performance	5264	87	84	86	24
Improved staff retention	4772	78	74	77	23
The development of new skills	5697	93	92	93	24
An increase in knowledge and understanding	5852	97	95	96	24
Reliable standards of competence	5554	91	91	91	24
Total	6065	357000	112000	470000	24

*Base: All establishments who have arranged training for vocational qualifications.*

*Source: UK Commission's Employer Perspectives Survey 2012: UK Results*

Rural establishments were less likely than urban establishments to see other benefits from vocational qualifications, although business benefits of vocational qualifications were perceived by the majority of establishments which had arranged training for them (Table 23). In particular, compared with those in urban areas, rural establishments arranging for vocational qualifications were less likely to agree that vocational qualifications allow staff to work flexibly at their own pace, covered all skills needed by the company, or did not require much time away from the job.

**Table 23 Establishments that agreed that vocational qualifications have other benefits (percentages of establishments), 2012**

Benefit	<i>Unweighted Base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
Can be adapted to business needs	5223	86	83	85	23
Allow staff to work flexibly at their own pace	4560	75	69	73	23
Cover all skills needed by the company	4327	72	67	71	23
Do not require much time away from the job	4190	71	67	70	23
Offer good value for money	4793	78	77	78	24
Total	6065	167500	46500	214000	22

*Base: All establishments who have arranged training for vocational qualifications.*

*Source: UK Commission's Employer Perspective Survey 2012: UK Results*

In summary, rural establishments were less likely to provide vocational training and were less convinced of the benefits of doing so, for their staff or for the business.

Slightly fewer establishments in rural areas than in urban areas viewed vocational qualifications as being critical in recruiting employees; slightly more establishments in rural than in urban areas placed no value on vocational qualifications in recruitment decisions (Table 24). Establishments in rural areas also placed lower importance on academic qualifications when recruiting than establishments in urban areas.

**Table 24 Importance of factors which establishments look for when recruiting (percentages of establishments), 2012**

<b>Factor and importance</b>	<b>Unweighted Base</b>	<b>Estabs. in urban areas (column %)</b>	<b>Estabs. in rural areas (column %)</b>	<b>All estabs. (column %)</b>	<b>% located in rural areas</b>
<i>Having a particular level of achievement of academic qualifications</i>					
Critical	2151	14	10	13	22
Significant	4932	32	29	31	25
Small amount of value	4984	33	36	34	28
No value	2508	19	23	20	31
Don't know	402	3	2	3	24
<i>Having a relevant NVQ or SVQ</i>					
Critical	1430	9	8	9	24
Significant	4754	29	29	29	27
Small amount of value	5047	33	34	34	27
No value	3329	26	27	26	28
Don't know	417	3	2	3	22
<i>Having a relevant vocational qualification other than an NVQ or SVQ</i>					
Critical	1161	7	7	7	26
Significant	4628	29	30	29	28
Small amount of value	5429	35	34	35	26
No value	3309	25	26	26	27
Don't know	450	3	3	3	25
<b>Total</b>	<b>14977</b>	<b>1248500</b>	<b>457000</b>	<b>1705500</b>	<b>27</b>

Base: All establishments.

Source: UK Commission's Employer Perspective Survey 2012: UK Results



#### 4.5 Approaches to staff development

Overall, 85 per cent of establishments formally reviewed the training needs of individuals and 72 per cent conducted a formal training needs analysis across the organisation as a whole (Table 25). Six in ten (59 per cent) establishments had a staff training plan in place specifying in advance the level and type of training needed by employees; 34 per cent of establishments had a dedicated budget for training expenditure; and 43 per cent conducted evaluations of the costs and benefits of training. Establishments in rural areas were less likely to have a staff training plan specifying in advance the level and type of training employees would need, to formally review training needs for individuals or across the business as a whole, or to have a dedicated budget for training expenditure than those in urban areas. Multivariate analyses revealed that these differences remained statistically significant controlling for region, sector and establishment size variations (see Table A5).

**Table 25 Approach of establishments to staff development (percentages of establishments)**

Action	<i>Unweighted base</i>	Estabs. in urban areas (column %)	Estabs. in rural areas (column %)	All estabs. (column %)	% located in rural areas
Formally reviews the training needs of individuals	11554	86	80	85	24
Conducts any formal training needs analysis across the organisation as a whole	9979	73	69	72	24
Has a staff training plan that specifies in advance the level and type of training employees will need	8940	61	52	59	22
Has a dedicated budget for training expenditure	5803	36	29	34	21
Conducts evaluations of the costs and benefits of training	6502	43	42	43	25
Total	14977	1248500	457000	1705500	25

*Base: All establishments.*

*Source: UK Commission's Employer Perspectives Survey 2012: UK Results*

However, establishments in rural areas tended to use a greater number of approaches to staff development than those in rural areas, with 47 per cent of rural establishments using three or more approaches compared with 38 per cent of urban establishments.

#### 4.6 Overview

Similar proportions of establishments in rural and in urban areas seek external information and advice on skills and training issues. Establishments in rural areas had slightly greater awareness, and made slightly greater use, of Business Link (and its variants in Northern Ireland, Scotland, or Wales) than establishments in urban areas.

## Urban and rural differences in jobs, training, and skills

Establishments in rural areas were slightly less likely to plan and less likely to train than those in urban areas, but were more likely to train without having a formal plan in place. They were less likely to have a dedicated budget for training. This is indicative of a somewhat more informal approach to training in rural areas than in urban areas, as is a tendency to make use of a larger number of approaches to training than urban establishments.

The amount of internal training exceeds the amount of external training undertaken in both urban and rural areas, although a greater share of establishments in rural areas than in urban areas undertook external training only.

There is a general similarity in the types of training provider used in rural and in urban areas. Multivariate analysis reveals that, controlling for a range of compositional factors, establishments in rural areas make greater use of FE colleges than establishments in urban areas.

A lack of relevant training courses and a lack of providers locally were more frequently cited by establishments as reasons for not training in rural areas than in urban areas.

There is little difference between rural and urban areas in the ways that training is funded.

Rural establishments were less likely than urban establishments to provide training leading to vocational qualifications and were less convinced of the benefits of doing so, for their staff or for the business. Lack of interest amongst staff, insufficient knowledge of qualifications available and lack of government funding were cited more by rural than by urban establishments as reasons for not training, as were perceived costs, time taken and bureaucracy. Rural establishments also placed less importance on qualifications in recruiting than urban establishments.

## 5 Conclusions and implications

### 5.1 Conclusions

The analyses in previous sections revealed that there were limited significant differences between rural and urban areas on many of the indicators analysed, though with the caution that 'rural' and 'urban' are large categories disguising considerable internal diversity. 'Compositional effects' (i.e. differences in the profile of establishments and employment by size, sector, occupation) tend to be of foremost importance in explaining differences in experience of types of vacancies and skills deficiencies between rural and urban areas, rather than specific 'rural' effects.

There were some differences between rural and urban areas in the experience of vacancies, hard-to-fill vacancies, skill shortage vacancies and skill gaps. The incidence of hard-to-fill vacancies, but not skill shortage vacancies, was slightly higher in rural than in urban areas, while skill shortage vacancies were comparable.

In general, rural or urban location has limited or no statistically significant influence on the incidence of vacancies and skill gaps. For the full sample of establishments (i.e. including the majority of establishments which did not experience hard-to-fill vacancies) once sector, size, region and other explanatory factors had been controlled for, rural areas displayed a statistically significant higher density of hard-to-fill vacancies than urban areas for the full sample of establishments. However, once establishments not reporting vacancies or skill gaps are excluded from the analysis, urban or rural location appears to have no statistically significant influence on the density of vacancies, hard-to-fill vacancies, skill shortages and skills gaps.

Although the main reason for hard-to-fill vacancies in both rural and urban areas was a small number of applicants with the required skills, factors other than skills deficiencies are more important in vacancies being hard-to-fill in rural than in urban areas. Employers in rural areas face some particular challenges in accessing labour because of a more limited pool of labour generally on which they can draw than in urban areas. This lack of 'quantity' is a key factor in recruitment difficulties faced in rural areas, and also has implications for the 'quality' of labour available, Remoteness and transport difficulties also emerge as particular issues in rural areas and these appear to be confounding factors exacerbating other challenges faced.

Establishments in rural areas were less likely than those in urban areas to have a staff training plan specifying in advance the level and type of training employees will need, to formally review training needs for individuals or across the business as a whole, or to have a dedicated budget for training expenditure. These differences were statistically significant controlling for region, sector and establishment size. There was general similarity between urban and rural areas in the types of training provider used, although establishments in rural areas were more likely to use FE colleges than establishments in urban areas.

Similar proportions of establishments in rural and urban areas sought external information and advice on skills and training issues. Establishments in rural areas were more likely than those in urban areas to mention a lack of relevant training courses locally and a lack of providers locally as reasons for not training. Again this underlines remoteness as a confounding factor exacerbating other challenges faced by employers in rural areas. It also shows that training behaviour, training planning, and access to training provision are affected by location.

## **5.2 Discussion of challenges and experiences in rural areas**

The greater emphasis on factors other than skills in hard-to-fill vacancies and the lower likelihood of formal plans for training (as outlined in section 5.1), the lesser value placed on academic and vocational qualifications (as outlined in section 5.3), and the greater orientation to sub-national and national markets in rural than in urban areas could be indicative of a situation of 'low skills equilibrium' (LSEq) in rural areas. The LSEq hypothesis, first proposed by Finegold and Soskice (1988), occurs where "employers face few skill shortages in a predominantly low skilled workforce, where there is little incentive to participate in education and training and raise qualification levels and aspirations" (Wilson et al., 2003: 4). It describes a self-reinforcing network of factors which interact to stifle improvements in skills levels.

Yet to conclude that rural areas are in a situation of LSEq appears too simplistic. As discussed further in section 5.3, it is not the case that establishments in rural areas are not undertaking training, rather it is the case that the approach adopted tends, on average, relative to urban areas, to be more informal than formal and reactive rather than proactive. The evidence suggests that training and skills development in rural areas may be more likely than average to be of a 'just-in-time' and 'just-in-place' variety than in urban areas.

It is clear that some factors other than skills pose particular challenges in rural areas – notably transport issues and remoteness – and these are more of an issue in some rural areas than in others. Specifically, it is likely that it is in peripheral rural areas, as opposed to those which are more accessible to large metropolitan areas, that these issues are most prevalent. Transport and remoteness underlie the more limited labour pool in rural than in urban areas. These limitations are evident both quantitatively in relation to the size of the potential workforce within commuting distance and qualitatively in terms of the range of specialist skills likely to be available within that pool. Moreover, employers in rural areas have a more limited training infrastructure on which they can draw than is the case for their urban counterparts.

A key question is how these limitations and constraints might be ameliorated or overcome. Mobile phones, laptops, the internet and emails mean that some tasks can be undertaken remotely, while internet-enabled crowdsourcing platforms enable businesses to purchase some services from way beyond the local area. Such developments offer rural businesses the opportunity to supplement the local skills pool with workers elsewhere. This in turn opens up the prospect for shifts in the sectoral mix of businesses based in rural areas. This is important as sectoral mix is one of the factors driving the skills and training profiles of different areas. Likewise developments in information and communications technologies offer workers the possibility to develop some skills by distance learning, rather than by attending courses at local education and training establishments. Of course, such possibilities depend on the necessary digital/ broadband infrastructure being in place, and limitations in this regard remain in some rural areas. However, it is likely that e-working and e-learning may be only a partial solution to barriers to jobs and training in rural areas; not all work and learning can take place remotely, since face-to-face interaction remains important in many circumstances for both performing job tasks and for learning.

The foregoing evidence and discussion suggests that skills are only ‘part of the mix’ (albeit an important one) and cannot be a sole ‘fix’ to challenges faced by rural establishments. But as skills are part of the mix it is important to note that solutions to skills challenges may be different in rural and urban areas.

### **5.3 Implications for the vision of employer ownership of skills**

Developing skills is an intrinsic part of securing growth and prosperity in the UK. It is central to the UK Commission's vision of competitive advantage for the UK economy, in which there is greater employer ownership of skills. In this vision there is less reliance on government to set the agenda and more emphasis on employers within their supply chains and business clusters working in partnership with employees, trade unions, colleges, training providers and other stakeholders to develop the skills that they need (UK Commission for Employment and Skills, 2011).

The analyses presented in previous sections suggest that there are likely to be particular challenges in embedding the employer ownership of skills agenda in rural areas because:

- The establishment profile of rural areas is more skewed towards small establishments than in urban areas and there are fewer large establishments to play a leading role. This suggests that in rural areas engagement of SMEs may be particularly challenging due to geographical distances hampering face-to-face networking opportunities.
- There are more sole establishments in rural areas than in urban areas. Coupled with the greater than average preponderance of small establishments in rural areas this means that engagement of employers may need be particularly resource intensive in rural areas. But that there may be greater opportunities in realising benefits of collaboration, and shared access to learning.
- Establishments in rural areas are less likely than those in urban areas to be oriented to international markets and so are less exposed to international competitive pressures which drive up the demand for skills.
- In aggregate, establishments in rural areas tend to train less and place less value on vocational and academic qualifications than establishments in urban areas. This may mean that, in general, employers in rural areas may be more sceptical about making a greater contribution to higher quality training in accordance with the employer ownership of skills vision. Conversely, it could represent a greater opportunity and catalyst for change.
- Approaches to training and skills development tend to be characterised by less planning and greater informality in rural than in urban areas. This may pose challenges for coming together with other employers/partners to work towards the employer ownership of skills vision.

But there is evidence that:

## Urban and rural differences in jobs, training, and skills

- In the face of hard-to-fill vacancies rural establishments are more likely to increase training than establishments in urban areas (with the caveat that they are also more likely to do nothing).
- Rural establishments are more likely than those in urban areas to undertake training without having planned to do so, so suggesting that there is a willingness to train when needs arise.

Finally, it is important to note that in rural areas, as in urban areas, there is considerable diversity. This means that there will be employers in rural areas, as in urban areas, who are keen to engage in and promote the employer ownership of skills vision, as well as others who will be resistant to doing so.

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## Appendix

This Appendix presents more detailed results from the multivariate analyses presented in the report and a note on methodology regarding the sampling frame used in analysis.

Variables were selected for multivariate analysis on the basis of the research questions set out as part of the original project brief, as well as, in part, their applicability for multivariate analysis. For example, while causes of hard-to-fill vacancies would have been interesting to analyse, the original survey examined these using a multiple-response question. Employers were asked to list any causes that were applicable to their hard-to-fill vacancies.<sup>1</sup> To analyse each cause would have required a separate model, and hence exceeded the time and space available for this paper.

### Sampling frame used

As part of the development work for the UK Commission's Employer Skills Survey 2013 (UKCESS 13), the survey's population no longer includes establishments with just one employee and no working proprietors. This change is due to the complexities around accurately sampling and weighting such establishments, as there is considerable 'blurring' in both commercial databases and official statistics between this group and sole traders. As a result of this, the UKCESS 13 survey population covers all establishments with a headcount of two or more (including establishments with two or more employees, those with two or more working proprietors, and those with at least one employee and one working proprietor). The change means the UKCESS 13 survey is sampled from the same population as the UK Commission's Employer Perspectives Survey. To allow direct time-series comparisons, the 2011 Employer Skills Survey has been re-weighted to match this population. This re-weighted dataset was used for the present study.

### Vacancies and skills gaps

Table A1 presents four logit regressions conducted for establishments with or without vacancies, hard-to-fill vacancies, skill shortage vacancies and skill gaps, respectively.

Focusing on statistically significant factors, the results show:

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<sup>1</sup> See Employer Skills Survey questionnaire, question C11A.

- There were no statistically significant differences between rural and urban areas in whether or not establishments have vacancies or skill gaps. Establishments in rural areas were more likely to have hard-to-fill vacancies and less likely to have skill shortage vacancies.
- Compared to the East Midlands as a base category in the analyses, there were some statistically significant differences by region. London and the South East were more likely to have vacancies, while the North East, West Midlands, Yorkshire and the Humber, Northern Ireland and Wales were less likely to have vacancies. The East of England, South East and Wales were more likely to have hard-to-fill vacancies. East of England, South East and Wales are more likely to have hard-to-fill vacancies. The South West, West Midlands and Yorkshire and the Humber were less likely to have skill shortage vacancies. All regions except London, Wales and Northern Ireland were statistically significantly more likely to have skill gaps.
- There were some statistically significant impacts on the probability of having vacancies, hard-to-fill vacancies and skill gaps, but not skill shortage vacancies. Compared to other sectors, vacancies and skill gaps were particularly likely to occur in community, social and personal service activities.
- Size of establishment was a significant factor. Larger establishments were more likely to have vacancies and skill shortage vacancies. However, this was not the case for hard-to-fill vacancies as long as the establishment had more than 4 employees.
- Profit seeking establishments were more likely to have hard-to-fill vacancies, skill shortages and skill gaps compared to other types of establishments.
- Establishments oriented to local markets were significantly less likely to have vacancies and skill shortages compared to those with other market orientations.
- The occupational structure of employment does not emerge as a very significant factor.
- Having higher shares of employees with degrees was associated with a higher probability of having vacancies and a smaller probability of having skill gaps

Table A2 presents the results of regressing the density of vacancies, hard-to-fill vacancies, skill shortage vacancies and skill gaps (defined as a proportion of all employment) on the same independent variables used in Table A1 on the entire sample of establishments, including those with no vacancies/ skill gaps.

Focusing on statistically significant factors, the results show:

## Urban and rural differences in jobs, training, and skills

- Rural urban differences were significant for hard-to-fill vacancies only with rural areas tending to have higher densities of hard-to-fill vacancies than urban areas.
- Regional differences were most apparent for skill gaps, with the East Midlands having a lower density of skill gaps than most other regions.
- Community, social and personal service activities tended to have higher densities of vacancies, hard-to-fill vacancies and skill gaps than other sectors.
- Size of the establishment was a significant factor. As the number of employees increased, the density of vacancies, hard-to-fill vacancies and skill shortages decreased. Compared with establishments with 250 or more employees, the density of skill gaps was smaller for establishments with 1 to 9 employees, but no significant differences were found for establishments with more than 9 employees.
- Being a profit seeking establishment was associated with high vacancy, skill shortage vacancy and skill gap densities compared with other types of establishment.
- Market orientation is of limited significance but compared with establishments whose products were mainly sold locally, establishment with regional, national or international orientations tended to have higher vacancy densities.

In Table A3, analyses are restricted only to those establishments reporting vacancies, hard-to-fill vacancies, skill shortage vacancies and skill gaps, respectively. Results are presented for the same regressions as in Table A2, but for the constrained sample. The reason for constraining the sample is to eliminate statistical noise arising from inclusion of those establishments not reporting the various types of vacancies and skill gaps.

- There were no statistically significant differences between rural and urban areas on any of the density measures.
- There were very few statistically significant regional differences.
- There were fewer statistically significant sectoral differences for the constrained sample compared with the full sample.
- An increase in the size of establishments was associated with consistent decreases in all four density measures, with establishments having 250 or more employees showing the lowest densities.
- Mainly profit seeking establishments had higher vacancy, hard-to-fill vacancy, skill shortage vacancy and skill gap densities than non-profit seeking establishments.

- Market orientation was not significantly related to vacancy and skill gap densities, but establishments whose products were sold within the UK and internationally tend to have lower hard-to-fill vacancy and skill shortage vacancy densities than those establishment oriented to local markets.
- The higher the share of employment in an occupation the lower was the vacancy density but the higher the skill gap density.

### **Use of external training providers**

Table A4 presents logit regressions conducted for four types of external training providers: commercial organisations, non-profit making organisations, FE Colleges, and Universities or other HEIs.

Focusing on the most statistically significant factors, the results show:

- Establishments in London were less likely to use FE Colleges than those in the East Midlands (the base case) while those in Wales and Scotland were more likely than those in the East Midlands to use Universities or other HEIs.
- The use of external training sources is different across sectors but the probability of using various sources does not show any consistent trend.
- Larger establishments are most likely to use all types of external training providers than small establishments. Interactions between urban and rural location and size of establishment were tested, but since their coefficients were not significant they were excluded from the models.

### **Approaches to staff development**

Table A5 presents logit regressions for approaches to staff development, specifically whether establishments: (1) formally review of the training needs of individuals; (2) conduct formal training needs analysis across the organisation as a whole; (3) have a staff training plan that specifies in advance the level and types of training that employees will need; (4) have a dedicated budget for training expenditure; and (5) conduct evaluations of the costs and benefits of training.

Focusing on the most statistically significant factors, the results showed that:

- Compared with establishments in urban areas, establishments in rural areas were less likely to formally review the training needs of individuals, conduct any formal training needs analysis across the organisation as a whole, have a staff training plan that specifies in advance the level and type of training employees will need and have a dedicated budget for training expenditure compared to companies in urban areas..
- There were few statistically significant differences by region. Establishments in London were more likely to formally review the training needs of individuals and have a staff training plan compared with establishments in the East Midlands. Establishments in Scotland were significantly more likely than those in the East Midlands to conduct formal training needs analysis across the organisation as a whole.
- Establishments in the public administration, education, and health and social work sectors were especially likely to use all of these formal approaches to staff development and training.
- Size of establishments is a significant factor, with the largest establishments being most likely to use all of these formal approaches to staff development and training.

**Table A1**      **Logit regressions of whether have vacancies, hard-to-fill vacancies, skill shortages and skill gaps**

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Odds ratio	Std. Err.	Odds ratio	Std. Err.	Odds ratio	Std. Err.	Odds ratio	Std. Err.
Rural (Default: Urban)	0.989	0.040	1.238***	0.089	0.775**	0.094	1.041	0.039
REGION (Default: East Midlands):								
East of England	1.095	0.073	1.439***	0.188	0.826	0.204	1.186***	0.070
London	1.131*	0.073	1.108	0.143	1.409	0.367	1.080	0.065
North East	0.832***	0.056	0.958	0.134	0.725	0.190	1.111*	0.067
North West	0.937	0.063	1.145	0.155	0.648	0.171	1.183***	0.070
South East	1.184***	0.072	1.419***	0.172	0.886	0.207	1.312***	0.073
South West	0.902	0.060	0.992	0.139	0.542**	0.146	1.379***	0.085
West Midlands	0.827***	0.053	1.017	0.135	0.609**	0.147	1.252***	0.072
Yorkshire and The Humber	0.792***	0.055	1.091	0.157	0.643*	0.170	1.244***	0.079
Northern Ireland	0.655***	0.065	1.316	0.252	0.815	0.289	0.820*	0.086
Scotland	0.881	0.097	1.265	0.251	0.829	0.270	1.477***	0.142
Wales	0.840**	0.063	1.586***	0.227	0.786	0.211	1.066	0.073
SECTOR (Default: Community, social and personal service activities):								
Agriculture, hunting, forestry and fishing	0.671**	0.108	0.891	0.289	1.021	0.524	0.915	0.128
Mining and quarrying	0.957	0.304	1.131	0.580	2.811	3.059	0.488***	0.134
Manufacturing	0.701***	0.057	0.921	0.138	1.166	0.327	0.905	0.065
Electricity, gas and water supply	0.617***	0.065	0.597**	0.123	1.234	0.515	0.758***	0.072
Construction	0.475***	0.042	0.683**	0.114	1.130	0.336	0.831**	0.061
Wholesale and retail trade	0.558***	0.044	0.703**	0.103	0.991	0.257	0.878**	0.056
Hotels and restaurants	0.972	0.080	1.084	0.174	1.079	0.296	1.055	0.076
Transport, storage and communications	0.712***	0.055	0.790	0.113	1.219	0.329	0.828**	0.058
Financial services	0.710***	0.070	0.531***	0.114	2.247*	1.079	0.947	0.085
Real estate, renting and business activities	0.751***	0.053	0.712**	0.094	1.642**	0.412	0.839***	0.052

**Table A1**      **Logit regressions of whether have vacancies, hard-to-fill vacancies, skill shortages and skill gaps (continued)**

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Odds ratio	Std. Err.	Odds ratio	Std. Err.	Odds ratio	Std. Err.	Odds ratio	Std. Err.
Public admin. and defence, compulsory social security	0.707***	0.074	0.982	0.178	1.090	0.383	0.912	0.086
Education	0.713***	0.062	0.699**	0.113	1.381	0.410	0.869*	0.071
Health and social work	0.739***	0.053	0.820	0.104	0.649*	0.155	0.885*	0.063
SIZE of establishment (Default: 250+):								
1-4	0.068***	0.007	1.447**	0.238	0.336***	0.110	0.117***	0.011
5-9	0.100***	0.009	1.260	0.178	0.488**	0.147	0.247***	0.022
10-24	0.164***	0.014	1.037	0.136	0.486**	0.140	0.396***	0.033
25-49	0.262***	0.022	0.973	0.129	0.499**	0.143	0.576***	0.048
50-99	0.387***	0.033	0.922	0.122	0.514**	0.150	0.717***	0.061
100-249	0.696***	0.061	0.955	0.129	0.627	0.190	0.926	0.082
Type of establishment (Default: MAINLY seeking to make a profit):								
A charity or voluntary sector organisation	0.893*	0.060	0.502***	0.062	0.551**	0.131	0.882**	0.051
A local-government financed body	0.931	0.078	0.392***	0.081	0.346***	0.106	0.675***	0.057
A central government financed body	0.854	0.085	0.474***	0.081	0.513**	0.155	0.713***	0.062
Other	0.962	0.203	0.539	0.206	3.112	2.591	0.989	0.198
Percent of employees - Managers	1.055*	0.034	0.963	0.025	1.006	0.004	1.046	0.034
Percent of employees - Professionals	1.060*	0.034	0.967	0.025	1.007	0.005	1.052	0.034
Percent of employees - Associate professionals	1.062*	0.035	0.967	0.025	1.006	0.005	1.056*	0.035
Percent of employees - Administrative/clerical staff	1.058*	0.034	0.963	0.025	1.010**	0.005	1.051	0.034
Percent of employees - Skilled trades	1.058*	0.034	0.973	0.026	1.008**	0.004	1.058*	0.035

**Table A1** Logit regressions of whether have vacancies, hard-to-fill vacancies, skill shortages and skill gaps (continued)

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Odds ratio	Std. Err.	Odds ratio	Std. Err.	Odds ratio	Std. Err.	Odds ratio	Std. Err.
Percent of employees - Caring, leisure and other services staff	1.063*	0.035	0.965	0.025	1.008*	0.004	1.053	0.034
Percent of employees - Sales/customer service staff	1.061*	0.034	0.959	0.025	1.004	0.003	1.059*	0.035
Percent of employees - Machine operatives	1.057*	0.034	0.969	0.025	1.015***	0.005	1.053	0.034
Percent of employees - Elementary staff	1.058*	0.034	0.962	0.025	1.000	(omitted)	1.056*	0.035
Establishment is / is part of an SME (Default: Not)	0.693***	0.026	1.408***	0.098	1.322**	0.182	0.841***	0.028
Geographical area in which establishment's goods / services are primarily sold (Default: Locally – within an individual town or local area):								
Regionally – within a specific area	1.220***	0.061	1.021	0.096	1.560**	0.270	1.072	0.047
Nationally – within	1.177***	0.066	0.989	0.100	1.782***	0.383	0.933	0.045
Within the UK	1.174***	0.057	0.974	0.091	1.764***	0.314	0.966	0.045
Internationally – outside the UK	1.349***	0.077	1.111	0.113	1.672***	0.320	1.000	0.060
percentage of employees with degrees	1.005***	0.001	1.000	0.001	1.004	0.002	0.998***	0.001
Constant	0.008	0.025	16.068	42.193	2.891	1.322	0.006**	0.021
Goodness of fit (F-adjusted mean residual test: p value)	0.764		0.751		0.730		0.009	

Note: weighted regressions; \*\*\* significance at 1% level, \*\* significance at 5% level, \* significance at 10% level

Base: All establishments.

Source: UK Commission's Employer Skills Survey 2011: UK Results



**Table A2** Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, full sample

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Rural (Default: Urban)	-0.002	0.002	0.013**	0.006	-0.003	0.010	0.001	0.002
REGION (Default: East Midlands):								
East of England	0.001	0.003	0.015	0.010	-0.017	0.018	0.007***	0.003
London	0.007**	0.003	0.009	0.009	0.000	0.018	0.008***	0.003
North East	-0.005*	0.003	0.002	0.009	-0.010	0.018	0.004	0.003
North West	-0.002	0.003	0.009	0.010	-0.028	0.019	0.007**	0.003
South East	0.004	0.003	0.019**	0.009	-0.016	0.016	0.009***	0.002
South West	-0.004	0.003	0.014	0.011	-0.024	0.022	0.013***	0.003
West Midlands	-0.005*	0.003	0.017*	0.010	0.002	0.020	0.011***	0.003
Yorkshire and The Humber	-0.004	0.003	0.031**	0.012	0.012	0.024	0.009***	0.003
Northern Ireland	-0.009**	0.003	0.040**	0.017	0.015	0.028	-0.004	0.004
Scotland	-0.008*	0.004	-0.001	0.012	-0.033*	0.019	0.016***	0.005
Wales	-0.003	0.004	0.035***	0.013	-0.003	0.024	0.006*	0.003
SECTOR (Default: Community, social and personal service activities):								
Agriculture, hunting, forestry and fishing	-0.020***	0.006	-0.017	0.030	-0.034	0.047	-0.002	0.006
Mining and quarrying	-0.005	0.013	-0.001	0.024	-0.002	0.036	-0.038***	0.005
Manufacturing	-0.018***	0.004	-0.026*	0.014	-0.021	0.022	-0.007**	0.003
Electricity, gas and water supply	-0.019***	0.005	-0.043***	0.014	-0.029	0.021	-0.014***	0.004
Construction	-0.025***	0.004	-0.032*	0.017	-0.013	0.026	-0.007**	0.003
Wholesale and retail trade	-0.025***	0.004	-0.040***	0.013	-0.033	0.023	-0.007**	0.003
Hotels and restaurants	-0.008*	0.005	-0.011	0.013	-0.035	0.024	0.006	0.004
Transport, storage and communications	-0.016***	0.004	-0.027**	0.013	-0.021	0.022	-0.006**	0.003
Financial services	-0.021***	0.005	-0.049***	0.013	-0.027	0.025	-0.009**	0.004
Real estate, renting and business activities	-0.014***	0.004	-0.039***	0.012	-0.007	0.022	-0.009***	0.003
Public admin. and defence, compulsory social security	-0.001	0.007	0.002	0.014	0.026	0.028	-0.005	0.004

**Table A2** Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, full sample (continued)

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Education	-0.015 <sup>***</sup>	0.006	-0.021 <sup>*</sup>	0.012	0.008	0.022	-0.007	0.004
Health and social work	-0.016 <sup>**</sup>	0.005	-0.032 <sup>***</sup>	0.010	-0.022	0.020	-0.006 <sup>*</sup>	0.004
SIZE of establishment (Default: 250+):								
1-4	0.037 <sup>***</sup>	0.003	0.125 <sup>***</sup>	0.010	0.256 <sup>***</sup>	0.018	-0.020 <sup>***</sup>	0.005
5-9	0.025 <sup>***</sup>	0.002	0.040 <sup>***</sup>	0.006	0.128 <sup>***</sup>	0.012	-0.011 <sup>**</sup>	0.005
10-24	0.019 <sup>***</sup>	0.002	0.009 <sup>*</sup>	0.005	0.061 <sup>***</sup>	0.010	-0.005	0.004
25-49	0.015 <sup>**</sup>	0.002	0.001	0.004	0.045 <sup>***</sup>	0.009	-0.006	0.004
50-99	0.011 <sup>***</sup>	0.002	-0.005	0.003	0.020 <sup>**</sup>	0.008	-0.003	0.005
100-249	0.009 <sup>***</sup>	0.002	-0.004	0.003	0.008	0.007	0.001	0.005
Type of establishment (Default: MAINLY seeking to make a profit):								
A charity or voluntary sector organisation	-0.003	0.003	-0.034 <sup>***</sup>	0.009	-0.042 <sup>*</sup>	0.022	-0.002	0.003
A local-government financed body	-0.001	0.005	-0.036 <sup>***</sup>	0.010	-0.070 <sup>***</sup>	0.026	-0.019 <sup>***</sup>	0.004
A central government financed body	-0.007	0.006	-0.037 <sup>***</sup>	0.009	-0.046 <sup>***</sup>	0.017	-0.017 <sup>***</sup>	0.004
Other	-0.009	0.008	-0.038 <sup>**</sup>	0.014	-0.003	0.022	0.001	0.010
Percent of employees - Managers	0.002 <sup>**</sup>	0.001	-0.002 <sup>***</sup>	0.000	0.001 <sup>***</sup>	0.000	0.006 <sup>*</sup>	0.003
Percent of employees - Professionals	0.002 <sup>**</sup>	0.001	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.006 <sup>*</sup>	0.003
Percent of employees - Associate professionals	0.002 <sup>**</sup>	0.001	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.006 <sup>*</sup>	0.003
Percent of employees - Administrative/clerical staff	0.002 <sup>**</sup>	0.001	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.006 <sup>*</sup>	0.003
Percent of employees - Skilled trades	0.002 <sup>**</sup>	0.001	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.006 <sup>*</sup>	0.003
Percent of employees - Caring, leisure and other services staff	0.002 <sup>**</sup>	0.001	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.00	0.003

**Table A2** Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, full sample (continued)

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Percent of employees - Sales/customer service staff	0.002**	0.001	-0.002***	0.000	0.000	0.000	0.006*	0.003
Percent of employees - Machine operatives	0.002**	0.001	-0.002***	0.000	0.001*	0.000	0.006*	0.003
Percent of employees - Elementary staff	0.002**	0.001	-0.002***	0.000	0.000	(omitted)	0.006*	0.003
Establishment is / is part of an SME (Default: Not)	-0.013***	0.002	0.013***	0.005	-0.007	0.011	-0.007***	0.002
Geographical area in which establishment's goods / services are primarily sold Default: Locally – within an individual town or local area):								
Regionally – within a specific area	0.007***	0.002	0.004	0.008	0.012	0.015	0.002	0.002
Nationally – within	0.005*	0.003	-0.003	0.008	0.020	0.013	-0.002	0.002
Within the UK	0.003	0.002	-0.008	0.007	0.013	0.012	0.000	0.002
Internationally – outside the UK	0.006**	0.003	-0.007	0.007	-0.010	0.012	0.001	0.003
percentage of employees with degrees	0.000***	0.000	0.000	0.000	0.000*	0.000	0.000***	0.000
Constant	-0.188**	0.095	0.241***	0.045	-0.004	0.029	-0.541	0.338
Goodness of fit (R squared)	0.016		0.188		0.370		0.022	

Note: weighted regressions; \*\*\* significance at 1% level, \*\* significance at 5% level, \* significance at 10% level

Base: All establishments.

Source: UK Commission's Employer Skills Survey 2011: UK Results

**Table A3 Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, sub sample for establishments with certain types of vacancies/ skill gaps**

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Rural (Default: Urban)	-0.001	0.006	0.010	0.009	0.000	0.009	-0.004	0.005
REGION (Default: East Midlands):								
East of England	-0.007	0.010	0.008	0.016	-0.004	0.016	0.013*	0.007
London	0.010	0.010	0.018	0.016	-0.008	0.015	0.028***	0.008
North East	0.001	0.010	0.018	0.017	0.005	0.015	0.005	0.008
North West	-0.002	0.011	0.002	0.018	-0.010	0.017	0.008	0.007
South East	0.004	0.010	0.015	0.015	-0.011	0.014	0.001	0.007
South West	-0.006	0.012	0.034*	0.019	0.006	0.020	0.011	0.008
West Midlands	0.000	0.010	0.037*	0.019	0.022	0.020	0.019**	0.008
Yorkshire and The Humber	0.006	0.011	0.054***	0.021	0.045	0.021	0.007	0.007
Northern Ireland	0.002	0.015	0.058***	0.027	0.056	0.023	0.014	0.011
Scotland	-0.021	0.014	-0.001	0.017	-0.033**	0.015	0.011	0.012
Wales	0.005	0.013	0.036	0.022	0.013	0.022	0.020**	0.010
SECTOR (Default: Community, social and personal service activities):								
Agriculture, hunting, forestry and fishing	-0.039	0.030	-0.073*	0.039	-0.016	0.036	0.008	0.021
Mining and quarrying	0.032	0.046	-0.022	0.039	-0.039	0.050	-0.089***	0.016
Manufacturing	-0.036***	0.012	-0.034*	0.019	-0.024	0.019	-0.016*	0.008
Electricity, gas and water supply	-0.011	0.014	-0.046**	0.021	-0.044**	0.020	-0.024**	0.010
Construction	-0.020	0.015	-0.038	0.024	-0.022	0.024	-0.011	0.010
Wholesale and retail trade	-0.051***	0.012	-0.049**	0.020	-0.039*	0.021	-0.018**	0.009
Hotels and restaurants	-0.010	0.014	-0.021	0.018	-0.038*	0.020	0.017*	0.010
Transport, storage and communications	-0.022*	0.013	-0.045**	0.018	-0.032	0.020	-0.010	0.009
Financial services	-0.052***	0.013	-0.085***	0.022	-0.050**	0.023	-0.039***	0.010
Real estate, renting and business activities	-0.022*	0.012	-0.050***	0.019	-0.032	0.020	-0.016*	0.009

**Table A3** Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, sub sample for establishments with certain types of vacancies/ skill gaps (continued)

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Public admin. and defence, compulsory social security	0.037**	0.016	0.016	0.028	0.021	0.029	0.000	0.011
Education	-0.022	0.013	-0.048**	0.019	-0.029	0.020	-0.011	0.013
Health and social work	-0.022*	0.011	-0.056***	0.018	-0.032*	0.017	-0.013	0.008
SIZE of establishment (Default: 250+):								
1-4	0.401***	0.011	0.291***	0.016	0.338***	0.018	0.242***	0.011
5-9	0.180***	0.007	0.113***	0.011	0.155***	0.012	0.108***	0.009
10-24	0.089***	0.006	0.045***	0.009	0.069***	0.010	0.050***	0.008
25-49	0.048***	0.005	0.029***	0.008	0.051***	0.010	0.009	0.008
50-99	0.027***	0.004	0.009	0.007	0.018**	0.009	0.001	0.008
100-249	0.011***	0.004	0.000	0.006	0.007	0.007	-0.004	0.008
Type of establishment (Default: MAINLY seeking to make a profit):								
A charity or voluntary sector organisation	0.002	0.010	-0.030*	0.017	0.005	0.019	0.022**	0.008
A local-government financed body	-0.008	0.011	-0.030*	0.018	-0.036*	0.020	-0.025**	0.011
A central government financed body	-0.026**	0.012	-0.040***	0.014	-0.042***	0.015	-0.025***	0.009
Other	-0.027***	0.010	-0.040	0.034	-0.027	0.019	0.003	0.029
Percent of employees - Managers	-0.001***	0.000	0.001***	0.000	0.001***	0.000	0.004**	0.002
Percent of employees - Professionals	-0.003***	0.000	0.000	0.000	0.000	0.000	0.003*	0.002
Percent of employees - Associate professionals	-0.003***	0.000	0.000	0.000	0.000	0.000	0.003*	0.002
Percent of employees - Administrative/clerical staff	-0.003***	0.000	0.000	0.000	0.000	0.000	0.003*	0.002
Percent of employees - Skilled trades	-0.003***	0.000	0.000	0.000	0.000	0.000	0.003*	0.002

**Table A3 Linear regressions of densities of vacancies, hard-to-fill vacancies, skill shortages and skill gaps, sub sample for establishments with certain types of vacancies/ skill gaps (continued)**

	vacancy		hard-to-fill vac		skill shortage vac		skill gap	
	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.	Coef.	Std. Err.
Percent of employees - Caring, leisure and other services staff	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.000	0.000	0.003 <sup>*</sup>	0.002
Percent of employees - Sales/customer service staff	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.000	0.000	0.004 <sup>*</sup>	0.002
Percent of employees - Machine operatives	-0.002 <sup>***</sup>	0.000	0.000	0.000	0.000	0.000	0.003 <sup>*</sup>	0.002
Percent of employees - Elementary staff	-0.003 <sup>***</sup>	0.000	0.000	(omitted)	0.000	(omitted)	0.004 <sup>**</sup>	0.002
Establishment is / is part of an SME (Default: Not)	-0.003	0.005	0.005	0.009	-0.013	0.010	0.006	0.004
Geographical area in which establishment's goods / services are primarily sold (Default: Locally – within an individual town or local area):								
Regionally – within a specific area	-0.005	0.008	0.005	0.014	-0.015	0.014	-0.003	0.005
Nationally – within	0.004	0.009	0.010	0.011	-0.017	0.011	0.002	0.006
Within the UK	-0.002	0.007	-0.022 <sup>**</sup>	0.011	-0.018	0.011	0.003	0.006
Internationally – outside the UK	-0.010	0.008	-0.028 <sup>**</sup>	0.011	-0.035 <sup>***</sup>	0.010	-0.004	0.007
percentage of employees with degrees	0.000	0.000	0.000	0.000	0.000 <sup>**</sup>	0.000	0.000 <sup>**</sup>	0.000
Constant	0.289 <sup>***</sup>	0.047	0.018	0.023	0.038	0.025	-0.198	0.184
Goodness of fit (R squared)	0.550		0.476		0.618		0.281	

Note: weighted regressions; \*\*\* significance at 1% level, \*\* significance at 5% level, \* significance at 10% level

Base: Establishments with vacancies, hard-to-fill vacancies, skill shortage vacancies, skill gaps.

Source: UK Commission's Employer Skills Survey 2011: UK Results

**Table A4** Logit regressions for external training sources used

	Commercial organisations		Non-profit making organisations		FE colleges		Universities or other HE institutions	
	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.
Rural (Default: Urban)	1.066	0.091	0.947	0.079	1.159*	0.092	1.043	0.106
REGION (Default: East Midlands):								
East of England	1.060	0.179	0.830	0.143	0.905	0.149	0.924	0.193
London	1.166	0.204	1.077	0.189	0.519***	0.094	0.978	0.203
North East	0.986	0.219	0.961	0.225	1.335	0.292	1.411	0.365
North West	0.912	0.159	0.757	0.134	1.267	0.210	1.071	0.215
South East	1.328*	0.216	1.184	0.191	0.838	0.128	0.890	0.165
South West	1.264	0.221	1.006	0.177	1.222	0.197	0.910	0.181
West Midlands	1.075	0.200	0.895	0.168	1.100	0.194	0.878	0.199
Yorkshire and The Humber	1.439*	0.278	1.095	0.205	0.825	0.143	1.269	0.258
Northern Ireland	1.081	0.193	1.298	0.228	0.854	0.149	1.328	0.270
Scotland	1.046	0.163	1.340*	0.208	1.104	0.162	1.441**	0.252
Wales	0.993	0.157	1.108	0.177	1.276	0.190	1.483**	0.268
SECTOR (Default: Community, social and personal service activities):								
Agriculture, hunting, forestry and fishing	2.288**	0.751	0.232***	0.082	0.925	0.265	1.048	0.443
Mining and quarrying	8.619**	7.260	1.028	0.712	0.717	0.334	1.158	0.671
Manufacturing	1.707***	0.307	0.375***	0.069	0.660***	0.101	0.792	0.172
Electricity, gas and water supply	9.733***	4.109	0.245***	0.079	0.403***	0.105	0.673	0.258
Construction	2.419***	0.464	0.225**	0.043	0.965	0.166	0.523**	0.136
Wholesale and retail trade	1.234	0.177	0.274***	0.040	0.403***	0.060	0.471***	0.106
Hotels and restaurants	1.002	0.164	0.420***	0.073	0.575***	0.097	0.375***	0.103
Transport, storage and communications	1.540**	0.310	0.306***	0.066	0.583***	0.117	0.560**	0.161
Financial services	1.558	0.535	0.274***	0.099	0.288***	0.094	0.908	0.403
Real estate, renting and business activities	1.927***	0.280	0.485**	0.067	0.617***	0.086	1.204	0.238

**Table A4** Logit regressions for external training sources used (continued)

	Commercial organisations		Non-profit making organisations		FE colleges		Universities or other HE institutions	
	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.
Public admin. and defence, compulsory social security	0.675**	0.131	2.091***	0.390	0.833	0.158	1.903***	0.459
Education	0.882	0.140	1.308*	0.192	1.040	0.158	2.918***	0.584
Health and social work	0.885	0.122	1.718**	0.223	1.044	0.137	1.949**	0.358
SIZE of establishment (Default: 250+):								
1-4	0.287***	0.044	0.588**	0.078	0.134***	0.017	0.072***	0.011
5-9	0.354***	0.053	0.625***	0.076	0.171***	0.020	0.109***	0.014
10-24	0.463***	0.068	0.621**	0.073	0.229***	0.025	0.118***	0.014
25-49	0.626***	0.097	0.526***	0.066	0.278***	0.032	0.182***	0.023
50-249	0.737**	0.112	0.629***	0.075	0.425***	0.046	0.306***	0.035
Constant	5.055***	1.089	0.878	0.173	2.363***	0.448	1.017	0.240
Goodness of fit (F-adjusted mean residual test: p value)	0.743		0.801		0.934		0.342	

Note: weighted regressions; \*\*\* significance at 1% level, \*\* significance at 5% level, \* significance at 10% level

Base: Base: All establishments who used external training.

Source: UK Commission's Employer Perspectives Survey 2012: UK Results



**Table A5** Logit regressions for approach of establishments to staff development

	Formally reviews the training needs of individuals		Conducts any formal training needs analysis across the organisation as a whole		Has a staff training plan that specifies in advance the level and type of training employees will need		Has a dedicated budget for training expenditure		Conducts evaluations of the costs and benefits of training	
	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.
Rural (Default: Urban)	0.739 <sup>***</sup>	0.047	0.792 <sup>***</sup>	0.046	0.705 <sup>***</sup>	0.040	0.759 <sup>***</sup>	0.047	0.931	0.054
REGION (Default: East Midlands):										
East of England	0.802	0.108	1.068	0.129	0.856	0.105	0.841	0.108	0.924	0.113
London	0.740 <sup>**</sup>	0.100	0.823	0.098	0.693 <sup>***</sup>	0.085	0.979	0.126	0.957	0.117
North East	0.777	0.136	1.279	0.206	0.967	0.153	0.674 <sup>**</sup>	0.118	1.072	0.169
North West	0.762 <sup>**</sup>	0.104	0.921	0.113	0.817	0.102	0.737 <sup>**</sup>	0.098	0.868	0.107
South East	0.862	0.108	1.052	0.118	0.791 <sup>**</sup>	0.090	0.893	0.108	0.997	0.113
South West	0.813	0.109	1.123	0.136	0.790 <sup>*</sup>	0.097	0.957	0.124	0.975	0.120
West Midlands	0.820	0.118	1.061	0.136	0.929	0.123	0.860	0.120	0.937	0.122
Yorkshire and The Humber	0.775 <sup>*</sup>	0.110	0.953	0.121	0.884	0.115	0.791 <sup>*</sup>	0.110	0.973	0.125
Northern Ireland	0.865	0.126	1.179	0.153	0.944	0.124	0.870	0.125	1.027	0.137
Scotland	1.015	0.126	1.220 <sup>***</sup>	0.134	0.987	0.110	0.992	0.118	1.177	0.131
Wales	0.944	0.118	1.101	0.123	0.988	0.113	0.944	0.115	1.097	0.125
SECTOR (Default: Community, social and personal service activities):										
Agriculture, hunting, forestry and fishing	0.407 <sup>***</sup>	0.071	0.470 <sup>***</sup>	0.081	0.468 <sup>***</sup>	0.092	0.291 <sup>***</sup>	0.074	0.453 <sup>***</sup>	0.088
Mining and quarrying	0.953	0.524	1.756	1.014	2.348	1.363	1.054	0.599	1.404	0.739
Manufacturing	0.524 <sup>***</sup>	0.068	0.598 <sup>***</sup>	0.072	0.442 <sup>***</sup>	0.053	0.321 <sup>***</sup>	0.041	0.563 <sup>***</sup>	0.067
Electricity, gas and water supply	1.181	0.233	1.105	0.203	1.123	0.201	0.752	0.150	0.930	0.168
Construction	0.738 <sup>**</sup>	0.093	0.695 <sup>***</sup>	0.083	0.646 <sup>***</sup>	0.078	0.393 <sup>***</sup>	0.054	0.684 <sup>***</sup>	0.083
Wholesale and retail trade	0.747 <sup>***</sup>	0.076	0.790 <sup>**</sup>	0.076	0.856 <sup>*</sup>	0.080	0.460 <sup>***</sup>	0.047	0.553 <sup>***</sup>	0.053
Hotels and restaurants	0.664 <sup>***</sup>	0.079	0.811 <sup>*</sup>	0.091	0.936	0.103	0.455 <sup>***</sup>	0.053	0.714 <sup>***</sup>	0.078

**Table A5** Logit regressions for approach of establishments to staff development (continued)

	Formally reviews the training needs of individuals		Conducts any formal training needs analysis across the organisation as a whole		Has a staff training plan that specifies in advance the level and type of training employees will need		Has a dedicated budget for training expenditure		Conducts evaluations of the costs and benefits of training	
	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.	Odds Ratio	Std. Err.
Transport, storage and communications	0.751**	0.103	0.729**	0.094	0.590***	0.077	0.456***	0.063	0.813	0.105
Financial services	2.589***	0.804	2.055***	0.522	2.131***	0.529	1.086	0.247	0.683*	0.144
Real estate, renting and business activities	1.035	0.111	0.841*	0.084	0.753***	0.074	0.753***	0.077	1.016	0.099
Public admin. and defence, compulsory social security	4.082***	1.144	1.715***	0.328	1.658***	0.306	5.266***	1.040	2.693***	0.474
Education	2.651***	0.540	1.422**	0.202	2.056***	0.292	1.555***	0.197	2.171***	0.278
Health and social work	3.450***	0.621	1.845***	0.231	2.308***	0.282	1.613***	0.181	1.727***	0.185
SIZE of establishment (Default: 250+):										
1-4	0.110***	0.019	0.189***	0.024	0.102***	0.013	0.040**	0.006	0.094***	0.012
5-9	0.213***	0.038	0.312***	0.039	0.192***	0.025	0.067***	0.009	0.130***	0.016
10-24	0.404***	0.072	0.538***	0.068	0.374***	0.048	0.118**	0.016	0.209***	0.025
25-49	0.719*	0.138	0.754**	0.101	0.551***	0.076	0.172***	0.024	0.262***	0.033
50-249	0.974	0.191	0.902	0.122	0.731***	0.101	0.319***	0.044	0.393***	0.050
Constant	16.887*	3.681	5.715***	0.968	7.612***	1.324	9.970***	1.800	4.810***	0.805
Goodness of fit (F-adjusted mean residual test: p value)	0.003		0.762		0.545		0.988		0.355	

Note: weighted regressions; \*\*\* significance at 1% level, \*\* significance at 5% level, \* significance at 10% level

Base: Base: All establishments.

Source: UK Commission's Employer Perspectives Survey 2012: UK Results

## Glossary

This glossary gives a short guide to the key terms used in this report:

<b>Establishment (also referred to as workplace, business, employer, site)</b>	A single location of an organisation with people working at it.
<b>Vacancy density</b>	The number of vacancies as a proportion of all employment.
<b>Hard-to-fill vacancies</b>	Vacancies which are proving difficult to fill, as defined by the establishment (from question: “Are any of these vacancies proving hard to fill?”).
<b>Hard-to-fill vacancy density</b>	The number of hard-to-fill vacancies as a proportion of all vacancies.
<b>Skill-shortage vacancies (SSVs)</b>	Vacancies which are proving difficult to fill due to the establishment not being able to find applicants with the appropriate skills, qualifications or experience.
<b>Skill-shortage vacancy density</b>	The number of skill-shortage vacancies as a proportion of all vacancies
<b>Skills gaps</b>	A “skills gap” is where an employee is not fully proficient, i.e. is not able to do their job to the required level.

<b>Skills gap density</b>	The number of staff reported as being not fully proficient as a proportion of all employment.
<b>Under-use of skills</b>	An employee is “under-used” if the employer reports they have both more skills and more qualifications than are required to perform the job role they are currently in.
<b>Product Market Strategy (PMS)</b>	<p>An establishment’s PMS score is worked out from the combined answers of four questions:</p> <ul style="list-style-type: none"><li>• How customised their output is;</li><li>• How price dependent their offering is;</li><li>• How innovative the establishment is;</li><li>• Whether outputs are premium or basic quality.</li></ul> <p>A high PMS score would indicate outputs are customised, not price-dependent, premium quality and the establishment often leads the way in product development.</p>
<b>Level 4 qualifications</b>	Qualifications at or above Level 4 on the National Qualifications Framework. Includes HNDs, HNCs, foundation degrees and degrees, postgraduate degrees, and some vocational and professional qualifications.
<b>Level 3 qualifications</b>	Qualifications at Level 3 on the National Qualifications Framework, such as A / AS Levels, Scottish Highers, NVQ Level 3, SVQ Level 3, Advanced level Welsh Baccalaureate, OND / ONC / BTEC nationals or equivalent level qualifications.

*Sector and occupational definitions follow those of the original UK Employer Skills Survey 2011. These are detailed in the Technical Report and appendices to the UK Report, both available from [www.ukces.org.uk](http://www.ukces.org.uk).*

Evidence Reports present detailed findings of the research produced by the UK Commission for Employment and Skills. The reports contribute to the accumulation of knowledge and intelligence on skills and employment issues through the review of existing evidence or through primary research.

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