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# Skills Conditionality: Preparation and Training for Entry-Level Jobs

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# **Skills Conditionality: Preparation and Training for Entry-Level Jobs**

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## **Abstract**

There are significant numbers of vacancies for entry-level jobs that are proving hard to fill due to a lack of skills in available candidates.

Such skills-shortage vacancies are most likely to be found in production (machine operatives) occupations, and least likely in elementary occupations, amongst the entry-level jobs. The highest skills-shortage vacancy rates amongst such jobs are observed for Hairdressers, Mobile machine drivers and operatives, Assemblers and routine operatives, and Animal care occupations.

The two surveys cover complementary topics, with UKCEPS covering the external interface with the skills system and the UKCESS taking a more internally focussed perspective on skills deficiencies, training and the management of these factors. The surveys have broad coverage and it is not possible to cover all of the topics in the overarching survey reports to the depth the survey allows.

The biggest cause of skills-shortage vacancies is an absence of job-specific skills. This is mentioned in every occupation under consideration. Other absent skills vary across occupations. For example employers hiring entry-level production workers report an absence of problem-solving and technical skills, while it is an absence of communication skills for caring occupations, of customer-handling and teamwork skills in service jobs, and of customer-handling and communication skills in sales jobs. While skills that can be acquired in education (e.g. IT skills, numeracy and literacy) are also important, they appear to be a less frequent cause of skills shortages than these more job-specific skills.

Thus, firms need to provide benefit claimants and labour market entrants with the opportunities to acquire skills and relevant experience. However, there is limited evidence of establishments offering trainee programmes, other forms of training, or work experience placements to potential new entrants to entry-level jobs, even when faced with a shortage of skills in the external market. Neither are more than a minority if establishments making use of recruitment schemes.

# 1 Introduction

With the introduction of Universal Credit and a requirement that claimants are prepared for work, it is of interest to determine in what ways claimants can prepare themselves. This report will address that question, by using employer-based data sets to analyse the extent to which potential recruits are prepared for the jobs that they do. By determining what it is that employers want from their recruits, future recruits in turn will be in a better-informed position to supply it.

The focus in this report will be on the jobs that claimants will likely take. The focus is therefore not on professional, managerial, administrative or skilled manual/technical jobs, for which most firms would not recruit from the ranks of claimants. Rather, attention will be focused on the lower-ranked jobs in the occupation hierarchy, namely caring/personal services, sales and customer services, machine operative/semi-skilled manual work, and elementary occupations. These occupations represent groups 6-9 in the Standard Occupational Classification (2010). Within these groups, three 3-digit occupations are excluded, on the basis that they refer to supervisors and therefore do not represent entry-level jobs.<sup>1</sup>

The analysis will start by considering how many jobs are available at any point in time, in such entry-level jobs. We will then examine whether employers can easily fill such vacancies or not. Of particular interest are vacancies that cannot be filled due to absent skills and abilities amongst the applicants. A key section of the report will examine which skills and abilities are missing, which will inform claimants which skills they need to develop. The report will then continue by examining how employers respond to such situations, focussing on the provision of training and work experience. Finally, the report also examines establishments that recruit young people from school or FE college (but not university, in keeping with the focus on the lower end of the labour market).

Use is made of two data sets. The UKCES' Employer Skills Survey (UKCESS) was most recently undertaken in 2011, and will be the main source of information. It is a survey of over 86,000 establishments.<sup>2</sup> The second data source used will be the UKCES' Employer Perspectives Survey (UKCEPS). This was undertaken in 2012, and contains information from around 15,000 establishments.

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<sup>1</sup> Specifically, these are occupations 624 (Cleaning and Housekeeping Managers and Supervisors), 713 (Sales Supervisors) and 722 (Customer Service Managers and Supervisors).

<sup>2</sup> The analysis uses a re-weighted 2011 dataset, which excludes the very smallest business establishments and is therefore comparable to the 2013 survey sample.

## 2 The Extent of Vacancies

At the time of the survey, nationally 14% of establishments (close to a quarter of million establishments) had vacancies and were looking for new staff. The UKCESS survey also asked employers this question separately by broad occupation group. The results did not show much overlap by occupation, with most establishments only looking for new employees in one particular occupation group. Thus the proportions of all establishments with vacancies in each occupation group are significantly less than this 14% figure. Nevertheless, there are several thousand establishments with vacancies in what we might term entry-level jobs at any point in time. The results, for our occupation groups of interest, are reported in Table 1 below.

**Table 1: Extent of Vacancies in Entry-Level Jobs, by Occupation Group (Grossed to Population)**

Occupation	Number of establishments with vacancies	Percentage of establishments with vacancies	Number of vacancies
6. Caring/personal services	30,700	1.8%	70,000
7. Sales and customer services	34,000	2.0%	79,300
8. Machine operative	15,000	0.9%	35,500
9. Elementary occupations	36,200	2.1%	80,500

Source: UKCESS 2011

Thus, while the proportion of establishments looking to recruit workers at any point in time is, as expected, a minority, there are still a significant number with vacancies, in jobs that could be described as potentially 'entry-level'. Taking into account that some have more than one vacancy, this produces a (grossed-up) total of over 260,000 vacancies in entry-level jobs in the country at the time of the survey.

For the remainder of the analysis in this section, we will restrict ourselves to those establishments with vacancies. This amounts to 17,093 establishments in the survey. However, we have more information than this. Establishments are asked about vacancies in up to six different occupations, so some establishments report vacancies in more than one occupation. In total there are 23,391 occupations-within-establishment observations with vacancies reported. Of these, 9,391 are in entry-level occupations, as defined above.

The main interest of this report is whether job-seekers have the skills to gain employment in these entry-level jobs. One way to get information on this is to ask employers whether they can find individuals in the external labour market to fill their vacancies. The UKCESS survey asks employers to report whether their vacancies are proving hard to fill. Of the 9,391 establishment-occupations vacancy observations (remembering that more than one can be in the same establishment if they have

vacancies in more than one entry-level occupation), just over one-quarter (27.5%) report that at least some of the vacancies in that occupation are proving hard to fill. Most such reports (77% of them) are for just one hard-to-fill vacancy, though the maximum does go up to 100. In total, grossed up to the population, the results suggest some 51,700 hard-to-fill vacancies in entry-level jobs, at the time of the survey. This is clearly a large number, so we need to know more about these hard-to-fill vacancies – what occupations specifically are proving hard to fill, what are the characteristics of establishments with such vacancies, are these vacancies hard to fill because of a lack of skills, if so what skills in particular do candidates lack, and finally, what are employers doing about this problem?



### 3 In Which Occupation are the Entry-Level Hard-to-Fill Vacancies?

Table 2 divides the (grossed-up) entry-level hard-to-fill vacancies across 1 digit occupations.

**Table 2: Hard-to-Fill Vacancies by 1 Digit Occupation**

<b>Occupation</b>	<b>Number of hard-to-fill vacancies</b>
6 Caring/personal services	16,100
7. Sales and customer services	14,200
8. Machine operatives	7,300
9. Elementary occupations	14,000

Source: UKCESS 2011

Thus there are fewer hard-to-fill vacancies in lower skilled production jobs (machine operatives), compared to the other occupation groups. This is not, however, necessarily because of a greater availability of suitable workers in this area. Rather, as shown in Table 1 above, there are fewer establishments with vacancies in this area in the first place. The remaining entry-level hard-to-fill vacancies are fairly evenly spread across the personal service, sales and elementary groupings.

These occupations can be further sub-divided into narrower categories. The lowest level possible, to retain sufficient observations in each group, is the 3-digit level. Only one of the 3-digit categories in the entry-level group has a small number of establishments (below 50) in them.<sup>3</sup> Table 3 reports the (grossed-up) entry-level hard-to-fill vacancies within 3-digit occupations.<sup>4</sup>

The results in Table 3 show that in the caring/personal services category (Group 6 in Table 2), over half of the hard-to-fill vacancies are in care assistant roles, with a further quarter related to hairdressing. However, it is more useful to express these numbers as a proportion of all vacancies in those occupations, to assess what proportion of vacancies are proving hard to fill. When this is done in the final column, the two occupations differ, with almost half of hairdressing vacancies proving hard-to-fill, compared to just 1 in 5 care assistant roles.

In the sales occupations (Group 7 in Table 2), the number of hard-to-fill vacancies are

<sup>3</sup> Specifically, this is occupation 823 (Other Drivers and Transport Operatives).

<sup>4</sup> The numbers next to the occupation names are the 3-digit codes for that occupation in the 2010 Standard Occupational Classification (SOC). The SOC is hierarchical, so that the first digit in the 3-digit code represents the 1-digit group to which that occupation belongs, while the first two digits in the 3-digit code represent the 2-digit group to which that occupation belongs (which will be used later in this report).

divided approximately evenly between sales assistants/cashier roles and 'sales-related occupations' (a category in which, at the 4-digit level, most vacancies are found

amongst 'Merchandisers and window dressers' followed by 'Sales related occupations not elsewhere classified'). However, with many more vacancies advertised in the former category, the two groups differ dramatically in terms of the proportion of vacancies proving hard to fill, with 62% of sales-related occupations proving hard to fill (the highest of any of the entry-level jobs in Table 3), compared to just 12% of sales assistant vacancies.

Amongst production/machine operatives occupations (Group 8 in Table 2), most hard-to-fill vacancies are for assemblers/routine operatives, and this group also have the highest proportion of vacancies that are hard to fill, at 40%.

Finally, amongst the elementary occupations (Group 9 in Table 2), we observe some of the lowest hard-to-fill vacancy rates. Fewer than 10% of all vacancies for elementary process plant occupations and elementary sales occupations prove hard to fill, whilst just over 10% of vacancies for elementary administrative and elementary storage occupations are hard to fill. Most elementary hard-to-fill vacancies are classed as 'Other Elementary Service Occupations' (a category that includes, for example, porters, kitchen assistants, waiters and bar staff), with over 7,500 hard-to-fill vacancies in this area, though these still represent fewer than 1 in 5 of all vacancies for these occupations.

**Table 3: Hard-to-Fill Vacancies by 3 Digit Occupation**

<b>Occupation</b>	<b>Number of Hard-to-Fill vacancies</b>	<b>Proportion of vacancies that are hard to fill</b>
612 Childcare and Related Personal Services	1,500	15%
613 Animal Care and Control Services	1,000	33%
614 Caring Personal Services	8,600	21%
621 Leisure and Travel Services	500	10%
622 Hairdressers and Related Services	4,200	48%
623 Housekeeping and Related Services	300	18%
711 Sales Assistants and Retail Cashiers	6,600	12%
712 Sales Related Occupations	6,400	63%
721 Customer Service Occupations	1,200	10%
811 Process Operatives	500	8%
812 Plant and Machine Operatives	700	19%
813 Assemblers and Routine Operatives	1,600	40%
814 Construction Operatives	500	22%
821 Road Transport Drivers	3,200	20%
822 Mobile Machine Drivers and Operatives	800	34%
911 Elementary Agricultural Occupations	1,200	36%
912 Elementary Construction Occupations	700	27%
913 Elementary Process Plant Occupations	400	7%
921 Elementary Administration Occupations	500	10%
923 Elementary Cleaning Occupations	2,300	21%
924 Elementary Security Occupations	800	17%
925 Elementary Sales Occupations	200	6%
926 Elementary Storage Occupations	600	12%
927 Other Elementary Services Occupations	7,500	18%

Source: UKCESS 2011

To summarise this section, a significant number of vacancies were proving hard to fill at the time of the survey, even amongst the lower-level occupations being considered here. There is some suggestion that those vacancies that were harder to fill were more likely to be found in jobs requiring a higher level of skill or some prior training, such as hairdressing, sales-related (as opposed to sales assistant) occupations, and assemblers. This will be examined further in the next section, which will examine whether the vacancies proved hard to fill because of a lack of appropriately-skilled applicants. Before that, though, we run a multivariate regression, to analyse the characteristics of the establishments where hard-to-fill vacancies are more likely to be found. This will provide information as to whether certain groups of establishments require more assistance in filling their vacancies.

The results of this multivariate analysis are displayed in Table A1 in the Appendix. The unit of observation is an occupation within an establishment and the whole analysis is conditional on their being a vacancy in that occupation in the first place.<sup>5</sup> The analysis

<sup>5</sup> Since establishments can report vacancies in up to six occupations, this means that more than one observation can be recorded in any one establishment. The standard errors were therefore adjusted to take into account this clustering of observations within establishments. This is done because there is at least the

continues to be restricted to entry-level occupations. The dependent variable is a dummy variable showing whether the vacancy for the occupation in question is proving hard to fill. The equation is therefore estimated by probit analysis, to take account of this dichotomous nature of the dependent variable. The results in Table A1 are expressed as marginal effects, i.e. the change in the probability of a vacancy being hard to fill.

Looking first at the occupation effects, which are measured relative to the omitted category of elementary occupations, all three of the marginal effects are positive, suggesting that all are more likely to have hard-to-fill vacancies than elementary occupations. Two effects are statistically insignificant, however, with only the effect for production workers/machine operatives being statistically significant. Vacancies for such workers are 9.2 percentage points more likely to be hard to fill than vacancies for elementary workers, holding other characteristics constant. As was seen in in Table 3 above, this is mostly due to vacancies for assemblers and routine operatives proving hard to fill.

With respect to sector, the omitted reference category is personal services. Most of the sectors attract negative coefficients, showing that vacancies for entry-level jobs in this reference category are more likely to be hard to fill than such vacancies in most other sectors. A significantly lower probability of vacancies being hard to fill is observed in the utilities sector, in wholesale/retail trade and in financial services (around 10 percentage points lower), and to a lesser extent in manufacturing, construction, hotels/restaurants, business activities and education (around 5 percentage points lower). These effects are holding constant the other characteristics controlled for (such as establishment size, occupation etc). Therefore, the reason for the lower hard-to-fill vacancy rates in certain sectors is not due to the characteristics of the establishments in those sectors. For example, large establishments are less likely to have hard-to-fill vacancies, as are establishments in the manufacturing sector, but this is not due to the fact that manufacturing establishments are typically large, since size is being controlled for. So the reason why vacancies are less difficult to fill in these sectors is more likely to be due to the characteristics of the workers filling the vacancies, or the characteristics of the vacancies themselves, rather than the characteristics of establishments in a particular sector.

With respect to the remaining characteristics in the equation, there is a strong effect of

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potential that the disturbance term within establishments across occupations could be correlated (i.e. the same unobserved factors could affect recruitment in different observations within the same establishment). The usual standard errors would then be incorrectly calculated, if this correlation is not taken into account.

establishment size, with small establishments more likely to find that entry-level vacancies prove hard to fill. Similarly, private sector (relative to government and not-for-profit establishments), single site (relative to establishments from multi-site firms), and those not in internationally-competitive markets are all more likely to find vacancies to be harder to fill.

## 4 Why are Vacancies Hard to Fill?

In the previous section, it was mentioned as part of the discussion that one of the reasons why vacancies are hard to fill is a lack of appropriate skills amongst available workers. In those cases where vacancies are proving hard to fill, establishments are asked why this is the case. A range of possible reasons can be given by respondents, including options such as a low number of applicants with the required skill, a lack of work experience that the company demands, and a lack of qualifications that the company demands. Such responses were used to define a 'skills-shortage vacancy'. Evidence of such problems would suggest that current claimants searching for entry-level jobs do not have the skills being demanded by firms offering such jobs.

In total, 18% of establishments with a vacancy for one of the entry-level occupations reported such vacancies as being skills-shortage vacancies. Nationally this amounts to 29,200 entry level job vacancies that are proving hard to fill due to skills shortages. Table 4 shows number of skills-shortage vacancies in each 3-digit entry-level occupation, and shows this as a proportion of all vacancies in that occupation.

**Table 4: Skills-Shortage Vacancies by 3 Digit Occupation**

Occupation	Number of Skills-Shortage vacancies	Proportion of vacancies that are skills-shortage vacancies
612 Childcare and Related Personal Services	1,100	10%
613 Animal Care and Control Services	900	31%
614 Caring Personal Services	4,500	11%
621 Leisure and Travel Services	200	5%
622 Hairdressers and Related Services	3,100	36%
623 Housekeeping and Related Services	100	8%
711 Sales Assistants and Retail Cashiers	4,300	8%
712 Sales Related Occupations	1,000	10%
721 Customer Service Occupations	1,100	9%
811 Process Operatives	300	6%
812 Plant and Machine Operatives	600	16%
813 Assemblers and Routine Operatives	1,300	33%
814 Construction Operatives	400	18%
821 Road Transport Drivers	1,500	9%
822 Mobile Machine Drivers and Operatives	700	34%
911 Elementary Agricultural Occupations	700	20%
912 Elementary Construction Occupations	200	10%
913 Elementary Process Plant Occupations	300	6%
921 Elementary Administration Occupations	300	7%
923 Elementary Cleaning Occupations	800	7%
924 Elementary Security Occupations	600	13%
925 Elementary Sales Occupations	<100	1%
926 Elementary Storage Occupations	400	7%
927 Other Elementary Services Occupations	4,700	11%

Source: UKCESS 2011

The proportions in the final column of Table 4 are necessarily lower than the equivalent proportions in the last column of Table 3, given that skills-shortage vacancies are a subset of hard-to-fill vacancies. This proportion declines by a similar amount for most occupations, suggesting that skills-shortage vacancies are a similar proportion of hard-to-fill vacancies in most entry-level occupations. The most obvious exception is Occupation 712 (Sales Related Occupations). Although 62.5% of vacancies for jobs in this area are proving hard to fill, most of this is for reasons other than a lack of skills. The most common reason offered is 'not enough people interested in doing this type of job'.

Table 4 shows that skills-shortage vacancies are indeed more likely in occupations that require some training or preparation. The highest rates of skills-shortage vacancies are observed for Hairdressers (36% of vacancies), Mobile machine drivers and operatives (34%), Assemblers and routine operatives (33%) and Animal care (31%). On the other hand, considering elementary occupations (Group 9), most have low rates of skills-shortage vacancies (as indeed do the sales occupations in Group 7).

Table A2 in the appendix examines the characteristics of establishments that are associated with having a skills-shortage vacancy (conditional on having a vacancy in the first place). As with Table A1 for hard-to-fill vacancies, the analysis is a probit equation. In terms of statistically significant effects, the pattern is very similar to that observed in Table A1. With occupation, all three included occupations now report positive marginal effects, i.e. the likelihood of a skills-shortage vacancy is significantly higher in each occupation compared to the omitted category of elementary occupations, holding other characteristics of establishments constant. The largest difference is for Plant and machine operative workers, for whom vacancies are 9.4 percentage points more likely to remain unfilled due to a shortage of appropriate skills. The other effects suggest that lower skills-shortage vacancy rates are found in the utilities, wholesale/retail trade and financial service sectors, in larger establishments, in the public sector, and in multi-site firms. With respect to region, the highest likelihood of skills-shortage vacancies is observed in London, with the lowest in Yorkshire.

When a skills shortage vacancy was defined above, it was said to exist if an establishment could not fill a vacancy due to applicants not having the appropriate experience, qualifications and skills. When these three categories are subdivided, it is skills in particular that establishments say that applicants are lacking. Of those occupation/establishments with a skills-shortage vacancy, 71% report of shortage of applicants with appropriate skills, 46% a shortage of applicants with appropriate

experience, and 25% a shortage of applicants with appropriate qualifications.<sup>6</sup> Of most interest, however, is which skills in particular are in short supply. With such information, we can say what skills the labour market entrants should be offering if they are to be in high demand. This is considered in the next section.

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<sup>6</sup> These categories are not mutually exclusive (more than one could be offered by the survey respondent), hence why the percentages do not sum to 100.



## 5 Which Skills are in Short Supply?

The UKCESS questionnaire asks establishments with a skills-shortage vacancy to report the skills that are in short supply. Their responses are tabulated in Table 5, separately by 2-digit occupation.<sup>7</sup> The respondents could report as many missing skills as they wished, and so these categories are not mutually exclusive. The numbers represent proportions of skill-shortage vacancies rather than proportions of establishments with skills-shortage vacancies, and so take into account the number of skills-shortage vacancies within each establishment.

Overall, across all occupations, the most frequently mentioned skills that are reported as missing are job-specific skills, customer handling skills and oral communication skills. The importance of different skills varies across the different entry-level job categories, though. While job-specific skills are reported to be lacking for over half of skills-shortage vacancies in every occupation category, their absence is particularly noted in production jobs, such as process operatives and elementary trade occupations, as well as in sales-related occupations. The importance of customer-handling skills varies more across the occupations, and is particularly important in service sector jobs, such as personal service occupations, sales-related occupations, and elementary service jobs. Customer-handling skills are much less important for production jobs, particularly for process operatives where their absence is only responsible for 19% of skills-shortage vacancies. A similar pattern is observed for oral communication skills, which are particularly needed for the same service sector occupations, but less needed for production jobs, particularly amongst process operatives. The lack of written communication skills causes a slightly lower proportion of skills-shortage vacancies than oral communication skills in all job categories except for elementary trade occupations.

Looking across the other rows in Table 5, other causes of significant numbers of skills-shortage vacancies in most occupations are the lack of team-working skills, problem-solving skills, planning and organisation skills, numeracy and literacy skills, and technical or practical skills. In the entry-level jobs being considered, the absence of IT, foreign language, management and office skills cause fewer skills-shortage vacancies.

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<sup>7</sup> It was not possible to perform this analysis at the 3-digit occupation level. Since the sample is restricted to skills-shortage vacancies only, there were too few establishments in some of the 3-digit occupations with which to perform robust analysis.

**Table 5: The Skills Missing for Skills-Shortage Vacancies, by 2-Digit Occupation**

	6.1 Caring	6.2 Personal services	7.1 Sales	7.2 Sales Related	8.1 Process ops	8.2 Transport/machine ops	9.1 Elementary trade occupa	9.2 Elementary service occupa
Basic computer literacy	15%	18%	21%	43%	15%	18%	7%	14%
Advanced IT software skills	12%	14%	18%	47%	17%	8%	3%	16%
Oral communication skills	<b>46%</b>	55%	<b>50%</b>	50%	25%	42%	42%	<b>63%</b>
Written communication skills	<b>45%</b>	35%	42%	28%	22%	39%	55%	43%
Customer handling skills	45%	<b>69%</b>	<b>56%</b>	62%	19%	<b>55%</b>	36%	<b>66%</b>
Team working skills	40%	<b>60%</b>	35%	42%	21%	<b>52%</b>	34%	49%
Foreign language skills	16%	20%	14%	15%	6%	19%	2%	33%
Problem solving skills	36%	46%	43%	52%	<b>30%</b>	39%	<b>57%</b>	47%
Planning and Organisation skills	38%	51%	41%	<b>63%</b>	25%	38%	45%	55%
Strategic Management skills	21%	27%	27%	17%	22%	16%	19%	32%
Numeracy skills	24%	43%	31%	51%	23%	29%	38%	39%
Literacy skills	38%	45%	36%	<b>64%</b>	22%	35%	37%	42%
Office / admin skills	14%	22%	27%	22%	13%	15%	7%	14%
Technical or practical skills	31%	58%	29%	30%	<b>64%</b>	44%	<b>66%</b>	41%
Job specific skills	<b>64%</b>	<b>72%</b>	<b>54%</b>	<b>75%</b>	<b>78%</b>	<b>62%</b>	<b>74%</b>	<b>60%</b>

Source: UKCESS 2011. Numbers in italics based on 25-50 unweighted establishments responding.

Looking down the columns in Table 5, rather than across the rows, we can see for each occupation the skills that are most lacking in job applicants and causing the most skills-shortage vacancies. The three most frequently lacking within each occupation are highlighted. The first thing to note is that job-specific skills rank in the top three absent skills in every occupation, and so are clearly important across the board. After job-specific skills, different occupations have different priorities. Communication skills (written and oral) are important in caring jobs, while personal service occupations emphasise customer-handling skills and teamwork, the same as for transport operatives. In sales and in elementary service occupations, it is the absence of customer-handling skills and oral communication that cause the most skills-shortage vacancies (together of course with the pervasive job specific skills). Considering the two most production-related occupations, process operatives and elementary trade occupations, it is the absence of different skills that is causing the skills-shortage vacancies. In particular, problem-solving skills and technical/practical skills are often mentioned as being absent. Finally, the sales-related occupations appear different to all other occupations being discussed here, in that their skills-shortage vacancies are frequently caused by the absence of planning and organisation skills and of literacy skills. This would suggest that these jobs are at a higher level than the other entry-level jobs being discussed here.

What do these results tell us about the skills needed by claimants and potential job-entrants to secure the jobs attached to these vacancies? It appears that the most

important skills required to get the jobs are the skills that they would learn on-the-job (job-specific skills, customer-handling skills). This causes an obvious problem for labour market entrants and individuals with no relevant experience. It would appear that employers will need to provide work experience placements or appropriate training, so that job applicants possess the skills that they are looking for. The provision of such training will be considered in the next section. This is not to say that skills learnt in formal education are unimportant, with a lack of appropriate speaking, writing, literacy and numeracy skills all causing skills-shortage vacancies. It is just that the more job-specific skills are found to be more often lacking in job applicants. This is consistent with the finding reported at the very end of the previous section, which said that skills-shortage vacancies are more likely to be caused by a lack of appropriate skills and experience, rather than a lack of appropriate qualifications.

## **6 How Do Employers Respond to Skills-Shortage Vacancies?**

Skills-shortage vacancies have important consequences for employers, which should demand a response from them. Before turning to these responses, a section of the UKCESS questionnaire asks respondents about the consequences of having hard-to-fill vacancies. The respondents analysed here were restricted to those whose vacancy was hard-to-fill because of a skills shortage. Their responses are recorded in Table 6, by 2-digit occupation. The respondents could report as many consequences as they wished, so the categories are not mutually exclusive.

The first thing to note is that only a tiny minority of establishments report no consequences of skills-shortage vacancies, as shown by the final row of Table 6. The most likely consequence, across all of these entry-level occupations, is an increased workload for existing staff (this is far more common than outsourcing the required work). The employers' first response is therefore to require more work from existing workers to try to make up for the lack of newly-recruited workers and to prevent other consequences. However, it is clear that despite increased workloads for existing staff, establishments do suffer consequences in a significant number of cases, such as a failure to meet standards/objectives or to develop new products/services, which ultimately can result in a loss of business. The consequences of skills-shortage vacancies vary by occupation, though no clear pattern emerges. In terms of some occupations always causing more negative consequences than others. While skills-shortage vacancies in personal services, sales, and transport operatives are most likely to have an impact on business, this is least likely to be the case in caring, process operatives and elementary occupations.

**Table 6: The Consequences of Skills-Shortage Vacancies, by 2-Digit Occupation**

	6.1 Caring	6.2 Personal services	7.1 Sales	7.2 Sales Related	8.1 Process ops	8.2 Transport/ machine ops	9.1 Elementary trade occupations	9.2 Elementary service occupations
Lose business	31%	55%	51%	48%	39%	47%	36%	36%
Delay new products/services	42%	43%	35%	40%	42%	23%	48%	38%
Fail to meet quality standards	46%	45%	42%	51%	26%	35%	46%	52%
Increased operating costs	53%	38%	30%	33%	48%	52%	72%	45%
New work practices difficult	46%	37%	34%	39%	31%	39%	37%	36%
Increased workload for other staff	89%	77%	85%	80%	80%	82%	79%	87%
Have to outsource the work	22%	14%	15%	25%	29%	36%	20%	22%
Withdraw products/Services	21%	39%	20%	27%	27%	13%	34%	23%
Difficult to meet service objectives	44%	60%	50%	61%	53%	38%	36%	53%
Difficult to introduce tech change	18%	31%	22%	48%	22%	30%	39%	15%
No consequences	3%	6%	5%	5%	5%	1%	3%	5%

Source: UKCESS 2011. Numbers in italics based on 25-50 unweighted establishments responding.

How, then, do employers deal with these negative consequences? The UKCESS survey asks all respondents with a hard-to-fill vacancy what they are doing to overcome such difficulties. Again, the analysis below is restricted to those establishments who say that their hard-to-fill vacancy in a particular occupation is due to a skills shortage. A range of responses are given, including increasing salaries, changing recruitment methods and offering more training to existing workers. Of most interest for this report, however, with its focus on how claimants can access employment, are two responses, namely 'expanding trainee programmes' and 'being prepared to offer training to less well qualified recruits'. As discussed in the previous section, when they cannot fill a vacancy, employers are frequently looking for job-specific skills that will not have been learned in general education, and so offering training to supply these skills would seem a reasonable response. The proportion of establishments with skills-shortage vacancies who adopt either of these policies is reported in Table 7, separately by 2-digit occupation of the vacancies.

**Table 7: Use of Training for Recruits When Faced with a Skills-Shortage Vacancy**

	Expanding trainee programmes	Prepared to offer training to less well qualified recruits	At least one of the training responses
6.1 Caring	8%	9%	15%
6.2 Personal services	14%	5%	18%
7.1 Sales	7%	7%	12%
7.2 Sales related	4%	5%	6%
8.1 Process operatives	11%	8%	17%
8.2 Transport/machine operatives	6%	8%	13%
9.1 Elementary trade occupations	4%	21%	23%
9.2 Elementary service occupations	8%	7%	13%

Source: UKCESS 2011. Numbers in italics based on 25-50 unweighted establishments responding.

Table 7 makes clear that offering training to new recruits is not a common means of solving the problem of skills shortages in job applicants to these entry-level jobs.<sup>8</sup> Only a small number of establishments with vacancies in these entry-level occupations respond by increasing training opportunities to new recruits, either formal trainee programmes or other forms of training. Note that since multiple responses were allowed to this question, it could have been the same establishments undertaking both of these approaches, though the results in the final column suggest that this is not the case. The proportion offering at least one of the options is mostly only slightly below the sum of the proportions offering either one of the options, so in most cases establishments offer either one or the other of these options but not both. Expanding formal trainee programmes is most common as a response to skills-shortage vacancies for personal services jobs and process operatives. Less formal training offered to under-qualified new recruits is most common in elementary trade occupations, in a surprisingly high 20% of cases<sup>9</sup>. Overall, establishments are most likely to offer training when faced with a lack of suitable candidates for production jobs (process operatives and elementary trade occupations), which recall from the previous section were the two occupations where practical and technical, as well as problem-solving, skills were most absent in new recruits. It seems that when establishments note a particular lack of job-specific skills, they are more likely to offer training to new recruits. In addition, the rate of offering training to new recruits in personal service jobs is also relatively high. Sales-related occupations are the least likely to be offered training in response to skills-shortage vacancies. As shown in the previous section, the skills absent amongst candidates for these jobs were different to other occupations, in particular involving planning and organisation skills and literacy skills. It has already been stated that these jobs appear to be different to the other entry-level categories considered in this report, potentially being at a slightly higher level, and employers seem to be particularly unwilling to offer introductory training to under-skilled candidates for these roles, preferring to adopt other recruitment methods to obtain the appropriate workers in this case.

Finally in this section, we performed a multivariate analysis to determine the characteristics of establishments associated with the use of initial training in response to a skills-shortage vacancy. The dependent variable was a dummy variable taking the value of 1 if the establishment used either of the two training methods in Table 7, in response to a skills-shortage vacancy in the occupation under consideration. The method of analysis was therefore the same as the multivariate analyses in previous

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<sup>8</sup> By far the most common responses are 'increase advertising/recruitment spend' (43% of establishments' entry-level occupation vacancies) and 'using new recruitment methods' (31%).

<sup>9</sup> Note that this is based on a cell size of 40 reporting a skills-shortage vacancy in elementary trade occupations and so should be regarded as indicative and not significant

sections, with a probit equation being estimated, marginal effects being reported, and

standard errors being adjusted to allow for clustering of occupations within establishments. The analysis is conditional on the establishment having a skills-shortage vacancy in the relevant occupation in the first place. The results are reported in Table A3 in the appendix.

The first thing to note in Table A3 is that there are fewer statistically significant effects. This is due to the smaller sample size in this equation compared to earlier equations ( $n=1,427$ , compared to 9,334 in the earlier analyses) causing higher standard errors, which in turn is due to the fact that the new equation is conditional on having a skills-shortage vacancy rather than simply any vacancy. Looking first at the 1-digit occupation effects, none are statistically significant, mostly due to the higher standard errors. The point estimates suggest that employers faced with a skills shortage for personal services workers and machine operatives are 4 and 6 percentage points more likely to offer initial training to recruits than when faced with a skills shortage for elementary workers, holding constant the other establishment characteristics in the equation. The sector effects are almost all negative, suggesting that the omitted sector, the personal service sector, has the highest rate of offering training to new recruits in response to a skills-shortage vacancy. Training rates are significantly lower in certain other sectors, namely agriculture (13 percentage points lower training rate), and health and social work (9 percentage points), while a large, but insignificant, gap is also observed for manufacturing (7 percentage points), the utilities (10 percentage points) and wholesale/retail trade (7 percentage points). There is a strong relationship between establishment size and training rate, with large establishments (250+ employees) being 16 percentage points more likely to offer initial training than the smallest establishments (2-4 employees), holding other things constant, though the difference is not statistically significant, again due to higher standard errors caused by the smaller sample size. Central government establishments are significantly less likely to offer training in response to an entry-level skills-shortage vacancy than private sector establishments (by 11 percentage points). There are no differences in training likelihoods by single/multi-site status, or by the extent of regional competition. With respect to region, establishments in London, the North-West and Northern Ireland are significantly less likely to offer training in response to a skills-shortage vacancy.

In summary of this section, most establishments do not respond to a shortage of suitable skills for entry level jobs in the labour market by offering more training to new recruits. Where establishments do choose this option, they are more likely to be large, private sector establishments, and looking for personal services workers and machine operatives

in particular. However, given the results of the previous section that showed the extent to which employers desire job specific skills and experience, more could be possibly be done to provide such skills and experience through training.



## 7 Other Responses to Skills-Shortage Vacancies

Recruitment matters are also considered in the Employer Perspectives 2012 Survey (UKCEPS). Unfortunately the UKCEPS does not identify skills-shortage vacancies in the same way that the UKCESS does, and so the results are not directly comparable. Rather than identify recruits by Standard Occupational Classification, UKCEPS asks what percentage of staff belong to each of four groups; senior managers, other white collar, skilled manual, and other manual staff. Further questions are then asked for the largest group. Here we focus on the 'other manual staff', though note from the above description that information is limited only to those establishments where this group are the dominant group.<sup>10</sup> For the dominant group, a following question asks to what extent new recruits are equipped with the skills needed for the job, with answers given on a 4-point scale (fully equipped, having most of the skills, having some of the skills, having few or none of the skills needed). Here we focus on those establishments that answer in the lower two categories. Thus, the unit of observation in this section is establishments where 'other (i.e. not skilled) manual' workers are the dominant group, but where recruits have also only some, few or none of the required skills for the job.

The survey lists various recruitment schemes/methods, and ask whether establishments have made use of such schemes. These are shown in Table 8 below.<sup>11</sup> The first column of results shows the proportion of our sample establishments (as defined above) who report using such schemes. The final column shows the proportion of 'other-manual' dominated establishments where recruits do have the required skills, who use these schemes.

The results in Table 8 show that these schemes are not extensively used. With the exception of the Work Programme, and Steps to Work in Northern Ireland, fewer than 5% of establishments use these schemes to recruit workers, even given that we have restricted the sample to establishments with a dominant proportion of low-skilled workers. There is little difference in the usage of these schemes between establishments where new recruits do or do not have the required skills. The only exception is the Steps to Work programme in Northern Ireland, which is more heavily used amongst establishments with lower quality recruits (though this is based on sample sizes of only 96 and 47 establishments respectively in the two groups).<sup>12</sup>

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<sup>10</sup> UKCESS asks about the six most important occupational groups within the establishment.

<sup>11</sup> Note that some schemes are only relevant to some countries within the British Isles, as shown at the start of each row. The sample of establishments was restricted to the appropriate countries in each case.

<sup>12</sup> Note that the causation could have gone either way between use of the schemes and quality of recruits. Use of the schemes might have increased the quality of the recruits, or the existence of low quality recruits may

**Table 8: Use of Government Recruitment Schemes Amongst Establishments Where the Dominant Group are Low-Skilled**

	Proportion using amongst establishments with <i>unprepared</i> recruits	Proportion using amongst establishments with <i>prepared</i> recruits
EN/WL/SC: Jobcentre Plus's Work Programme	22%	21%
NI: Steps to Work	28%	12%
EN/WL/SC: Six Month Offer	2%	2%
SC: Training for Work	4%	3%
SC: Get Ready for Work	4%	3%
SC: Community Jobs Fund	<1%	1%
SC: Employer Recruitment Incentive	4%	<1%
NI: Bridge to Employment	2%	1%
WL: Go Wales	3%	2%
WL: Jobs Growth Wales	1%	5%
WL: ReAct, Redundancy Action Scheme	3%	4%

Source: UKCEPS 2012. Numbers in italics based on 25-50 unweighted establishments responding.

Further information about recruitment methods is found in subsequent questions in the UKCEPS survey. The responses to these questions are shown in Table 9 below. The first column of results show the proportion of establishments (i.e. 'other manual'-dominated establishments with unprepared recruits) using each method. As a comparison, the last column shows the proportion of establishments that are not dominated by 'other manual' workers (i.e. the dominant group are managers/professionals, other white collar or skilled manual) but whose recruits are unprepared. This allows us to see whether employers use different methods to recruit when faced with unprepared workers in entry-level jobs, compared to other jobs.

The results reveal that most methods are more likely to be used when recruits to higher-level jobs are under-prepared, than when such recruits are to entry-level jobs. The exceptions are the use of local Jobcentre Plus, internal notices/websites and shop windows, which are all more likely to be used in response to entry-level recruitment problems, than such problems at a higher level. A common characteristic of these methods is that they are all free. All the recruitment methods that have to be paid for are less likely to be used for entry-level recruitment. The most frequent methods used in the entry-level dominated establishments are direct contact with Jobcentre Plus, own websites and word of mouth/personal recommendation.

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have increased the likelihood of using the schemes. As it is, there appears to be no link between the two variables.

**Table 9: Use of Recruitment Schemes amongst Establishments Where Few or No Recruits Have the Required Skills**

	Proportion of <i>Low-Skilled-Dominated</i> Establishments with unprepared recruits using each method	Proportion of <i>Higher- Skills-Dominated</i> Establishments with unprepared recruits using each method
Public free:		
Jobcentre Plus	36%	30%
Government programmes	2%	2%
National Apprenticeship Service	1%	2%
Private paid for:		
National newspapers	1%	2%
Local newspapers	18%	21%
Trade press	1%	3%
Recruitment agencies	10%	15%
Recruitment websites	4%	7%
Private free:		
Word of mouth	31%	30%
Own website	21%	16%
Notice boards/shop windows	19%	11%
Internal notices	17%	12%
Other free websites	7%	9%
Speculative enquiries	6%	3%
School college job fairs/careers	2%	7%
Social media	3%	3%
Connexions	<1%	1%

Source: UKCEPS 2012.

The UKCEPS also asks about work experience placements and internships. As previously stated employers often find that potential recruits to entry-level jobs lack work experience and job-specific skills. One way for claimants and new labour market entrants to obtain such experience would be through such placements. Table 10 reports the proportion of entry-level dominated establishments that offer such placements, split according to whether their typical recruits are well prepared for the job or not.

**Table 10: Rate of Offering Work Experience/Placements Amongst Establishments Where the Dominant Group are Low-Skilled**

	Proportion using amongst establishments with unprepared recruits	Proportion using amongst establishments with prepared recruits
Placements for people at school	69%	64%
Placements for people at college	35%	35%
Placements for people at university	16%	26%
Internships, either paid or unpaid	9%	11%
Placements to give experience to unemployed people	25%	16%
Work trials for potential new recruits	14%	15%

Source: UKCEPS 2012

Placement schemes are extensively used, but predominately to provide work experience to school-age children. There is much less widespread use of offering placements to provide experience to unemployed potential recruits. There is some evidence that entry-level dominated establishments that suffer less well-prepared recruits are more likely to offer such placements, compared to similar establishments who say that their recruits already have most of the skills required. Therefore, there is some evidence of employers trying to address a lack of skills for entry-level jobs in the labour market by providing work-experience placements to claimants, though still only a quarter of establishments do so.

## 8 The Hiring of Young People

The final section of this report returns to the UKCESS data and explicitly considers the hiring of young people straight from school or college. In all of the analysis above, entry-level jobs were defined by the Standard Occupational Classification. This final section considers the level of schooling that young people have just left. Though we do not know what job they are doing, it seems reasonable to assume that young people hired directly from school, and to a slightly lesser extent from a Further Education (FE) college, will be in entry-level jobs.

The responses show that only a small number of establishments have hired 16-18 year olds straight from school or college in the previous 2-3 years. Specifically, 9% of establishments report having hired a 16 year old straight from school, 10% a 17-18 year old straight from school, and 10% a 17-18 year old straight from an FE college.<sup>13</sup> When asked how well prepared such recruits were, employers responded that 37% of 16 year olds, 30% of 17-18 year old school leavers and 22% of 17-18 year old FE leavers were poorly or very poorly prepared for work, with in each case more than three-quarters being classified as poorly rather than very poorly prepared. Consistent with the occupational-level analysis above for skills-shortage vacancies, there seems to be some dissatisfaction amongst employers about how well prepared some young recruits are for the jobs they are employed to do.

The survey goes on to ask in what ways the recruits are not well prepared, separately for the three education groups. The results are recorded in Table 11 below.

**Table 11: The Reasons for Lack of Preparedness Amongst New Recruits Straight from Education**  
(% of establishments who report poorly prepared recruits)

	16 year olds from school	17-18 year olds from school	17-18 year olds from an FE college
Lack required skills for job	26%	30%	34%
Literacy/numeracy skills	12%	9%	8%
Poor education	8%	7%	8%
Lack of common sense	14%	13%	13%
Poor attitude	50%	49%	47%
Lack of experience	61%	60%	57%

Source: UKCESS 2011.

The results show that the skills most lacking in recent young recruits are not principally those which they should have acquired in schools; general education and literacy/numeracy

<sup>13</sup> Note however that many establishments will not have hired any workers at all in the previous 2-3 years. Similar questions in UKCEPS do condition on whether any recruitment has taken place, and reveals that, of those establishments that had hired some workers, 62% had hired young people.

skills are the least likely to be mentioned in Table 10. Rather, employers who have recently hired young people straight from school say that, when they are not well prepared, it is experience that they lack in particular. As with the occupation-defined entry level jobs above, this is not something that individuals can learn while at school (with the exception of work placement schemes) and so is something that employers must provide themselves. It is also of interest that 'poor attitude' (e.g. poor work ethic, punctuality, appearance, manners) is the second most frequently mentioned problem with new recruits, and this is an area where advice could be given before applying for jobs. A final observation is that there is little difference in the source of the lack of preparedness across the three education categories.

There is therefore clearly a need for employers to provide training for new recruits. The 2012 UKCEPS includes questions about such issues, and shows that, in the main, employers do provide such training when recruiting young people. The data show that 91% of establishments that had taken on young people in the past year had also provided training (this is a higher training rate than in establishments that have hired only older workers, or not hired at all). We saw above (Table 7), that training was not a common response to general skills-shortage vacancies. It therefore seems that employers are more likely to provide training in response to a lack of preparedness amongst young recruits than when faced with recruitment problems and hard-to-fill vacancies more generally.

## 9 Conclusions

With the introduction of Universal Credit and the requirement of claimants to be prepared for work, it is useful to know what policy can do to help in that preparation. That all claimants are not already fully prepared for work is made clear, by the fact that that many employers, recruiting for low, entry-level jobs, say that they cannot find applicants with the skills that they need, or that the individuals that they do hire for such jobs are often poorly prepared. There is thus clearly more that can be done to prepare claimants for such jobs.

What in particular do claimants need, in order to be more fully prepared? The evidence presented in this report reveals that it is a lack of job-specific skills, in particular, that is preventing certain applicants acquiring entry-level jobs. In addition, there are occupation-specific skills that are often absent, such as problem-solving and technical skills in production jobs, communication skills in caring occupations, customer-handling and teamwork skills in service jobs, and customer-handling and communication skills in sales jobs. Whilst vocational qualifications can provide some of these more general occupational skills, the more particular job-specific skills that were frequently mentioned, as well as general experience of the work itself, are best provided through on-the-job learning. It would therefore seem that, as much as claimants have a need and an obligation to prepare themselves for work, there is also a need for employers to help them prepare by providing initial training courses and work experience placements, to help claimants acquire the skills they need.

Given the low rates of training and work experience placements discussed above, it would therefore seem that there is also more that employers can do. Table 8 above showed limited use of government schemes and initiatives to assist recruitment, amongst establishments where the largest group of workers is the low-skilled group. Further evidence from UKCEPS (not shown in the table above) shows that many of the schemes are not even known to employers. Of the schemes and initiatives listed in Table 8, only in the case of the Jobcentre Plus Work programme are a majority of employers aware of the scheme. Awareness-enhancing of recruitment schemes would therefore be of use. Once workers are recruited to entry-level jobs, there needs to be more training provided, in order to provide workers with the skills that employers say they are lacking. We saw above (Table 7) that training is not a common response to recruitment problems caused by a lack of suitably-skilled individuals. It was also noted that smaller establishments were less likely to provide initial training, holding other factors constant, so it may be that more can be done to help small establishments in particular to supply training, for example pooling resources

across small employers to form consortia. As for placements as a source of skills-creation, evidence from UKCEPS suggests that the most common reason for not supplying any work experience placements, after having no suitable roles available, is that no-one had approached them to do a placement (20% of those that do not offer a placement gave this as a reason why). Thus, employers could be more pro-active in terms of offering placements, and not wait to be approached by someone looking for such a position.

There is more research that can be done in this area. More needs to be done to understand the decisions made by firms, about whether to engage with recruitment schemes, offer training and provide work experience placements. If the reasons why some employers undertake these actions while others do not can be identified, then more can be done to remove or reduce the negative influences, be they information, funding etc. UKCEPS will continue to be a source of information on employers' opinions and reasons for doing things. It would also be useful to have more research about outcomes of employers' actions in this area. Are there consequences, in terms of productivity, profitability, skills gaps etc., to engaging or not engaging with training and workforce development? A longer-term view would be particularly useful here. It is often said that short-termism, focussing on short-term cost reductions rather than longer-term productivity improvements, harms the UK economy. If any longer-term advantages of going down a high-cost, high-productivity route can be identified, then such information can be used to persuade some more employers to follow this strategy. The data requirements of such research are demanding, matching financial data to data sets such as UKCESS and UKCEPS which contain the training information.

Finally, turning to the workers themselves, more research is needed on the longer-term effects of training received in entry-level jobs. Questions to be asked included whether entry-level jobs act as a stepping stone to higher-level jobs, and if they do in some cases, whether the training we have observed in some workplaces facilitates that. This would require longitudinal data following individual workers over time. Ultimately, though, it would inform about the longer-term impact of much of the above analysis of entry-level jobs, on the individuals who fill them.



# Appendix

**Table A1: Determinants of Having a Hard-to-Fill Vacancy, Conditional on Having a Vacancy**

<b>Occupation: Reference Category – Elementary occupations</b>	
Occupation 6: Caring/personal services	0.022 (0.017)
Occupation 7: Sales and customer services	0.023 (0.016)
Occupation 8: Machine operatives	0.092*** (0.020)
<b>Sector: Reference Category – Personal Services</b>	
Sector 1: Agriculture, forestry and fishing	0.046 (0.067)
Sector 2: Mining and Quarrying	0.133 (0.133)
Sector 3: Manufacturing	-0.053* (0.024)
Sector 4: Electricity gas and water	-0.137*** (0.026)
Sector 5: Construction	-0.072* (0.031)
Sector 6: Wholesale/retail trade	-0.105*** (0.018)
Sector 7: Hotels and restaurants	-0.048* (0.019)
Sector 8: Transport/communications	-0.024 (0.024)
Sector 9: Financial Services	-0.126** (0.039)
Sector 10: Real estate/business activities	-0.040* (0.020)
Sector 11: Public administration	0.014 (0.040)
Sector 12: Education	-0.056* (0.022)
Sector 13: Health	-0.035 (0.018)
<b>Size: Reference Category – 1-4 employees</b>	
Establishment size 5-9 employees	-0.028 (0.019)
Establishment size 10-24 employees	-0.081*** (0.017)
Establishment size 25-49 employees	-0.095*** (0.017)
Establishment size 50-99 employees	-0.109*** (0.017)
Establishment size 100-249 employees	-0.168*** (0.014)

Establishment size 250+ employees	-0.168*** (0.014)
<b>Ownership: Reference Category – Private sector</b>	
Charity/voluntary sector	-0.044** (0.017)
Local government	-0.128*** (0.016)
Central government	-0.092** (0.028)
<b>No. of sites: Reference Category – Multi site firm</b>	
Single site firm	0.092*** (0.011)
<b>Competition: Reference Category – Local competition</b>	
Regional competition	0.025 (0.016)
National competition	-0.013 (0.012)
International competition	-0.032* (0.016)
<b>Region – East Midlands</b>	
East of England	0.062* (0.025)
London	0.053* (0.025)
North East	0.013 (0.031)
North West	0.006 (0.023)
South East	0.055* (0.023)
South West	-0.023 (0.022)
West Midlands	0.001 (0.025)
Yorkshire	-0.035 (0.023)
Northern Ireland	0.034 (0.035)
Scotland	0.110** (0.036)
Wales	0.086** (0.028)
Number of observations	9334

Data: UKCESS 2011

Estimation by probit analysis. Numbers in the table are the marginal effects on the probability of having a hard-to-fill vacancy.

Standard errors in parentheses.

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

**Table A2: Determinants of Having a Skills-Shortage  
Vacancy, Conditional on Having a Vacancy**

<b>Occupation: Reference Category – Elementary occupations</b>	
Occupation 6: Caring/personal services	0.056***
	(0.015)
Occupation 7: Sales and customer services	0.068***
	(0.015)
Occupation 8: Machine operatives	0.094***
	(0.018)
<b>Sector: Reference Category – Personal Services</b>	
Sector 1: Agriculture, forestry and fishing	0.051
	(0.052)
Sector 2: Mining and Quarrying	0.135
	(0.125)
Sector 3: Manufacturing	-0.016
	(0.020)
Sector 4: Electricity gas and water	-0.084***
	(0.021)
Sector 5: Construction	-0.045
	(0.024)
Sector 6: Wholesale/retail trade	-0.078***
	(0.014)
Sector 7: Hotels and restaurants	-0.022
	(0.016)
Sector 8: Transport/communications	-0.003
	(0.020)
Sector 9: Financial Services	-0.101***
	(0.022)
Sector 10: Real estate/business activities	-0.010
	(0.016)
Sector 11: Public administration	-0.002
	(0.029)
Sector 12: Education	-0.036*
	(0.018)
Sector 13: Health	-0.029*
	(0.014)
<b>Size: Reference Category – 1-4 employees</b>	
Establishment size 5-9 employees	-0.011
	(0.015)
Establishment size 10-24 employees	-0.042**
	(0.014)
Establishment size 25-49 employees	-0.046**
	(0.014)
Establishment size 50-99 employees	-0.059***
	(0.014)
Establishment size 100-249 employees	-0.090***
	(0.012)
Establishment size 250+ employees	-0.094***
	(0.012)

<b>Ownership: Reference Category – Private sector</b>	
Charity/voluntary sector	-0.049***
	(0.012)
Local government	-0.099***
	(0.011)
Central government	-0.083***
	(0.017)
<b>No. of sites: Reference Category – Multi site firm</b>	
Single site firm	0.061***
	(0.009)
<b>Competition: Reference Category – Local competition</b>	
Regional competition	0.017
	(0.013)
National competition	0.003
	(0.010)
International competition	-0.011
	(0.013)
<b>Region – East Midlands</b>	
East of England	0.038
	(0.020)
London	0.046*
	(0.020)
North East	-0.019
	(0.020)
North West	-0.007
	(0.018)
South East	0.020
	(0.018)
South West	-0.035*
	(0.016)
West Midlands	-0.022
	(0.018)
Yorkshire	-0.042*
	(0.016)
Northern Ireland	0.025
	(0.028)
Scotland	0.054
	(0.028)
Wales	0.022
	(0.021)

Data: UKCESS 2011

Estimation by probit analysis. Numbers in the table are the marginal effects on the probability of having a skills-shortage vacancy. Standard errors in parentheses.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

**Table A3: Determinants of Offering Training to New Recruits in Response to a Skills-Shortage Vacancy, Conditional on Having a Skills-Shortage Vacancy**

<b>Occupation: Reference Category – Elementary occupations</b>	
Occupation 6: Caring/personal services	0.040 (0.043)
Occupation 7: Sales and customer services	-0.009 (0.036)
Occupation 8: Machine operatives	0.059 (0.045)
<b>Sector: Reference Category – Personal Services</b>	
Sector 1: Agriculture, forestry and fishing	-0.132*** (0.035)
Sector 3: Manufacturing	-0.071 (0.042)
Sector 4: Electricity gas and water	-0.102 (0.067)
Sector 5: Construction	-0.044 (0.067)
Sector 6: Wholesale/retail trade	-0.072 (0.040)
Sector 7: Hotels and restaurants	-0.048 (0.041)
Sector 8: Transport/communications	-0.051 (0.048)
Sector 9: Financial Services	0.046 (0.226)
Sector 10: Real estate/business activities	-0.067 (0.036)
Sector 11: Public administration	-0.057 (0.053)
Sector 12: Education	-0.009 (0.060)
Sector 13: Health	-0.086** (0.028)
<b>Size: Reference Category – 1-4 employees</b>	
Establishment size 5-9 employees	0.003 (0.039)
Establishment size 10-24 employees	0.058 (0.041)
Establishment size 25-49 employees	0.102 (0.053)
Establishment size 50-99 employees	0.068 (0.053)
Establishment size 100-249 employees	0.104 (0.072)
Establishment size 250+ employees	0.156 (0.096)

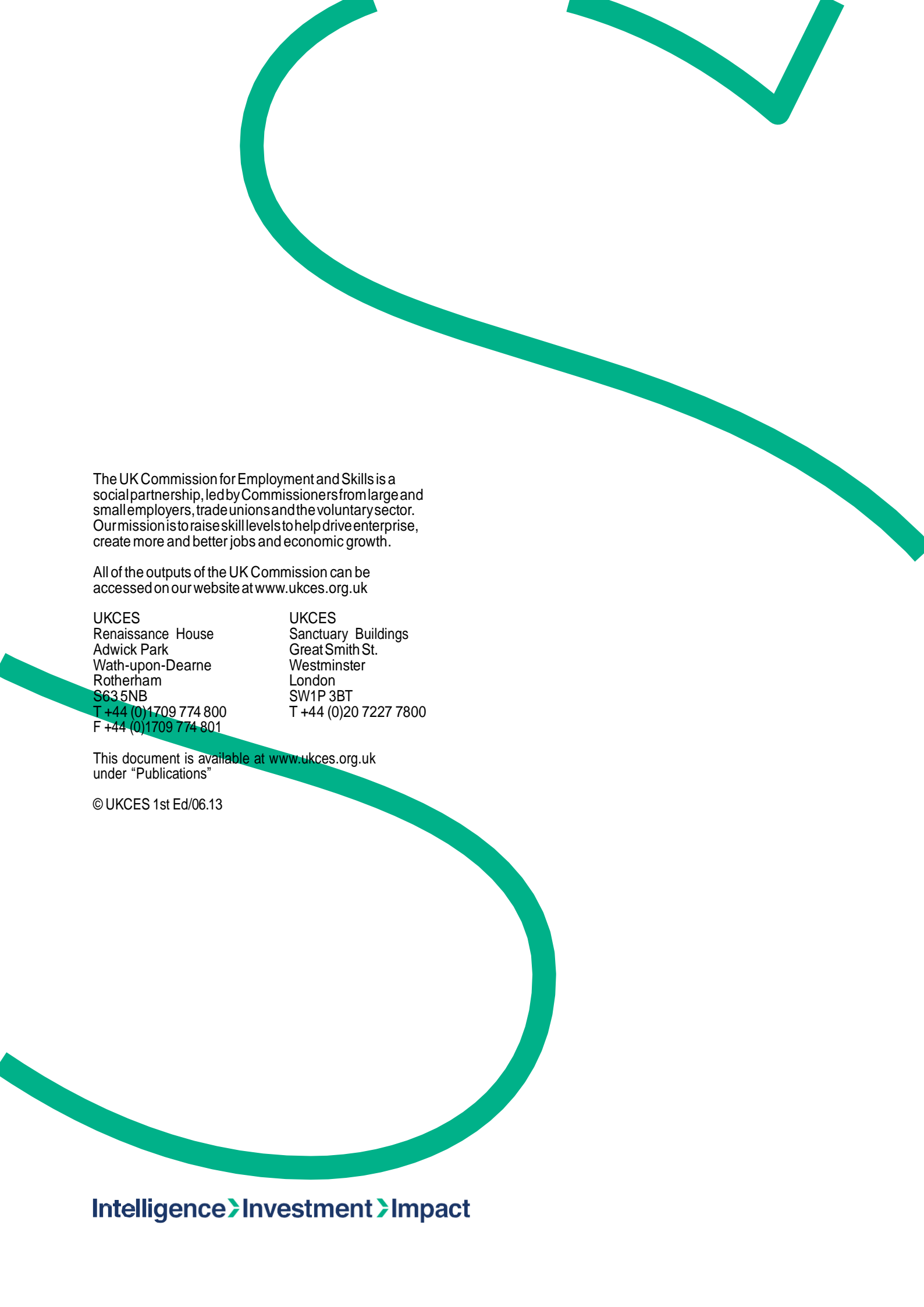
<b>Ownership: Reference Category – Private sector</b>	
Charity/voluntary sector	-0.045 (0.037)
Local government	0.030 (0.074)
Central government	-0.113* (0.050)
<b>No. of sites: Reference Category – Multi site firm</b>	
Single site firm	0.020 (0.023)
<b>Competition: Reference Category – Local competition</b>	
Regional competition	0.004 (0.035)
National competition	0.005 (0.028)
International competition	0.018 (0.036)
<b>Region – East Midlands</b>	
East of England	-0.060 (0.037)
London	-0.071* (0.035)
North East	-0.050 (0.047)
North West	-0.111*** (0.029)
South East	-0.046 (0.037)
South West	-0.032 (0.044)
West Midlands	-0.017 (0.049)
Yorkshire	-0.007 (0.051)
Northern Ireland	-0.128*** (0.030)
Scotland	-0.062 (0.044)
Wales	-0.068 (0.038)

Data: UKCESS 2011

Estimation by probit analysis. Numbers in the table are the marginal effects on the probability of offering training to new recruits in response to a skills-shortage vacancy. Standard errors in parentheses.

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Sector 2 (mining and quarrying) was dropped from the analysis, because of too few observations with skills-shortage vacancies.



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 mission is to raise skill levels to help drive enterprise, create more and better jobs and economic growth.

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