

**Small Rural Firms in English Regions:  
Analysis and Key findings from UK Longitudinal Small  
Business Survey, 2015**

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## Executive summary

England's rural firms have similar levels of turnover to their urban counterparts, though they are more likely to report a profit. This finding emerges from our rural-urban analysis of 13,403 small firms in England, including 3,555 rural firms, interviewed for the UK Small Business Survey in 2015. It cannot be explained or attributed to oft-rehearsed differences between rural and urban economies, as the analysis controls for differences in sectors, size, age and other business characteristics of rural and urban areas.

Although rural and urban firms share many plans and expectations for future growth, rural firms are significantly stronger exporters of goods and services, are more likely to have introduced new or improved goods in their businesses, and are more able to secure external funds, especially for capital investments in machinery and buildings, than businesses in urban England.

Nevertheless, there is also clear evidence of **Untapped** rural potential (for example, more rural firms have goods or services suitable for exporting than which currently export), **Weaknesses** (for example, rural firms are less likely to expect to grow their workforce) and **Obstacles** to business success, particularly Regulations or red tape, Staff recruitment and skills, and Taxes, rates and National Insurance (NI) that concern significantly more rural than urban firms.

The analysis also maps marked variations in these and other outcomes, activities and plans across England and its regions. So, to achieve spatially-balanced and inclusive economic growth, we encourage central and local government agencies, Local Enterprise Partnerships and business support and representative organisations to examine this evidence, embed rural business' strengths and aspirations, and address weaknesses, in economic strategies, plans and support mechanisms.

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## 1. Introduction

Rural firms have often been a blind spot within economic policy and national and regional analyses, which typically only scratch the surface regarding their innovation practices, how successful they are at securing finance, business advice, selling overseas, or their aspirations and performance. Yet in 2015/16 they formed 22.5% of England's registered businesses, employed at least 3.9 million people and earned more than £237 billion (Defra, 2017). Given their importance, it is imperative that policy makers and business leaders and support bodies are more aware of their needs and circumstances so that economic and spatial strategies can effectively harness the full potential of businesses from all places and sectors. Many of the challenges faced by rural firms and opportunities to grow available to them may be similar to urban firms. But potentially they may play out differently in different regional or local geographies and economies. This rural story could result from the specific composition of rural economies in terms of the profiles of their business sectors, ages and sizes. In this report we further unpack these issues through analysis of the UK Longitudinal Small Business Survey (LSBS).

The LSBS was commissioned by the UK Government's Department of Business (BEIS) and Governments of Scotland, Wales and Northern Ireland. 15,500 small firms across the United Kingdom were interviewed in October-December 2015 about their recent performance, future plans and expectations. More than 13,403 interviewed firms' were based in England, of which 26.5% (3,555) operate from locations that are defined as 'rural' within the UK Government's rural-urban classification.

In this report we provide a rural-urban analysis of responses of firms in England and sub-national levels. As well as overall business performance (measured in terms of turnover and profit) we consider three key themes and features of business activity, including access, need and uses of external finance, innovation of products, services and processes, and exporting. Regrettably, the sample size of interviewed rural firms is such that a detailed analysis by Local Enterprise Partnership (LEPs) is not feasible. At this scale, sample sizes in some LEP areas was too small, and rural responses to several questions were too few, to provide statistically robust or useful rural answers for each of the LEPs. Accordingly, responses were allocated to the (former) Government Office Regions (GOR) allowing rural-urban analyses to reflect something of the diversity of England's rural economies (Table 1).

The analysis applies a variety of descriptive and explanatory statistical techniques to ensure: that results are robust and representative of the wider rural (and urban) business community; that principal and statistically-significant rural-urban differences can be identified; and that outputs will be useful to economic and rural decision makers and representatives, as well as those in public and commercial sectors who manage business development or support programmes and measures.

Throughout the report we use a simple colour scheme to convey the key findings. If a table cell is left unfilled, it means that there was no significant difference between the rates of rural or urban responses to the survey question. If a cell is coloured green, then rural positive responses were (statistically) significantly higher than those from urban firms. If a cell is filled with orange, the rural-urban balance is in favour of town and city firms, i.e. urban firms' response were significantly higher than rural firms on that question. In the report we apply the Chi-square ( $\chi^2$ ) test to analyse differences between rural and urban firms. The test identifies a significant difference in frequency between two groups based on the difference between the observed and expected frequency in each group (Bird and Sapp, 2004).

**Table 1 LSBS responses by Government Office Region and Local Enterprise Partnership (LEPs\*)**

| Region             | Local Enterprise Partnership*   | Number of Enterprises** |       |
|--------------------|---|-------------------------|-------|
|                    |   | Urban                   | Rural |
| East Midlands      | Derby, Derbyshire, Nottingham and Notti, Greater Cambridge & Greater Peterborough, Greater Lincolnshire, Leicester and Leicestershire, Northamptonshire, Sheffield City Region, South East Midlands | 741                     | 394   |
| East of England    | Greater Cambridge & Greater Peterborough, Hertfordshire, New Anglia, South East, South East Midlands  | 1,073                   | 621   |
| London***          | Coast to Capital, London.   | 1,954                   | 5     |
| North East         | North Eastern, Tees Valley.   | 322                     | 111   |
| North West         | Cheshire and Warrington, Cumbria, Greater Manchester, Lancashire, Liverpool City Region,  | 1,148                   | 252   |
| South East         | Coast to Capital, Enterprise M3, Oxfordshire LEP, Solent, South East, South East Midlands, Thames Valley Berkshire, Thames Valley, Buckinghamshire.   | 1,829                   | 761   |
| South West         | Cornwall and the Isles of Scilly, Dorset, Gloucestershire, Heart of the South West, Swindon and Wiltshire, West of England.   | 1,054                   | 795   |
| West Midlands      | Black Country, Coventry and Warwickshire, Greater Birmingham and Solihull, Stoke-on-Trent and Staffordshire, The Marches, Worcestershire.   | 904                     | 328   |
| Yorkshire & Humber | Greater Lincolnshire, Humber, Leeds City Region, Sheffield City Region, York and North Yorkshire.   | 823                     | 288   |
| Total              |   | 9,848                   | 3,555 |

**Notes:**

\* LEPs are mapped onto Government Office Regions. Some individual LEPs are listed in more than one region because responses were classified using the firms' postcodes, which can extend across regional administrative boundaries.

\*\* The number of firms in Table 1 is unweighted. However, in Sections 2 and 4 of the report we applied BEIS weightings. To be able to adequately draw conclusions about medium sized businesses, the LSBS over-represents larger SMEs and under-represents microbusinesses and as such BEIS weights the sample to correct for this imbalance. The LSBS sample and subsequent adjustment were designed to provide national representative coverage of SMEs, and not for representativeness of the rural business population. The weighted sample that is used in the report is of 8,190 urban firms and 3,667 rural firms.

\*\*\* The analysis presented in this report excludes businesses located in London, a fairly regularly applied to remove the distorting influence of the London effect on urban responses.

This report is organised as follows. Section 2 provides a profile of the LSBS sample of rural and urban small businesses in England. Section 3 describes an overview of business performance for England and the regions, and introduces analysis of specific rural effects using Propensity Score Matching (PSM). Through the application of PSM the analysis aims to contribute to a long-standing debate as to whether there is a distinct 'rural effect' on business performance, or whether variations between the urban and rural industrial footprint (size, sector, age, etc.) account for any differences. Finally, in Section 4 the report considers the differences between rural and urban businesses' investment and finance, exporting and innovation across England and its regions.

## 2. Business Profile

### A) Size and Sector

Of the total business stock, 30.9 per cent of the weighted responses in the LSBS are classified as rural (Table 2).

**Table 2 Distribution of firm size and urban-rural classification as % total business stock**

| Firm size       | Number of Enterprises |               | Total         |
|-----------------|-----------------------|---------------|---------------|
|                 | Urban                 | Rural         |               |
| No employees    | 6,361 (77.7%)         | 2,687 (73.3%) | 9,048 (76.3%) |
| Micro 1 – 9     | 1,480 (18.1%)         | 828 (22.6%)   | 2308 (19.5%)  |
| Small 10 – 49   | 300 (3.7%)            | 133 (3.6%)    | 433 (3.7%)    |
| Medium 50 - 249 | 49 (0.6%)             | 19 (0.5%)     | 68 (0.6%)     |
| <b>Total</b>    | 8,190                 | 3,667         | 11,857**      |

Source: LSBS (2015)

\*\* Excluding London. This is also the case for all following tables.

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ :  $p < 0.05$ )

The distribution by grouped sections reveals that rural firms are more likely to be operating in *ABCDEF - Production and construction* and *GHI - Transport, retail and food service/accommodation* than the urban firms (Table 3). While more urban firms than rural firms operate in *JKLMN - Business services* (32.5% cf. 30.0%).

**Table 3 Distribution of firms by broad sector and urban-rural classification**

| A3/A4. Broad sector                                    | Number of Enterprises |               | Total         |
|--|-----------------------|---------------|---------------|
|  | Urban                 | Rural         |               |
| ABCDEF - Production and construction                   | 2,095 (25.6%)         | 1,085 (29.6%) | 3,180 (26.8%) |
| GHI - Transport, retail and food service/accommodation | 1,451 (17.7%)         | 775 (21.1%)   | 2,226 (18.8%) |
| JKLMN - Business services                              | 2,660 (32.5%)         | 1,099 (30.0%) | 3,759 (31.7%) |
| PQRS - Other services                                  | 1,984 (24.2%)         | 708 (19.3%)   | 2,692 (22.7%) |
| <b>Total</b>   | 8,190                 | 3,667         | 11,857        |

Source: LSBS (2015): question A3/4 Broad Sector

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ :  $p < 0.05$ )

### B) Performance by profit and turnover

Focusing on the aggregate level performance data of England, two indicators were considered, namely turnover and profit. Rural firms in England show a higher probability of earning annual turnover of more than £82,000 compared to the urban firms (Table 4). Rural firms also show a higher probability of making a profit than the urban firms (79.3% cf 76.4%) (Table 5). However, this is likely to reflect a sector bias as the pattern is reversed using the PSM analysis (See section 3).

**Table 4 Weighted distribution of firms by turnover and urban-rural classification**

| Annual turnover   | Number of Enterprises |               | Total         |
|-------------------|-----------------------|---------------|---------------|
|                   | Urban                 | Rural         |               |
| Less than £82,000 | 5,279 (64.5%)         | 2,011 (54.8%) | 7,290 (61.5%) |
| More than £82,000 | 1,938 (23.7%)         | 1,192 (32.5%) | 3,130 (26.4%) |
| Don't know        | 247 (3.0%)            | 122 (3.3%)    | 369 (3.1%)    |
| Refused           | 726 (8.9%)            | 342 (9.3%)    | 1,068 (9.0%)  |
| Total             | 8,190                 | 3,667         | 11,857        |

Source: LSBS (2015): question P1/B: annual turnover

Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

**Table 5 Weighted Distribution of firms by profit and urban-rural classification**

| Did you generate a profit or surplus? | Number of Enterprises |               | Total         |
|---------------------------------------|-----------------------|---------------|---------------|
|                                       | Urban                 | Rural         |               |
| Yes                                   | 6,258 (76.4%)         | 2,907 (79.3%) | 9,165 (77.3%) |
| No                                    | 1,461 (17.8%)         | 536 (14.6%)   | 1,997 (16.8%) |
| Don't know                            | 335 (4.1%)            | 126 (3.4%)    | 461 (3.9%)    |
| Refused                               | 136 (1.7%)            | 98 (2.7%)     | 234 (2.0%)    |
| Total                                 | 8,190                 | 3,667         | 11,857        |

Source: LSBS (2015): question P12: did you generate a profit or surplus?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ :  $p < 0.05$ ).

### C) Age of business

Rural firms are more likely to be older than urban firms with 47.2 per cent of rural firms being more than 20 years, compared to 41.2 per cent of urban firms. Urban firms are more likely to be recently established than rural firms with 15.6 per cent of urban firms between 0-5 years old, compared to only 11.2 per cent of rural firms (Table 6).

**Table 6 Weighted distribution of firms by age and urban-rural classification**

| Age of business    | Number of Enterprises |               | Total         |
|--------------------|-----------------------|---------------|---------------|
|                    | Urban                 | Rural         |               |
| 0 - 5 years        | 1,281 (15.6%)         | 410 (11.2%)   | 1,691 (14.3%) |
| 6 - 10 years       | 1,527 (18.6%)         | 663 (18.1%)   | 2,190 (18.5%) |
| 11 - 20 years      | 1,977 (24.1%)         | 857 (23.4%)   | 2,834 (23.9%) |
| More than 20 years | 3,374 (41.2%)         | 1,732 (47.2%) | 5,106 (43.1%) |
| Don't know         | 31 (0.4%)             | 6 (0.2%)      | 37 (0.3%)     |
| Total              | 8,190                 | 3,668         | 11,858        |

Source: LSBS (2015): question A6: age of business.

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ :  $p < 0.05$ ).

### D) Family ownership

In rural and urban economies the overwhelming majority of firms are family owned. Table 7 shows no significant difference between rural and urban firms, though a slightly higher proportion of rural than urban firms have family majority ownership with 86.9 per cent and 85.9 per cent respectively.

**Table 7 Weighted distribution of firms by family majority ownership and urban-rural classification**

| Family majority ownership | Number of Enterprises |               | Total          |
|---------------------------|-----------------------|---------------|----------------|
|                           | Urban                 | Rural         |                |
| Yes                       | 7,036 (85.9%)         | 3,185 (86.9%) | 10,221 (86.2%) |
| No                        | 1,122 (13.7%)         | 464 (12.7%)   | 1,586 (13.4%)  |
| Don't know / refused      | 32 (0.4%)             | 18 (0.5%)     | 50 (0.4%)      |
| Total                     | 8,190                 | 3,667         | 11,857         |

Source: LSBS (2015): question A12 Is your business a family owned business, that is one which is majority owned by members of the same family?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ :  $p < 0.05$ ).

In summary, these profiles show that rural firms in England are more likely to operate in production and construction industries and less likely to operate in service sectors. Rural firms tend to be older than urban firms. Most rural and urban firms have family ownership. Rural firms display both higher annual turnover and higher generating a profit. This could potentially be explained by some differences in business composition, for instance in firms' ages, sizes and sectors, of rural and urban areas. These variables, rather than businesses' rural or urban location per se, have often been highlighted to explain any differences in performance between rural and urban areas.

### 3. Exploring a rural effect on performance using Propensity Score Matching (PSM)

Having discussed the sample context, we now seek to consider potential urban-rural differences in business performance that are independent of variations in the profile characteristics of firms (size, sector, age, etc.) (Table 8). In order to do this, we use a Propensity Score Matching (PSM) to control for the latter variables. PSM is widely used to evaluate labour market policies and medical programmes. Empirical examples can be found in diverse fields where we need to observe outcomes of the same units in the presence or absence of a treatment

In this context, PSM is used to see whether differences in performance (measured by £turnover or profitability) and in use of information/advice support, across all responding firms, is conditional on whether a firm operates from a rural or urban location. Thus the rural location becomes the 'treatment' and all rural firms are in the treated group, whilst the urban firms are in the control (or non-treated) group. However, evaluating the causal effect of a treatment on a business outcome such as £turnover is complicated by the fact that we cannot observe the case in which a firm changes status from being classified as rural to it being located in an urban area (or vice-versa), so we do not observe the counter-factual situation of a rural firm's outcome had the firm not been rural but instead had it been urban (and vice-versa we do not observe the counter-factual for urban firms). Thus this weakness is addressed by constructing a statistical counter-factual. We do this by calculating firstly the propensity scores (which have a value from 0 to 1) based on a set of pre-treatment characteristics, i.e. the covariates, for both treated and control observations. The set of covariates used is listed in table 8.

A propensity score is a single score representing the probability of receiving a treatment, conditional on the set of observed covariates. Propensity scores allow us to balance a large number of covariates between two groups (in our case urban and rural firms) by balancing a single variable, the propensity score, avoiding the multidimensionality problem of balancing directly on covariates (Rosenbaum and Rubin, 1983). In other words propensity scores solve this dimensionality problem by compressing the



relevant factors into a single score, then comparing firms with similar propensity scores across a treatment group (in our case rural SMEs) and a control group (urban SMEs). In practice, the propensity score is most often estimated using a logistic regression model, in which treatment status (in our case a dummy equal to 1 if the firm is rural) is regressed on observed baseline characteristics. The estimated propensity score is the predicted probability of treatment derived from the fitted regression model. Thus, businesses located in rural areas are matched on the same probability to those located in urban areas and if a statistically significant difference in the chosen performance measure (turnover and profit) and use of support is found, then this can be attributed to the treatment, which in our case is the 'rural effect'.

To identify the determinants of England's rural businesses, 10,750 businesses from LSBS 2015 were included in an estimation, excluding businesses located in London because of the distorting influence of London on urban responses and also excluding the primary sector because of its rural dominance. The explanatory variables<sup>1</sup> that are included in the estimation are shown in Table 8 with Appendix 1 providing a detailed explanation of the PSM procedure. In this report update we also improve the application of the PSM methodology through disaggregating Sector into three broad sector variables.

**Table 8 Definition of the Variables used for Analysis**

| Variable                                 | Definition  | Description   |
|--|---|---|
| <u>Treatment variable</u><br>RURAL       | Business is located in rural areas  | 1=Yes; 0=otherwise                                    |
| <u>Explanatory variables</u><br>SECTOR_1 | Production and construction sector  | 1=Yes; 0=otherwise                                    |
| SECTOR_2                                 | Transport, retail and food service sector   | 1=Yes; 0=otherwise                                    |
| SECTOR_3                                 | Business service sector   | 1=Yes; 0=otherwise                                    |
| lnTOTEMP                                 | Natural logarithm of total employment, including employees, owners and business partners <sup>2</sup> | Continuous (Number of employees, owners and partners) |
| AGEB                                     | Age of business   | Discrete (year bands)                                 |
| UNREG                                    | The status of business registration   | 1=Unregistered; 0=otherwise                           |
| SOTRAD                                   | Sole trader   | 1=hiring employees; 0=otherwise                       |
| lnEMAGE                                  | Natural logarithm of the interaction between total employment and business's age                      | Continuous  |
| <u>Outcome variables</u><br>TURNOVER     | Total annual turnover <sup>3</sup>  | Continuous (Pounds)                                   |
| PROFIT                                   | Profitability   | 1=Yes; 0=otherwise                                    |
| SUPPORT                                  | Use of information or advice in the last 12 months  | 1=Yes; 0=otherwise                                    |

Table 9 shows results of the logistic regression performed on the covariates (or explanatory variables) of all firms that have an impact on businesses located in rural areas. Rural areas are more likely to

<sup>1</sup> The explanatory variables that are associated with both treatment and outcomes, see Sianesi (2004) and Smith and Todd (2005).

<sup>2</sup> We take the natural logarithm (ln) to improve the normality distribution and balance of the variable.

<sup>3</sup> TURNOVER is adjusted by using the information from two questions in the LSBS survey. We constructed turnover by keeping the variable coded P1\_2015 (turnover over the last 12 months) where available, and recovering the information from the variable coded P1B\_2015 (the turnover bands over the last 12 months) where firms did not want to give a precise figure for turnover but disclosed which band the turnover was falling into, so the mid-point of the band was taken for these firms.

have firms operating in Production and Construction, and Transport, retail and food service sectors than urban areas. Also, rural areas are slightly more likely to have sole traders than urban areas, whilst unregistered businesses are less likely to be located in rural than in urban areas

**Table 9 Estimate of Probability of Small Businesses located in Rural Areas in England using a Logistic Regression**

| Variable                      | Model         |       |
|-------------------------------|---------------|-------|
|                               | Coefficient   | SE    |
| Constant                      | -0.980***     | 0.196 |
| SECTOR_1                      | 0.147**       | 0.067 |
| SECTOR_2                      | 0.294***      | 0.064 |
| SECTOR_3                      | -0.042        | 0.065 |
| lnTOTEMP                      | -0.114        | 0.080 |
| AGEB                          | 0.028         | 0.022 |
| UNREG                         | -0.438***     | 0.083 |
| SOTRADF                       | 0.126*        | 0.075 |
| lnEMSECT                      | -0.002        | 0.009 |
| <b>Number of Observations</b> | <b>10,750</b> |       |
| <b>Correctly classified</b>   | <b>68.95%</b> |       |
| <b>Pseudo-R<sup>2</sup></b>   | <b>0.019</b>  |       |

Notes: \*, \*\*, \*\*\* denote significance at 10%, 5% and 1%, SE is standard errors.

Based on this model, the propensity score is calculated by matching the predicted probability of each variable in the treated group (rural) with that in the control group (urban). The impact of the difference between rural and urban businesses on turnover, profit and support is estimated given the set of matched variables. A balancing test is then performed for these estimated models in which the balancing test is satisfied when there is no significant difference on the variance ratio<sup>4</sup> for all variables (see Table A.1 – A.3) (Grilli and Rampichini, 2011). By doing this we ensure an extremely robust comparison between rural and urban businesses that have been matched on key variables.

Having controlled for these influential structural variables such as sector, registration status, age, etc, Table 10 shows that there is no significant differences in performance measured in terms of the level of £turnover between rural and urban firms in England. However, England's rural businesses are more likely to report a profit than England's urban businesses. There may be several reasons why more rural than urban firms were profitable, albeit from similar levels of turnover. These could include, for example: a) wage levels are lower in many rural areas than in urban areas, partly because of poorer choice of jobs, and more seasonal or part-time work, resulting in lower costs for labour; b) rural firms may have higher % of home-based businesses than urban firms, thus less fixed costs related to business premises; c) rural firms operating from business premises in local markets with limited competition will have lower rents than urban markets with greater competition, and many small rural firms may access mandatory or discretionary business rate reliefs, so lower premises-related expenditure; d) sparser population densities in rural areas mean the size of local markets will on average be smaller, but at the same time there may be less local competition; and e) family-owned firms may take more non-monetary or wage benefits from revenue than corporately-owned firms. In short, outgoings are likely to be lower for many rural firms compared with their urban equivalents and

<sup>4</sup> The variance ratio is a statistical test that is used to show how effectively the treatment is balancing the covariates. Tables A.1 – A.3 show that variance ratios are similar, implying that all covariates are balanced.

low competition and flexibility of business and owner relationships may enable a higher proportion of their revenue to be classed as surplus or profit;

Our analysis also shows that in the 12 months preceding the Survey rural firms in England were more likely than urban firms to have sought information or advice from external sources. Businesses were asked whether they had used any forms of information or advice, so this variable is broadly framed. We examine different types of the information/advice support in more details in the following sections.

**Table 10 Impact of Rural Small Businesses on Outcomes<sup>5</sup>**

| Matching technique    | £Turnover                 | Profit             | Support            |
|-----------------------|---------------------------|--------------------|--------------------|
|                       | ATT (SE)                  | ATT (SE)           | ATT (SE)           |
| PSM                   | -213,224.3<br>(158,551.3) | 0.017*<br>(0.009)  | 0.022*<br>(0.011)  |
| Nearest Neighbour (3) | -128,288.9<br>(127,732.3) | 0.014*<br>(0.008)  | 0.022**<br>(0.011) |
| Caliper (0.01)        | -243979.7<br>(152,432.1)  | 0.018**<br>(0.009) | 0.022**<br>(0.011) |

Notes: \*, \*\*, \*\*\* denote significance at 10%, 5% and 1%, SE is standard errors

Table 9 uses 3 different matching techniques which all demonstrate statistical significance and direction of outcome relationship, with similar variations in magnitude.

Below the national level, we also applied the PSM technique to analyse differences in performance between rural and urban firms for each region. As shown in Table 11, most regions display no significant differences in firms' £turnover or profit/loss, nor in levels of use of external advice between urban and rural firms. However, the South East's rural firms are more likely to report a profit than that region's urban firms, while rural firms in the South West and Yorkshire & Humber are more likely to seek advice or information than the regions' urban firms.

**Table 11 Impact of Rural Small Businesses on Outcomes using Propensity Score Matching – regional variations**

| Region             | Turnover (SE)             | Profit (SE)       | Support (SE)       |
|--------------------|---------------------------|-------------------|--------------------|
| East Midlands      | -390,414.7<br>(600,346.4) | 0.049<br>(0.032)  | 0.030<br>(0.041)   |
| East of England    | 435,388.8<br>(360,045.8)  | -0.002<br>(0.024) | 0.010<br>(0.030)   |
| North East         | -1,993,005<br>(1,216,054) | -0.082<br>(0.061) | 0.098<br>(0.0827)  |
| North West         | -761,744.6<br>(532,026.9) | -0.019<br>(0.031) | -0.068<br>(0.043)  |
| South East         | -439,365.8<br>(356,933.2) | 0.038*<br>(0.021) | -0.012<br>(0.026)  |
| South West         | -388,905.4<br>(352,723.8) | 0.029<br>(0.021)  | 0.056**<br>(0.028) |
| West Midlands      | 581,085.8<br>(435,660.2)  | -0.026<br>(0.031) | 0.052<br>(0.040)   |
| Yorkshire & Humber | 519,012.3<br>(572,147.8)  | 0.018<br>(0.039)  | 0.094**<br>(0.042) |

**Note:** \*\* and \* are statistically significant at 5% and 10% respectively

<sup>5</sup> The impact of rural businesses on outcomes including London areas is shown in Table A.20 in which the results are similar to that without London.

## 4. Rural business investment and external finance, exporting and innovation

In this section, we explore some of the key drivers of change within rural and urban businesses through three themes, namely investment and external finance, exporting, and innovation. We describe some of the statistically significant differences between rural and urban firms for England as a whole, and for the former Government Office Regions.

Two of our themes, Capital investment and Innovation (or development of new products/services), are represented in Table 12. Firms participating in the LSBS were asked about their improvement or development plans for the next three years and were presented with five specific plans, plus an option of None of these. Both rural and urban firms show the greatest level of commitment to *Increase the skills of the workforce* with 46.1 per cent for rural and 46.9 per cent for urban firms. Only firms' plans to make *Capital investment (in premises, machinery etc.)* achieved significant urban: rural differences, with England's rural firms being more likely to make such investments than urban firms (30.7% cf 25.5%).

There was also regional variation in such planned improvements Table A.4). So, for example, in the West Midlands 56.5 per cent of rural firms say that they plan to improve their workforce's skills compared to 46.3 per cent of urban firms (Table A.4). It may be a concern for business development agencies that 36.8 percent of the small firms do not plan to make any of the five specified improvements (though only 20.0 per cent of rural firms in North East England reported that they had no plans, which may be a source of encouragement).

**Table 12 Plans for next three years - England**

| Plans over next three years                      | Number of Enterprises |               | Total         |
|--|-----------------------|---------------|---------------|
|  | Urban                 | Rural         |               |
| Increase the skills of the workforce             | 3,839 (46.9%)         | 1,691 (46.1%) | 5,530 (46.6%) |
| Increase the leadership capability of managers   | 1,846 (22.5%)         | 871 (23.8%)   | 2,717 (22.9%) |
| Capital investment (in premises, machinery etc.) | 2,090 (25.5%)         | 1,126 (30.7%) | 3,216 (27.1%) |
| Develop and launch new products/services         | 2,834 (34.6%)         | 1,279 (34.9%) | 4,113 (34.7%) |
| Introduce new working practices                  | 2,630 (32.1%)         | 1,162 (31.7%) | 3,792 (32.0%) |
| None of these                                    | 3,054 (37.3%)         | 1,314 (35.8%) | 4,368 (36.8%) |

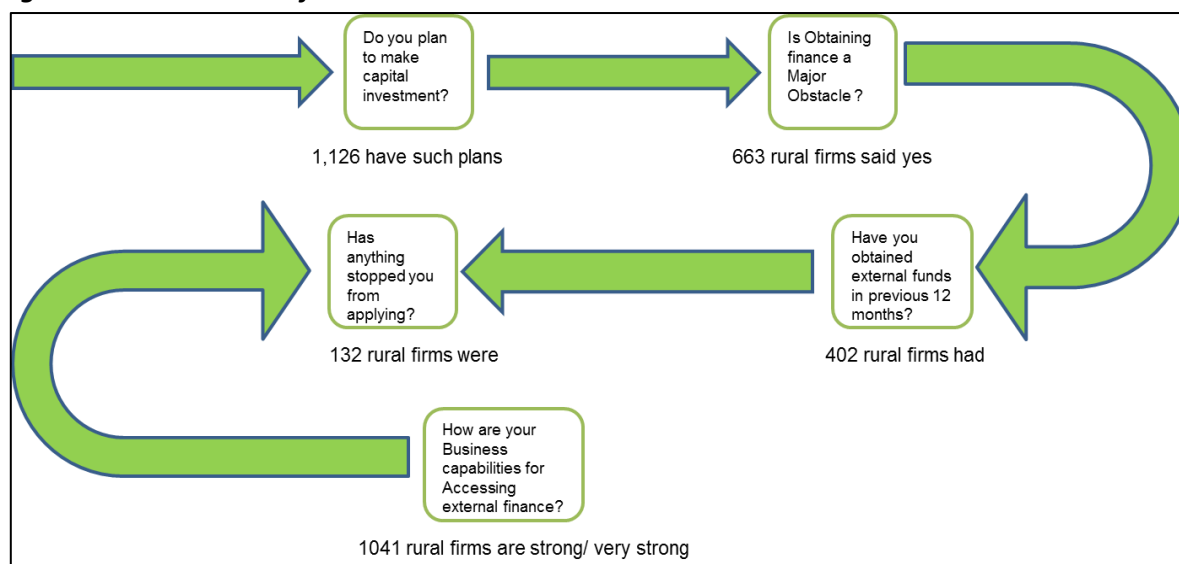
Source LSBS (2015): question R4: Does your business plan to do any of the following over next three years?  
Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

### 4.1 Investment and external finance

Throughout the survey several questions were asked that related to the core theme of investment and external finance, which we believe can be considered together for a more holistic analysis (Figure 1), even though rates of response for each question are independent of one another. Some of the questions are about past performance or activity and business capabilities, whilst others are about future plans. If firms plan future improvements, it is reasonable to consider whether there are indications of likely success, or barriers, from their capabilities and past experiences. For each question in Figure 1, the numbers of usable rural responses at national level are indicated, so that this can show the scale and usefulness of the analysis. Response rates for each question are independent of one

other (for example in Figure 1 the 663 firms that identify finance as an obstacle are not a subset of the 1,126 firms that plan to make a capital investment). The small sample sizes for some questions highlights the difficulties of producing sub-national urban-rural analysis (say for individual LEPs).

**Figure 1 Investment and finance trail**



Source: LSBS (2015)

#### A) Plan to make capital investment

Differences between rural and urban responses were statistically significant for only one of the improvement plans in Table 12 - *Capital Investment (in premises, machinery etc.)* - a higher proportion of rural than urban firms in England plan to make such investments in the next three years. There is also variation at regional level. More rural firms than urban firms in four regions, West Midlands, Yorkshire & Humber, South East and South West, plan to make investments of a capital nature in premises, machinery or fixed equipment.

#### B) Is Obtaining finance a major obstacle?

It is reasonable to assume that some of those firms planning capital investments or other activities will need external financing. In the survey firms were asked about the potential barriers or obstacles to successful running of their business. Obtaining finance was one of these barriers on which firms' views were sought.

Across England the obstacles most frequently identified by rural firms were: *Regulations/ red tape*, with *Competition in the market*, *Staff recruitment and skills of employees*, *Tax/NI/Rates* and *Late payments* also featuring strongly (Table 13). *Competition in the market* was the lead obstacle cited by urban firms with 46.3 per cent, significantly less of a barrier for rural firms (40.0 per cent)

Although Obtaining finance was not perceived as a leading barrier for rural (or urban firms), 663 of England's rural firms said it was. Moreover rural firms in the North East and South West were significantly more likely to report Obtaining finance as a barrier to business success, than their regions' urban businesses (40.6% cf 21.9% for North East, and 21.1% cf 16.4% for South West) (Table A.5). Additionally rural firms in these regions were also significantly more likely than urban firms to describe

Tax/NI/Business rates, and Late Payment as major obstacles to business success. This suggests that rural firms in these regions have broader financial challenges than just Obtaining external funds.

**Table 13 Major obstacles to businesses in general at the England level**

| Major obstacles to businesses                           | Number of Enterprises |               | Total         |
|---|-----------------------|---------------|---------------|
|   | Urban                 | Rural         |               |
| Obtaining finance                                       | 1,375 (16.8%)         | 663 (18.1%)   | 2,038 (17.2%) |
| Taxation, VAT, PAYE, National Insurance, business rates | 2,297 (28.0%)         | 1,157 (31.6%) | 3,454 (29.1%) |
| Staff recruitment and skills                            | 1,348 (16.5%)         | 718 (19.6%)   | 2,066 (17.4%) |
| Regulations/red tape                                    | 2,841 (34.7%)         | 1,671 (45.6%) | 4,512 (38.1%) |
| Availability/cost of suitable premises                  | 1,295 (15.8%)         | 534 (14.6%)   | 1,829 (15.4%) |
| Competition in the market                               | 3,788 (46.3%)         | 1,476 (40.2%) | 5,264 (44.4%) |
| Workplace pensions                                      | 898 (11.0%)           | 409 (11.2%)   | 1,307 (11.0%) |
| Late payment  | 2,239 (27.3%)         | 1,037 (28.3%) | 3,276 (27.6%) |
| Any other major issues or obstacles                     | 943 (11.5%)           | 479 (13.1%)   | 1,422 (12.0%) |
| None of these   | 1,634 (20.0%)         | 594 (16.2%)   | 2,228 (18.8%) |

Source: LSBS (2015): question G4 which of the following would you say are major obstacles to the success of your business in general?

Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

#### *C) Have you sought external funds?*

Overall around 10 -11% of England's small firms had sought funds from external sources in the year preceding the 2015 LSBS interview (Table 14). No significant rural-urban differences were identified at country or regional level for this question, with the exception of South East England where a significantly higher share of urban firms had sought such funds (Table A.6).

**Table 14 Businesses External Finance obtained at the England level**

| Have you tried to obtain external finance for your business in the past 12 months? | Number of Enterprises |               | Total          |
|--|-----------------------|---------------|----------------|
|  | Urban                 | Rural         |                |
| Yes  | 880 (10.7%)           | 402 (11.0%)   | 1,282 (10.8%)  |
| No   | 7,259 (88.6%)         | 3,251 (88.6%) | 10,510 (88.6%) |
| Don't know   | 45 (0.5%)             | 11 (0.3%)     | 56 (0.5%)      |
| Total  | 8,190                 | 3,668         | 11,858         |

Source: LSBS (2015), H4: Have you tried to obtain external finance for your business in the past 12 months?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05).

#### *D) Reasons for seeking external finance*

For those firms who had sought financing, the LSBS also asked about the reasons for seeking finance. Whilst there was limited country or regional difference in the share of rural and urban firms that sought external funding, there are marked rural-urban differences in the intended uses of external finance. The largest single use or reason from both urban and rural firms was *Working capital or cash flow* with significant urban bias (43.6 per cent of rural firms, compared with 52.3 per cent of urban firms (Table 15). However, looking across the range of reasons with significant rural-urban differences Table 15 suggests that urban firms are more likely to seek external funds for regular operational or ongoing business improvements – e.g. *Cash flow, Marketing, Research and development, Training/staff development*, whilst most rural firms sought funds for capital investments or funding improvements for capital items.

**Table 15 Reasons for seeking external finance-England**

| Reason for seeking finance                  | Number of Enterprises |             | Total       |
|---|-----------------------|-------------|-------------|
|   | Urban                 | Rural       |             |
| Working capital, cash flow                  | 460 (52.3%)           | 175 (43.6%) | 635 (49.6%) |
| Buying land or buildings/building premises  | 76 (8.6%)             | 76 (19.0%)  | 152 (11.9%) |
| Improving buildings                         | 49 (5.6%)             | 37 (9.2%)   | 86 (6.7%)   |
| Acquiring capital equipment or vehicles     | 317 (36.1%)           | 166 (41.3%) | 483 (37.7%) |
| Research & Development                      | 45 (5.1%)             | 6 (1.5%)    | 51 (4.0%)   |
| Acquiring intellectual property             | 11 (1.3%)             | 1 (0.2%)    | 12 (0.9%)   |
| Protecting intellectual property            | 9 (1.0%)              | 0 (0.0%)    | 9 (0.7%)    |
| Training/staff development                  | 25 (2.8%)             | 2 (0.5%)    | 27 (2.1%)   |
| Buying another business                     | 3 (0.3%)              | 2 (0.5%)    | 5 (0.4%)    |
| Marketing                                   | 46 (5.2%)             | 6 (1.5%)    | 52 (4.1%)   |
| Debt consolidation                          | 24 (2.7%)             | 3 (0.7%)    | 27 (2.1%)   |
| Moving premises                             | 5 (0.6%)              | 3 (0.7%)    | 8 (0.6%)    |
| To fund expansion in the UK                 | 45 (5.1%)             | 16 (4.0%)   | 61 (4.8%)   |
| To fund expansion overseas                  | 11 (1.3%)             | 1 (0.2%)    | 12 (0.9%)   |
| Hiring staff                                | 20 (2.3%)             | 3 (0.7%)    | 23 (1.8%)   |
| Start-up business/in order to start trading | 28 (3.2%)             | 6 (1.5%)    | 34 (2.7%)   |
| Management buyout/buy in (MBO/MBI)          | 11 (1.3%)             | 2 (0.5%)    | 13 (1.0%)   |
| Business recovery                           | 26 (3.0%)             | 2 (0.5%)    | 28 (2.2%)   |
| Other                                       | 95 (10.8%)            | 49 (12.2%)  | 144 (11.3%) |
| Don't know                                  | 32 (3.6%)             | 3 (0.7%)    | 35 (2.7%)   |
| Total                                       | 879                   | 401         | 1,280       |

Source: LSBS (2015), H8A: On the most important of these occasions in the last 12 months, what did you try to obtain finance for? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

The significantly higher intended use of external finance for capital investments among rural firms could be attributed to rural economies' stock of farming, forestry and allied businesses with their dependency on expensive land, buildings and machinery. Consequently, we sought to explore if such a sectoral bias exists.

To test for such a sectoral effect, responses from these primary sector industries were excluded from the analysis (Table 16). Although this re-analysis levelled or eradicated the (rurally) significant response in relation to *Acquiring capital equipment or vehicles*, rural responses remained significantly higher than urban firms' for other capital purposes,. So this significant difference in rural and urban firms' intentions for external funds for capital funding cannot to be simply attributed to rural areas' land-dependant industries (Table 16).

**Table 16 Reasons for seeking finance: - England without Land industries**

| Reasons for seeking finance                 | Number of Enterprise |             | Total       |
|---|----------------------|-------------|-------------|
|   | Urban                | Rural       |             |
| Working capital, cash flow                  | 456 (52.2%)          | 138 (42.1%) | 594 (49.4%) |
| Buying land or building/building premises   | 76 (8.7%)            | 52 (15.9%)  | 128 (10.6%) |
| Improving building                          | 49 (5.6%)            | 30 (9.1%)   | 79 (6.6%)   |
| Acquiring capital equipment or vehicles     | 312 (35.7%)          | 120 (36.6%) | 432 (35.9%) |
| Research and Development                    | 45 (5.1%)            | 6 (1.8%)    | 51 (4.2%)   |
| Acquiring intellectual property             | 11 (1.3%)            | 1 (0.3%)    | 12 (1.0%)   |
| Protecting intellectual property            | 9 (1.0%)             | 0 (0.0%)    | 9 (0.7%)    |
| Training/staff development                  | 25 (2.9%)            | 2 (0.6%)    | 27 (2.2%)   |
| Buying another business                     | 3 (0.3%)             | 2 (0.6%)    | 5 (0.4%)    |
| Marketing                                   | 46 (5.3%)            | 6 (1.8%)    | 52 (4.3%)   |
| Debt consolidation                          | 24 (2.7%)            | 1 (0.3%)    | 25 (2.1%)   |
| Moving premises                             | 5 (0.6%)             | 3 (0.9%)    | 8 (0.7%)    |
| To fund expansion in the UK                 | 45 (5.1%)            | 12 (3.7%)   | 57 (4.7%)   |
| To fund expansion overseas                  | 11 (1.3%)            | 1 (0.3%)    | 12 (1.0%)   |
| Hiring staff                                | 20 (2.3%)            | 3 (0.9%)    | 23 (1.9%)   |
| Start-up business/in order to start trading | 28 (3.2%)            | 6 (1.8%)    | 34 (2.8%)   |
| Management buyout/buy in (MBO/MBI)          | 11 (1.3%)            | 1 (0.3%)    | 12 (1.0%)   |
| Business recovery                           | 26 (3.0%)            | 2 (0.6%)    | 28 (2.3%)   |
| Other                                       | 93 (10.6%)           | 43 (13.1%)  | 136 (11.3%) |
| Don't know                                  | 32 (3.7%)            | 2 (0.6%)    | 34 (2.8%)   |
| Total                                       | 874                  | 328         | 1,202       |

Source: LSBS (2015), H8A: On the most important of these occasions in the last 12 months, what did you try to obtain finance for? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

#### *E) External funds secured*

Those firms which had secured external funds were asked to identify the type of finance used and how much they had secured on their last occasion. The findings reinforce the contrasting pattern of finance needs for rural (i.e. for capital investments) and urban (i.e. smaller revenue expenditure for ongoing business improvements) businesses.

At the time of the survey, most small firms were using *Bank overdrafts*, *Credit cards*, and *Loan from a bank, building society or other financial institution* (Table 17). Approximately 42 per cent of Bank overdrafts are used by both rural and urban firms. A higher percentage of rural than urban firms use *Loan from a bank, building society or other financial institution*, *Leasing or hire purchase*, and *Commercial mortgage* with 34.2 per cent and 30.6 per cent, 27.3 per cent and 23.2 per cent, and 12.6 per cent and 6.5 per cent respectively.



**Table 17 Types of Finance currently being used-England**

| Types of Finance   | Number of Enterprises |             | Total        |
|--|-----------------------|-------------|--------------|
|  | Urban                 | Rural       |              |
| Bank overdraft   | 796 (41.9%)           | 428 (41.8%) | 1224 (41.8%) |
| Commercial mortgage  | 124 (6.5%)            | 129 (12.6%) | 253 (8.6%)   |
| Credit cards   | 733 (38.6%)           | 407 (39.7%) | 1140 (39.0%) |
| Equity Finance (including peer to peer/ crowd funding, business angels, venture capital, equity from shareholders) | 72 (3.8%)             | 38 (3.7%)   | 110 (3.8%)   |
| Factoring/invoice discounting  | 67 (3.5%)             | 32 (3.1%)   | 99 (3.4%)    |
| Leasing or hire purchase   | 441 (23.2%)           | 280 (27.3%) | 721 (24.6%)  |
| Loan from a bank, building society or other financial institution  | 581 (30.6%)           | 351 (34.2%) | 932 (31.9%)  |
| Mezzanine finance  | 8 (0.4%)              | 9 (0.9%)    | 17 (0.6%)    |
| Peer to peer /crowd funding platform for debt  | 39 (2.1%)             | 18 (1.8%)   | 57 (1.9%)    |
| Public equity (e.g. issue of shares on public market)  | 6 (0.3%)              | 6 (0.6%)    | 12 (0.4%)    |
| Charitable/ Trust/ Grant   | 49 (2.6%)             | 37 (3.6%)   | 86 (2.9%)    |
| Government schemes   | 50 (2.6%)             | 5 (0.5%)    | 55 (1.9%)    |
| Other loans (inc personal finance)   | 44 (2.3%)             | 20 (1.9%)   | 64 (2.2%)    |
| Other finance  | 60 (3.2%)             | 15 (1.5%)   | 75 (2.6%)    |
| None of these  | 327 (17.2%)           | 163 (15.9%) | 490 (16.7%)  |
| Don't know   | 4 (0.2%)              | 0 (0.0%)    | 4 (0.1%)     |

Source: LSBS (2015), H6: Are you currently using any of these types of finance?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

Looking at the regions (Table A.7), significantly higher proportions of rural firms used Loans, Credit cards, or Leasing/HP agreements in the North West. Rural firms in the South East were significantly more likely to use Leasing/HP agreements than their urban firms, and in the South West and East of England Loans from banks, building societies and similar institutions were especially important for rural firms. Rural firms across England were also greater users of Commercial mortgages, than urban firms, with significant rural-urban differences in four regions, namely North West, East of England, South West and South East.

Turning to the amounts of external funds raised by rural and urban firms in England (Table 18), we found that 70% of urban firms had secured amounts up to £25,000 on their last successful approach to external funders, whilst this scale of external finance only accounted for around half (51.6%) of rural firms' successful forays to financial sources. Significantly higher levels of urban firms in England, and in the North East, North West, East Midlands and South East regions, secured this level of external finance (Table A.8). In contrast, England's rural firms who secured external finance, obtained more considerable funds. Nearly a quarter of rural firms (23.5%) secured between £100,000 and £2million, contrasting with just over 1 in 8 (11.6%) urban businesses who secured such amounts. Thus, in the same four regions the proportion of rural firms obtaining such larger amounts reaches 30-50 per cent, several % points higher than their urban firms' experience (though the number of responses are small and should be treated with caution).

**Table 18 Amount of Finance obtained: Rural-urban Classification - England**

| Amount of Finance obtained | Number of Enterprises |             | Total        |
|----------------------------|-----------------------|-------------|--------------|
|                            | Urban                 | Rural       |              |
| Less than £24,999          | 451 (69.6%)           | 169 (51.5%) | 620 (63.5 %) |
| £25,000 to £99,999         | 95 (14.7%)            | 57 (17.4%)  | 152 (15.6%)  |
| £100,000 to £1,999,999     | 67 (10.3%)            | 77 (23.5%)  | 144 (14.8%)  |
| £2 million or more         | 9 (1.4%)              | 4 (1.2%)    | 13 (1.3%)    |
| Don't know                 | 6 (0.9%)              | 4 (1.2%)    | 10 (1.0%)    |
| Refuse                     | 20 (3.1%)             | 17 (5.2%)   | 37 (3.8%)    |
| Total                      | 648                   | 328         | 976          |

Source: LSBS (2015), H9F: How much finance did you obtain in the last 12 months?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05).

*F) Discouragement of finance (Has anything stopped you applying for finance?)*

Businesses that had secured funds were also asked if anything had put them off applying for finance. This is an important question because whereas 10-11 per cent of England's small firms had secured external funding, around 8 per cent of firms had indicated they needed more than they had secured. Our rural-urban analysis suggests a marked urban challenge, with significantly more businesses in urban locations answering this question affirmatively than rural firms, both at England level, and in the North East, Yorkshire & Humber and East Midlands regions. Approximately 60 per cent of urban firms were discouraged from applying for finance compared with 48 per cent of rural firms at the England level (Table 19). In North East region, this was 90.3 per cent of urban firms, in the East Midlands 65.8 per cent of urban firms and in Yorkshire & Humber's 64.1 per cent (Table A.9). The main reasons for discouragement reflect in part the attitude to risk of would-be applicants, but also their perception of the financial market place, ie "Expected to be rejected, Take too long for a decision or, Too much hassle" (Table 20).

**Table 19 Businesses stopped applying for finance-England**

| Whether anything stopped them from applying for finance | Number of Enterprises |             | Total       |
|---|-----------------------|-------------|-------------|
|   | Urban                 | Rural       |             |
| Yes   | 399 (59.9%)           | 124 (47.5%) | 523 (56.4%) |
| No  | 244 (36.6%)           | 133 (51.0%) | 377 (40.7%) |
| Don't know  | 23 (3.5%)             | 4 (1.5%)    | 27 (2.9%)   |
| Total   | 666                   | 261         | 927         |

Source: LSBS (2015), H97: if any reason for not applying for finance?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table 20 Main reason for discouragement-England**

| Main reason for discouragement                                   | Number of Enterprises |             | Total       |
|--|-----------------------|-------------|-------------|
|  | Urban                 | Rural       |             |
| You thought you would be rejected                                | 52 (16.6%)            | 111 (18.2%) | 163 (17.1%) |
| You thought it would be too expensive                            | 34 (10.8%)            | 72 (11.9%)  | 106 (11.1%) |
| You don't want to take on additional risk                        | 182 (27.3%)           | 77 (27.0%)  | 259 (27.2%) |
| Now is not the right time because of economic conditions         | 62 (9.3%)             | 10 (3.5%)   | 72 (7.6%)   |
| You didn't know where to find the appropriate finance you needed | 29 (4.3%)             | 4 (1.4%)    | 33 (3.5%)   |
| Poor credit history  | 68 (10.2%)            | 32 (11.2%)  | 100 (10.5%) |
| The decision would have taken too long/too much hassle           | 41 (6.1%)             | 29 (10.2%)  | 70 (7.4%)   |
| Other  | 80 (12.0%)            | 34 (11.9%)  | 114 (12.0%) |
| Don't know   | 20 (3.0%)             | 8 (2.8%)    | 28 (2.9%)   |
| Total  | 667                   | 285         | 952         |

Source: LSBS (2015), H97: if any reason for not applying for finance?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

#### *G) Capability to obtain finance*

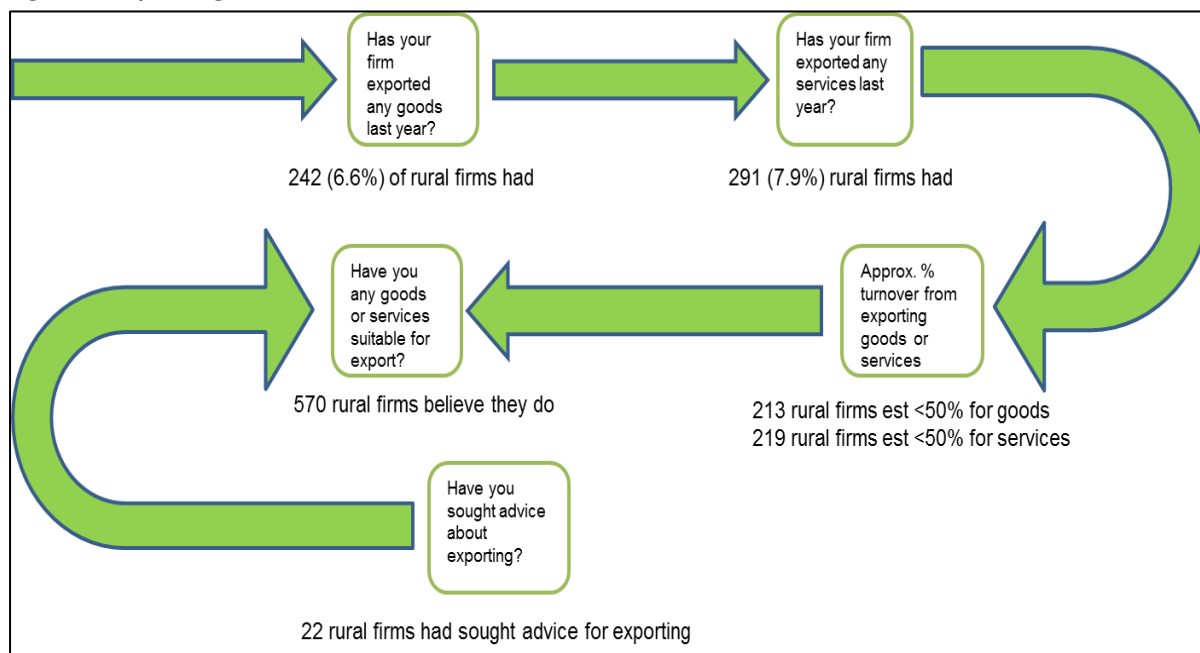
Firms were asked to rate their business capabilities using a 5-point scale where 1 = Very Poor and 5 = Very strong, relative to five business drivers or management skills. These included Accessing external finance. Across England as a whole, significantly more managers of rural than urban small firms considered that they had strong or very strong business capabilities in accessing external finance (Table A.10). Thus, approximately 13.5 per cent and 14.9 per cent of rural firms had very strong and strong business capabilities in accessing external finance compared to 12.0 per cent and 12.6 per cent of urban firms respectively. In South East, South West, and West Midlands, significantly more managers of rural than urban small firms feel that they had strong or very strong business capabilities in accessing external finance (Table A.11). More rural than urban firms in East Midlands and North East had very strong capabilities in accessing external finance (18.1% cf 6.9% and 18.8% cf 15.1% respectively).

## **4.2 Exporting**

Recent decisions about the UK's future relationships with key trading blocks, are likely to elevate business demand for support from LEPs and other agencies on exporting. Firms' recent exporting performance and challenges might offer a useful baseline of evidence. As with the section above in which we brought together answers to several questions related to access and use of finance, in this section we draw upon answers to several questions relating firms' experience of exporting goods and services (Figure 8)

In the 12 months prior to 2015 LSBS survey, around 7 per cent of rural firms (242) and 5 per cent of urban-based businesses (419) had exported goods from the UK. A larger number of rural (291) and urban (579) firms had exported services (Figure 8). Most of these firms exported goods OR services, but the LSBS identified that 71 of these rural firms and 116 of these urban businesses exported goods AND services.

**Figure 8 Exporting trail**



Source: LSBS (2015)

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

#### A) Exporters of Goods

Table 21 presents an overview of England's small businesses exporting goods beyond the UK. The higher proportion of rural than urban firms exporting goods is statistically significant for England as a whole (6.6% of rural firms compared to 5.1% of urban firms), and more rural firms in South West England were exporters of goods than those in the region's urban places with 8.7 per cent for rural firms and 4.7 per cent for urban firms (Table A.12).

**Table 21 Exporting Goods by Rural and Urban businesses - England**

| Whether export goods | Number of Enterprises |               | Total          |
|----------------------|-----------------------|---------------|----------------|
|                      | Urban                 | Rural         |                |
| Yes                  | 419 (5.1%)            | 242 (6.6%)    | 661 (5.6%)     |
| No                   | 7,767 (94.8%)         | 3,419 (93.2%) | 11,186 (94.3%) |
| Don't know           | 3 (0.0%)              | 6 (0.2%)      | 9 (0.1%)       |
| Total                | 8,189                 | 3,667         | 11,856         |

Source: LSBS (2015), C1: in the past 12 months did your business export any services outside of the UK: Rural-Urban England?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

#### B) Service Export

Table 22 presents an overview of small firms exporting services in England. England's rural firms were also more likely to have exported services in the year to end 2015 than had the country's urban businesses. The rural-urban difference was statistically significant for England and in West Midlands. Approximately 8 per cent of rural firms export their services compared to 7 per cent of urban firms (Table 22). Also, 8.9 per cent of rural firms in West Midlands are more likely to export services compared to 4.4 per cent of urban firms (Table A.13).

**Table 22 Service Export of Rural and Urban businesses-England**

| Whether export services. | Number of Enterprises |               | Total          |
|--------------------------|-----------------------|---------------|----------------|
|                          | Urban                 | Rural         |                |
| Yes                      | 579 (7.1%)            | 291 (7.9%)    | 870 (7.3%)     |
| No                       | 7,596 (92.8%)         | 3,359 (91.6%) | 10,955 (92.4%) |
| Don't know               | 14 (0.2%)             | 17 (0.5%)     | 31 (0.3%)      |
| Total                    | 8,189                 | 3,667         | 11,856         |

Source: LSBS (2015), C1: in the past 12 months did your business export any services outside of the UK?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

Exporting businesses were asked to estimate how much revenue they had derived from their exports, and answers are presented in bands of percentage of £turnover (Table 23 and Table 24). Estimates of the proportion of firms' £turnover generated by exported services were generally higher than the contributions made by exported goods to their firms' £turnover. Across England, around 35 per cent of service exporting rural firms' estimated their contribution to be more than half (from up to 50% to more than 90%) of business turnover, compared with only 19 per cent of rural firms that exported goods that estimated this scale of contribution to their revenue. Businesses that export services are therefore likely to earn a higher proportion of their turnover than earned from exported goods.

**Table 23 Percentage of turnover for service exports - England**

| Percentage of turnover for service exports | Number of Enterprises |             | Total       |
|--|-----------------------|-------------|-------------|
|  | Urban                 | Rural       |             |
| Up to 5% of turnover                       | 201 (34.7%)           | 120 (41.4%) | 321 (36.9%) |
| Up to 10%                                  | 83 (14.3%)            | 42 (14.5%)  | 125 (14.4%) |
| Up to 25%                                  | 65 (11.2%)            | 20 (6.9%)   | 85 (9.8%)   |
| Up to 50%                                  | 82 (14.2%)            | 37 (12.8%)  | 119 (13.7%) |
| Up to 75%                                  | 34 (5.9%)             | 20 (6.9%)   | 54 (6.2%)   |
| Up to 90%                                  | 41 (7.1%)             | 15 (5.2%)   | 56 (6.4%)   |
| More than 90%                              | 63 (10.9%)            | 30 (10.3%)  | 93 (10.7%)  |
| Don't know                                 | 10 (1.7%)             | 6 (2.1%)    | 16 (1.8%)   |
| Total                                      | 579                   | 290         | 869         |

Source: LSBS (2015), C1a/B. Percentage of turnover for service exports.

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table 24 Percentage of turnover for goods exports - England**

| Percentage of turnover for goods exports | Number of Enterprises |             | Total       |
|--|-----------------------|-------------|-------------|
|  | Urban                 | Rural       |             |
| Up to 5% of turnover                     | 220 (52.6%)           | 122 (50.4%) | 342 (51.8%) |
| Up to 10%                                | 48 (11.5%)            | 48 (19.8%)  | 96 (14.5%)  |
| Up to 25%                                | 44 (10.5%)            | 18 (7.4%)   | 62 (9.4%)   |
| Up to 50%                                | 37 (8.9%)             | 25 (10.3%)  | 62 (9.4%)   |
| Up to 75%                                | 23 (5.5%)             | 11 (4.5%)   | 34 (5.2%)   |
| Up to 90%                                | 23 (5.5%)             | 5 (2.1%)    | 28 (4.2%)   |
| More than 90%                            | 12 (2.9%)             | 6 (2.5%)    | 18 (2.7%)   |
| Don't know                               | 11 (2.6%)             | 7 (2.9%)    | 18 (2.7%)   |
| Total                                    | 418                   | 242         | 660         |

Source: LSBS (2015), C1a/B. Percentage of turnover for good exports.

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

### *C) Exporting potential*

Table 25 shows an overview of England small businesses that are a potential exporter. Firms were asked whether they had goods or services suitable for exporting but had not yet exported. Significantly more rural firms believe that they have suitable products or services, than those firms in England's urban areas. Interestingly, as reported in the previous section, the numbers of such potential rural exporters were also more than the numbers of rural firms who had exported goods and/or services, signalling latent export potential (representing potentially an additional 123% of rural exporters<sup>6</sup>). Rural firms are therefore significantly more likely to be exporters of goods and services and have goods or services suitable for exporting, than businesses operating from England's towns and cities. Export orientation is therefore another indicator of the important contribution of rural economies that can be recognised and built upon by support agencies.

In Table 25, England's rural firms are more likely to be a potential exporter than urban firms with 18.3 per cent and 15.0 per cent respectively. When responses to this question were analysed for rural-urban differences in the regions, significantly more rural firms in North West and South West England believe they had goods or services suitable for exporting. In North West, for example this amounted to 41 rural firms, or 17% of responding rural firms, contrasting with only 18 rural firms who exported goods or services from this region in 2014-15 (Table A.14).

**Table 25 Export Potential of Small Businesses in England**

| Does your business have any goods or services that are suitable for exporting? | Number of Enterprises |               | Total         |
|--|-----------------------|---------------|---------------|
|  | Urban                 | Rural         |               |
| Yes  | 1,055 (15.0%)         | 570 (18.3%)   | 1,625 (16.1%) |
| No   | 5,927 (84.5%)         | 2,519 (81.1%) | 8,446 (83.5%) |
| Don't know   | 28 (0.4%)             | 17 (0.5%)     | 45 (0.4%)     |
| Refused  | 1 (0.0%)              | 1 (0.0%)      | 2 (0.0%)      |
| Total  | 7011                  | 3107          | 10,118        |

Source: LSBS (2015), C6: Does your business have any goods or services that are suitable for exporting?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

Could this level of unfulfilled export potential result from lack of advice or awareness of where to get relevant advice or information? Other LSBS questions asked about small firms' use of public and private sources of advice and information, the levels and reasons for their use, and awareness of several business support organisations across the UK, largely within the public-sector

In the year preceding the survey over 1000 rural firms sought advice or information from external sources. Some of the reasons offered, were generic (for example business growth), others are very specific (for example employment law/ redundancies). Very few rural (22 firms) or urban firms described Exporting as a reason for seeking advice (Table 26). However, it appears unlikely that this low level of use of export-specific advice results from uncertainty as to who might help. More than 1000 rural firms (30%) informed interviewers that they were aware of the UK Trade and Investment (UKTI) (Table 27) – a leading provider of information and support for exporting or potentially exporting

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<sup>6</sup> To avoid double counting between firms who export both goods and services, 462 rural firms exported either goods or services across England. 570 rural firms indicated that they had goods or services suitable for exporting but had not yet exported.

firms especially but not exclusively in England. A similar proportion of urban businesses in the survey also recognised UKTI.

In conclusion therefore, England's rural firms are significantly more likely to be exporters of goods and services, and have goods or services suitable for exporting, than businesses operating from England's towns and cities.

**Table 26 Reason for using information/advice - England**

| Reason for using information/advice                               | Number of Enterprises |             | Total       |
|---|-----------------------|-------------|-------------|
|   | Urban                 | Rural       |             |
| Business growth   | 315 (19.1%)           | 189 (19.7%) | 504 (19.3%) |
| E-commerce/technology   | 166 (10.0%)           | 64 (6.7%)   | 230 (8.8%)  |
| Employment law/redundancies                                       | 120 (7.3%)            | 56 (5.8%)   | 176 (6.7%)  |
| Exporting   | 43 (2.6%)             | 22 (2.3%)   | 65 (2.5%)   |
| Financial advice e.g. how and where to get finance                | 84 (5.1%)             | 55 (5.7%)   | 139 (5.3%)  |
| Financial advice e.g. accounting, for general running of business | 321 (19.4%)           | 180 (18.8%) | 501 (19.2%) |
| Health and Safety   | 67 (4.1%)             | 47 (4.9%)   | 114 (4.4%)  |
| Improving business efficiency/productivity                        | 155 (9.4%)            | 116 (12.1%) | 271 (10.4%) |
| Innovation  | 46 (2.8%)             | 29 (3.0%)   | 75 (2.9%)   |
| Legal issues  | 117 (7.1%)            | 75 (7.8%)   | 192 (7.4%)  |
| Management/leadership development                                 | 37 (2.2%)             | 20 (2.1%)   | 57 (2.2%)   |
| Marketing   | 176 (10.7%)           | 56 (5.9%)   | 232 (8.9%)  |
| Regulations   | 106 (6.4%)            | 99 (10.3%)  | 205 (7.9%)  |
| Relocation  | 8 (0.5%)              | 11 (1.1%)   | 19 (0.7%)   |
| Tax/national insurance law and payments                           | 188 (11.4%)           | 106 (11.1%) | 294 (11.3%) |
| Training/skills needs   | 59 (3.6%)             | 42 (4.4%)   | 101 (3.9%)  |
| Workplace pensions  | 68 (4.1%)             | 44 (4.6%)   | 112 (4.3%)  |
| Other   | 219 (13.3%)           | 118 (12.3%) | 337 (12.9%) |

Source: LSBS (2015): question K4: what did you seek information or advice about in the last year?

Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

**Table 27 Awareness of support**

| Which of the following are you aware of?           | Number of Enterprise |               | Total         |
|--|----------------------|---------------|---------------|
|  | Urban                | Rural         |               |
| UK Trade and Investment (UKTI)                     | 2,477 (30.2%)        | 1,083 (29.5%) | 3,560 (30.0%) |
| The Tools for business section on the GOV. website | 1,629 (19.9%)        | 701 (19.1%)   | 2,330 (19.7%) |
| The British business bank                          | 1,061 (13.0%)        | 469 (12.8%)   | 1,530 (12.9%) |
| Innovate UK  | 2,256 (27.5%)        | 1,061 (28.9%) | 3,317 (28.0%) |
| The business growth service                        | 936 (11.4%)          | 444 (12.1%)   | 1,380 (11.6%) |
| Manufacturing advisory service                     | 1,378 (16.8%)        | 683 (18.6%)   | 2,061 (17.4%) |
| The pensions regulation                            | 5,797 (70.8%)        | 2,690 (73.4%) | 8,487 (71.6%) |
| Investors in people                                | 5,226 (63.8%)        | 2,355 (64.2%) | 7,581 (63.9%) |

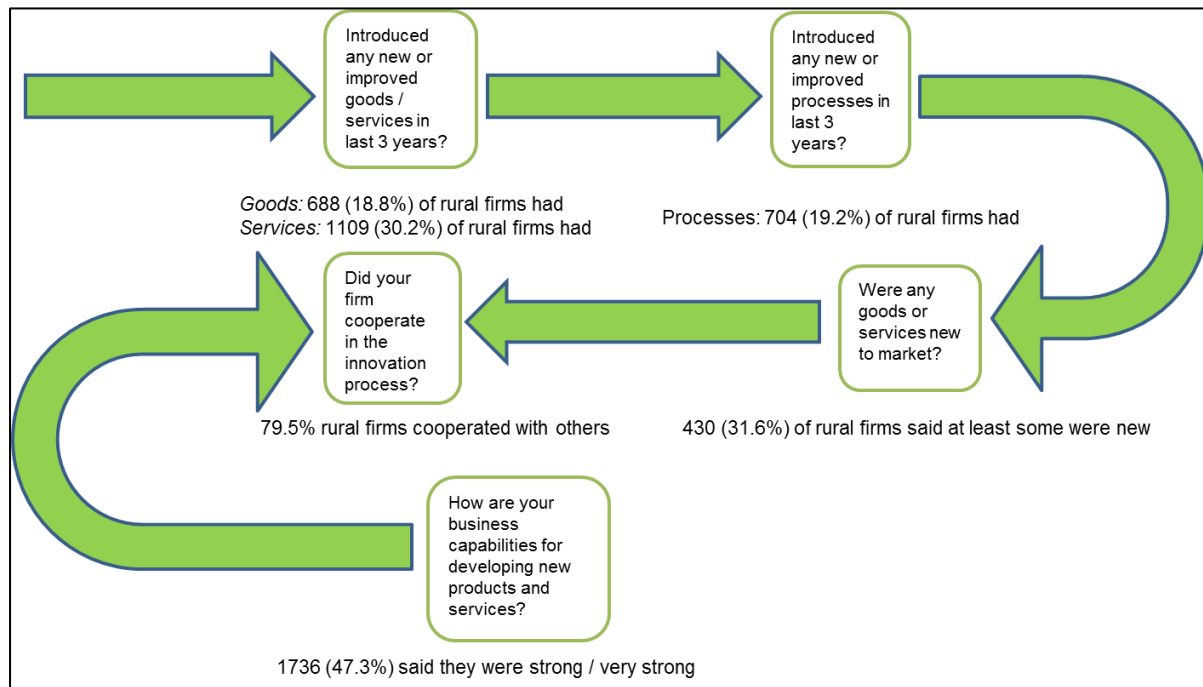
Source: LSBS (2015), K1: which of the following are you aware of?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

### 4.3 Innovation

Figure 12 provides an overview of small business innovation in England. Firms were asked to respond to several questions related to introducing any new or improved process goods or services in their businesses.

**Figure 12 Innovation trail**



Source: LSBS (2015)

#### *A) Have you introduced any new or significantly improved goods/services in the last 3 years?*

Rural and urban firms are more likely to introduce new or improved services than new/improved goods. Table 28 shows that a similar percentage of rural and urban firms (30.2% *cf.* 30.2%) introduced new or improved services in the last three years. This pattern was repeated throughout the regions, with the North West an exception. Here urban firms were more likely to be service innovators than rural firms (30.7% *cf.* 22.1%) (Table A.15).

However, at the England level, rural firms introduced more new or improved goods in the last 3 years than urban firms, with 18.8 per cent compared to 16.5 per cent.



**Table 28 has your business introduced any new or significantly improved goods and services in the last 3 year? - England**

| New or significantly improved goods    | Number of Enterprises |               | Total         |
|--|-----------------------|---------------|---------------|
|  | Urban                 | Rural         |               |
| Yes                                    | 1,349 (16.5%)         | 688 (18.8%)   | 2,037 (17.2%) |
| No                                     | 6,809 (83.1%)         | 2,964 (80.8%) | 9,773 (82.4%) |
| Don't know                             | 29 (0.4%)             | 15 (0.4%)     | 44 (0.4%)     |
| New or significantly improved services | Number of Enterprises |               | Total         |
|  | Urban                 | Rural         |               |
| Yes                                    | 2,474 (30.2%)         | 1,109 (30.2%) | 3,583 (30.2%) |
| No                                     | 5,691 (69.5%)         | 2,547 (69.5%) | 8,238 (69.5%) |
| Don't know                             | 22 (0.3%)             | 11 (0.3%)     | 33 (0.3%)     |
| Total                                  | 8,190                 | 3,667         | 11,857        |

Source: LSBS (2015), J1: has your business introduced any new or significantly improved goods in the last 3 year? and J1A: has your business introduced any new or significantly improved services in the last 3 year? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**B) Any new or improved processes for goods or services**

Firms in the LSBS were also asked to respond whether their businesses have introduced any new or improved processes for producing or supplying good or services. No statistically significant rural-urban differences were identified at the England level. Approximately 18 per cent of urban firms had introduced new or improved processes compared to 19 per cent of rural firms (Table 29). However, in the North West, North East, and Yorkshire & Humber regions, significant differences were found between rural and urban firms (Table A.16). More rural than urban firms in the North East and Yorkshire & Humber had new or improved processes for their goods or services (19% *cf.* 17.4% and 18.1% *cf.* 14.6% respectively). However, the North West's rural firms were less likely to introduce any new or improved processes than urban firms with 14.8 per cent of rural firms compared to 18.7 per cent of urban firms.

**Table 29 business had introduced any new or significantly improved processes for goods or services in the last 3 years - England**

| Has your business introduced any new or significantly improved processes for producing or supplying goods or services? | Number of Enterprises |               | Total         |
|--|-----------------------|---------------|---------------|
|  | Urban                 | Rural         |               |
| Yes  | 1,449 (17.7%)         | 704 (19.2%)   | 2,153 (18.2%) |
| No   | 6,696 (81.8%)         | 2,940 (80.2%) | 9,636 (81.3%) |
| Don't know   | 38 (0.5%)             | 22 (0.6%)     | 60 (0.5%)     |
| Total  | 8190                  | 3667          | 11857         |

Source: LSBS (2015), J3: Has your business introduced any new or significantly improved processes for producing or supplying goods or services in the last 3 years? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**C) Goods and services new to the market**

To capture more disruptive innovations, firms were asked whether they had introduced goods or services that were new to the market. Across England there were no significant differences between rural and urban firms. However, significantly higher levels of new innovation were found among urban than rural firms in the North East and East Midlands (37.2% *cf.* 27.3% and 39.7% *cf.* 21.7% respectively),

while higher levels were found among rural firms in the South East (rural 40.7% *cf.* urban 28.2%). (Table A.17).

**Table 30** *were any of these new or significantly improved goods and services innovations new to the market, or were they all just new to your business?*

| Whether goods/services new to the business. | Number of Enterprises |             | Total         |
|---|-----------------------|-------------|---------------|
|   | Urban                 | Rural       |               |
| At least some new to the market             | 928 (31.4%)           | 430 (31.6%) | 1358 (31.5%)  |
| All just new to the business                | 1,980 (67.1%)         | 905 (66.5%) | 2,885 (66.9%) |
| Don't know                                  | 39 (1.3%)             | 22 (1.6%)   | 61 (1.4%)     |
| Total                                       | 2,952                 | 1,360       | 4,312         |

Source: LSBS (2015), J2: were any of these new or significantly improved goods and services innovations new to the market, or were they all just new to your business?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

*D) Did you co-operate with anyone in the innovation process?*

Firms were asked if they co-operated with anyone in the innovation process (Table 31). No significant rural-urban differences were identified. Both rural and urban firms were most likely to co-operate with *Suppliers of equipment, materials, services of software* (approx. 49.4%). Cooperation with *clients and customers from the private sector* was also important (approx. 38.7%). A second tier of cooperation partners in the innovation process included *other businesses from the same enterprise group* (approx. 25%), *clients or customers from the public sector* (approx. 26%), and *competitors and other businesses from the same industry* (approx. 21.5%). A third tier of cooperating partners, used the least by urban and rural firms, include *consultants and private R&D institutes* (approx. 11.5%), *Universities and institutions* (9.4%), and *Government or public research institutes* (5.5%).

**Table 31** *Did you cooperate with anyone in the innovation process? - England*

| Did your introduction of new goods, service or process innovations involve co-operation with any of the following? | Number of Enterprise |             | Total         |
|--|----------------------|-------------|---------------|
|  | Urban                | Rural       |               |
| Other businesses with your enterprise group?   | 836 (25.3%)          | 395 (25.1%) | 1,231 (25.2%) |
| Suppliers of equipment, materials, services or software?   | 1,602 (48.5%)        | 805 (51.2%) | 2,407 (49.4%) |
| Clients or customers from the private sector?  | 1,262 (38.2%)        | 627 (38.7%) | 1,889 (38.7%) |
| Clients or customers from the public sector?   | 874 (26.4%)          | 385 (25.8%) | 1,259 (25.8%) |
| Competitors or other businesses in your industry?  | 685 (20.7%)          | 362 (23.0%) | 1,047 (21.5%) |
| Consultants, commercial labs or private R&D institutes?  | 365 (11.0%)          | 195 (11.5%) | 560 (11.5%)   |
| Universities or other higher education institutions?   | 329 (10.0%)          | 131 (8.3%)  | 460 (9.4%)    |
| Government or public research institutes?  | 181 (5.5%)           | 86 (5.5%)   | 267 (5.5%)    |
| None of these  | 718 (21.7%)          | 323 (20.5%) | 1,041 (21.3%) |

Source: LSBS (2015), J5: did your introduction of new goods, service or process innovations involve co-operation with any of the following? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05).

Table A.18 shows the regional pattern of rural-urban differences in the co-operation of firms in the innovation process. The higher proportion of rural than urban firms co-operating with *Other*

*businesses with your enterprise group* was statistically significant for West Midlands (31.2% *cf.* 19.3%). However, in the North West more urban than rural firms co-operated with other businesses (28.9% *cf.* 18.7%). There were significant rural-urban differences in levels of cooperation with *Suppliers of equipment, materials, services or software* in East Midlands and North East. More rural firms cooperated with these partners in East Midlands (61.6% *cf.* 47.1%), while a there was lower percentage of North east rural firms engaged in this type of cooperation (35.3% *cf.* 55.6%). More rural than urban firms in East Midlands and East of England co-operated with *Clients or customers from the private sector* in the innovation process. However, approximately 50 per cent of urban firms in North East co-operated with private clients or customers compared to around 26 per cent of rural firms. Some small firms in West Midlands and Yorkshire & Humber worked with *Competitors or other businesses in your industry* in processing new goods or services. Also, more rural than urban firms in West Midlands co-operated with *Consultants, commercial labs or private R&D institutes* (22.1% *cf.* 6.8%), and interestingly, more rural than urban firms in Yorkshire & Humber collaborated with *Universities or other higher education institutions* (16.5% *cf.* 6.1%).

#### *E) Capability for developing and introducing new goods or services*

Firms were asked to rate their business capabilities on a 5-point from very poor to very strong, relative to capability for developing and introducing new goods or services. It was found that England's rural firms are more likely to feel that they had very strong capability in developing new goods or services (21.4% *cf.* 18.9%) (see Table A.10).

Table A.11 presents the regional breakdown. It shows that in four regions rural firms were more likely to indicate they had very strong capability: East of England (19.3% *cf.* 18.6%), North West (25.1% *cf.* 18.9%), South West (23.4% *cf.* 20.0%) and Yorkshire & Humber (25.6% *cf.* 18.3%). While more urban than rural firms in North East and South East have strong or very strong capability in innovative goods or services (18.9% *cf.* 14.9% and 20.1% *cf.* 18.4% respectively).

#### *F) Reason for using advice: e-commerce and technology and improving business efficiency*

Tables 32 and A.20 show an overview of significant rural-urban differences in reasons for using advice related to developing and introducing innovative goods or services. Only 2.9 per cent of firms highlighted Innovation as a reason. More relevant are reasons relating to *e-commerce and technology* and *improving business efficiency*. Table 32 shows that more of England's urban than rural firms use *e-commerce and technology* (10.0% *cf.* 6.7%), while more rural than urban firms use advice for *improving business efficiency/productivity* (12.1% *cf.* 9.4%).

**Table 32 Reason for using information/advice - England**

| Reason for using information/advice                               | Number of Enterprises |             | Total       |
|---|-----------------------|-------------|-------------|
|   | Urban                 | Rural       |             |
| Business growth   | 315 (19.1%)           | 189 (19.7%) | 504 (19.3%) |
| E-commerce/technology   | 166 (10.0%)           | 64 (6.7%)   | 230 (8.8%)  |
| Employment law/redundancies                                       | 120 (7.3%)            | 56 (5.8%)   | 176 (6.7%)  |
| Exporting   | 43 (2.6%)             | 22 (2.3%)   | 65 (2.5%)   |
| Financial advice e.g. how and where to get finance                | 84 (5.1%)             | 55 (5.7%)   | 139 (5.3%)  |
| Financial advice e.g. accounting, for general running of business | 321 (19.4%)           | 180 (18.8%) | 501 (19.2%) |
| Health and Safety   | 67 (4.1%)             | 47 (4.9%)   | 114 (4.4%)  |
| Improving business efficiency/productivity                        | 155 (9.4%)            | 116 (12.1%) | 271 (10.4%) |
| Innovation  | 46 (2.8%)             | 29 (3.0%)   | 75 (2.9%)   |
| Legal issues  | 117 (7.1%)            | 75 (7.8%)   | 192 (7.4%)  |
| Management/leadership development                                 | 37 (2.2%)             | 20 (2.1%)   | 57 (2.2%)   |
| Marketing   | 176 (10.7%)           | 56 (5.9%)   | 232 (8.9%)  |
| Regulations   | 106 (6.4%)            | 99 (10.3%)  | 205 (7.9%)  |
| Relocation  | 8 (0.5%)              | 11 (1.1%)   | 19 (0.7%)   |
| Tax/national insurance law and payments                           | 188 (11.4%)           | 106 (11.1%) | 294 (11.3%) |
| Training/skills needs   | 59 (3.6%)             | 42 (4.4%)   | 101 (3.9%)  |
| Workplace pensions  | 68 (4.1%)             | 44 (4.6%)   | 112 (4.3%)  |
| Other   | 219 (13.3%)           | 118 (12.3%) | 337 (12.9%) |

Source: LSBS (2015): question K4: what did you seek information or advice about in the last year?

Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

Table A.20 presents the regional pattern of rural-urban differences in using *E-commerce/technology* and *Improving business efficiency/productivity* for developing and introducing new products or services. A higher proportion of urban than rural firms in East of England used advice on *E-commerce/technology* with 13.7 per cent and 6.5 per cent respectively. In contrast, more rural than urban firms used advice for *Improving business efficiency/productivity* in East of England (16.9% cf. 9.8%) and West Midlands (20.4% cf. 9.4%).

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## Appendix 1– Analytical methods

### Propensity Score Matching

Propensity Score Matching analysis is used in this report to explain the difference in performance between rural and urban businesses and awareness of advice and support between rural and urban areas. To estimate the propensity score, we firstly identify the covariates to include in the logistic (logit) model. When constructing propensity scores we need to include all variables thought to be related to both treatment and outcome (i.e., the true confounders) in order to reduce confounding. Even when a variable is thought to be related to the outcome but not the treatment (i.e., a potential confounder) it is worth including it in the propensity score because it will reduce the bias, i.e. the distance of estimated treatment effect from true effect (Brookhart *et al.*, 2006; Austin, 2011). However only variables that are unaffected by treatment should be included in the model. The regression equation is written as:

$$\Pr(T_i = 1) = \beta_0 + \beta_1 Z_i + \varepsilon_i \quad (1)$$

where  $T$  is a dummy capturing whether the firm is located in rural or urban areas (it will be equal to 1 if the firm is located in rural areas or 0 if it is urban),  $i$  is the number of observations;  $i=1, \dots, n$ ,  $Z$  is a vector of observed variables that may affect the outcome or the treatment (i.e. the firm's location) such as firm's age, broad industrial sector, number of employees, etc. and  $\varepsilon$  is an error term. The businesses located in rural areas are described as the treated group and those in urban areas as the control or untreated group. The rurality or rural location of businesses is the treatment, and the outcomes are performances (annual turnover and profitability) and use of external support.

Once propensity scores are calculated using equation (1), each rural firm is then matched with at least one<sup>7</sup> urban firm based on similar propensity score so that some observations may be omitted because their propensity scores are too dissimilar from the control group (Khandker *et al.*, 2010). On the basis of the propensity score, there are different approaches used to match treated and untreated groups such as nearest-neighbour matching, caliper and radius matching, stratification matching, and kernel matching (Caliendo and Kopeinig, 2005; Pan and Bai, 2015). In this report, the matching of PSM process is conducted through nearest-neighbour and caliper matching options. The nearest-neighbour option is the most common matching estimator in which the individual from the comparison group is chosen as a matching partner for a treated individual that is closet in terms of propensity score. An untreated individual can be used more than once as a match. Thus this can increase the average quality of matching and reduce bias (Caliendo and Kopeinig, 2005). However, the nearest-neighbour matching may experience the risk of poor matches if the closet neighbour is relatively far away. This can be avoided by imposing a tolerance level on the maximum propensity score distance, which is called caliper (Dehejia and Wahba, 2002; Caliendo and Kopeinig, 2005). In assessing the matching quality, the balancing test needs to be satisfied to make sure that there are no significant difference on covariate means between the treatment and control (Dehejia and Wahba, 2002). Next, the average

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<sup>7</sup> PSM allows to match one rural firm with several urban firms, weighting the propensity scores attached to each urban firm so that a best match for the rural firm can be found. Khandker *et al.* (2010) note that PSM is a useful technique when only covariates are strongly sufficient to determine the treatment, and the wide range of data of covariates allows the probability of the treated group based on the covariates to be specified more precisely.

treatment effect on the treated (ATT) is calculated as the mean difference in the outcome across these two groups, which allows to observe the effect of the treatment (Abadie and Imbens, 2012).

**Table A.1 Covariate balance summary for turnover**

|                 |                          | Raw            | Matched  |
|-----------------|--------------------------|----------------|----------|
| -----           |                          |                |          |
| Number of obs = |                          | 9,375          | 5,390    |
| Treated obs =   |                          | 2,695          | 2,695    |
| Control obs =   |                          | 6,680          | 2,695    |
| -----           |                          |                |          |
|                 | Standardized differences | Variance ratio |          |
|                 | Raw Matched              | Raw            | Matched  |
| -----+-----     |                          |                |          |
| AGEB            | .0238468 -.0621534       | .9301299       | 1.209691 |
| lnTOTEMP        | -.1051667 .0081822       | .9054678       | .9962158 |
| SECTOR_1        | .0076468 .0116384        | 1.010559       | 1.015843 |
| SECTOR_2        | .1177555 .0106289        | 1.133215       | 1.00989  |
| SECTOR_3        | -.0426083 -.0217094      | .9662696       | .9820372 |
| SOTRAD          | .0591732 .0128839        | 1.054843       | 1.010926 |
| UNREG           | -.0456562 -.0055762      | .9064115       | .987561  |
| lnEMPAGE        | -.0923058 -.01196        | .9018785       | .9863642 |
| -----           |                          |                |          |

**Table A.2 Covariate balance summary for profitability**

|                 |                          | Raw            | Matched  |
|-----------------|--------------------------|----------------|----------|
| -----           |                          |                |          |
| Number of obs = |                          | 10,038         | 5,818    |
| Treated obs =   |                          | 2,909          | 2,909    |
| Control obs =   |                          | 7,129          | 2,909    |
| -----           |                          |                |          |
|                 | Standardized differences | Variance ratio |          |
|                 | Raw Matched              | Raw            | Matched  |
| -----+-----     |                          |                |          |
| AGEB            | .0305925 -.0293244       | .9147273       | 1.084238 |
| lnTOTEMP        | -.1105719 .017165        | .8931046       | 1.032779 |
| SECTOR_1        | .0168706 .005803         | 1.023496       | 1.007856 |
| SECTOR_2        | .1205678 .0120717        | 1.133794       | 1.010984 |
| SECTOR_3        | -.051807 -.008259        | .9582396       | .9927686 |
| SOTRAD          | .0555188 .0127348        | 1.052481       | 1.011093 |
| UNREG           | -.051538 -.00834         | .8936781       | .9811579 |
| lnEMPAGE        | -.0950743 .0080606       | .8895669       | 1.021643 |
| -----           |                          |                |          |

**Table A.3 Covariate balance summary for use of support**

|       |          |                          | Raw              | Matched  |
|-------|----------|--------------------------|------------------|----------|
|       |          |                          | -----            | -----    |
|       |          | Number of obs =          | 10,653           | 6,180    |
|       |          | Treated obs =            | 3,090            | 3,090    |
|       |          | Control obs =            | 7,563            | 3,090    |
|       |          |                          | -----            | -----    |
| ----- |          |                          |                  |          |
|       |          | Standardized differences | Variance ratio   |          |
|       |          | Raw      Matched         | Raw      Matched |          |
|       |          |                          | -----            | -----    |
|       | AGEB     | .0376489    -.0456105    | .9120791         | 1.128517 |
|       | lnTOTEMP | -.1177151    .0041477    | .891701          | .9862087 |
|       | SECTOR_1 | .0221847    .0085982     | 1.031171         | 1.011719 |
|       | SECTOR_2 | .1232657    .0127257     | 1.133611         | 1.011259 |
|       | SECTOR_3 | -.0592745    -.0248835   | .9500036         | .9776191 |
|       | SOTRAD   | .058024    .0155683      | 1.056027         | 1.013871 |
|       | UNREG    | -.0475614    8.44e-17    | .9014331         | 1        |
|       | lnEMPAGE | -.1004892    -.0126203   | .8876183         | .9736771 |



## Appendix 2 – LSBS Rural / Urban Analysis by Region

**Table A.4 Plans for next three years at the regional level**

| Plans over next three years                      | East Midlands  |                | East of England |                | North East     |               | North West     |                | South East     |                | South West     |                | West Midlands  |                | Y&H            |                |
|--|----------------|----------------|-----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|  | Urban          | Rural          | Urban           | Rural          | Urban          | Rural         | Urban          | Rural          | Urban          | Rural          | Urban          | Rural          | Urban          | Rural          | Urban          | Rural          |
| Increase the skills of the workforce             | 376<br>(51.6%) | 174<br>(45.5%) | 477<br>(48.6%)  | 311<br>(48.0%) | 164<br>(42.8%) | 52<br>(51.5%) | 596<br>(48.3%) | 110<br>(41.8%) | 923<br>(47.1%) | 340<br>(44.0%) | 501<br>(45.8%) | 396<br>(45.2%) | 429<br>(46.3%) | 165<br>(56.5%) | 374<br>(42.5%) | 143<br>(43.1%) |
| Increase the leadership capability of managers   | 160<br>(22.0%) | 96<br>(25.1%)  | 216<br>(22.0%)  | 167<br>(25.8%) | 105<br>(27.3%) | 37<br>(36.6%) | 275<br>(22.3%) | 46<br>(17.5%)  | 471<br>(24.0%) | 177<br>(22.9%) | 243<br>(22.2%) | 210<br>(24.0%) | 215<br>(23.2%) | 78<br>(26.8%)  | 161<br>(18.3%) | 60<br>(18.0%)  |
| Capital investment (in premises, machinery etc.) | 195<br>(26.8%) | 107<br>(28.1%) | 262<br>(26.7%)  | 182<br>(28.1%) | 120<br>(31.3%) | 36<br>(35.6%) | 349<br>(28.3%) | 75<br>(28.5%)  | 457<br>(23.3%) | 218<br>(28.2%) | 269<br>(24.6%) | 295<br>(33.7%) | 231<br>(24.9%) | 113<br>(38.8%) | 208<br>(23.7%) | 99<br>(29.7%)  |
| Develop and launch new products/services         | 278<br>(38.2%) | 140<br>(36.6%) | 308<br>(31.4%)  | 209<br>(32.3%) | 159<br>(41.4%) | 52<br>(51.5%) | 408<br>(33.0%) | 84<br>(31.9%)  | 703<br>(35.8%) | 286<br>(37.0%) | 395<br>(36.1%) | 291<br>(33.2%) | 319<br>(34.4%) | 117<br>(40.1%) | 264<br>(30.0%) | 101<br>(30.3%) |
| Introduce new working practices                  | 262<br>(36.0%) | 134<br>(35.1%) | 286<br>(29.2%)  | 208<br>(32.1%) | 145<br>(37.8%) | 47<br>(46.5%) | 370<br>(30.0%) | 82<br>(31.2%)  | 648<br>(33.1%) | 240<br>(31.0%) | 353<br>(32.2%) | 269<br>(30.7%) | 310<br>(33.4%) | 91<br>(31.2%)  | 256<br>(29.1%) | 92<br>(27.6%)  |
| None of these                                    | 237<br>(32.6%) | 140<br>(36.7%) | 349<br>(35.6%)  | 239<br>(36.9%) | 141<br>(36.7%) | 20<br>(20.0%) | 475<br>(38.5%) | 90<br>(34.2%)  | 700<br>(35.7%) | 279<br>(36.0%) | 442<br>(40.4%) | 338<br>(38.6%) | 373<br>(40.2%) | 80<br>(27.4%)  | 337<br>(38.3%) | 127<br>(38.3%) |
| Don't know                                       | 4<br>(0.6%)    | 5<br>(1.3%)    | 8<br>(0.8%)     | 0<br>(0.0%)    | 0<br>(0.0%)    | 0<br>(0.0%)   | 5<br>(0.4%)    | 1<br>(0.4%)    | 2<br>(0.1%)    | 0<br>(0.0%)    | 1<br>(0.1%)    | 2<br>(0.2%)    | 6<br>(0.6%)    | 0<br>(0.0%)    | 13<br>(1.5%)   | 0<br>(0.0%)    |

Source LSBS (2015): question R4: Does your business plan to do any of the following over next three years?

Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

**Table A.5 Major obstacles faced by businesses in general at the regional level**

| Major obstacles   |       | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|---|-------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|   |       | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Obtaining finance                                       | Count | 128           | 53    | 179             | 111   | 84         | 41    | 226        | 51    | 292        | 127   | 180        | 185   | 141           | 35    | 144   | 61    |
|   | %     | 17.6%         | 13.9% | 18.2%           | 17.1% | 21.9%      | 40.6% | 18.3%      | 19.4% | 14.9%      | 16.4% | 16.4%      | 21.1% | 15.2%         | 12.0% | 16.4% | 18.3% |
| Taxation, VAT, PAYE, National Insurance, business rates | Count | 193           | 112   | 278             | 209   | 87         | 37    | 332        | 62    | 557        | 228   | 317        | 316   | 280           | 100   | 254   | 93    |
|   | %     | 26.5%         | 29.3% | 28.3%           | 32.3% | 22.7%      | 36.6% | 26.9%      | 23.7% | 28.4%      | 29.5% | 28.9%      | 36.1% | 30.2%         | 34.4% | 28.9% | 27.9% |
| Staff recruitment and skills                            | Count | 84            | 84    | 185             | 126   | 69         | 15    | 208        | 46    | 345        | 156   | 179        | 173   | 161           | 59    | 117   | 59    |
|   | %     | 11.5%         | 22.0% | 18.9%           | 19.4% | 18.0%      | 14.9% | 16.9%      | 17.5% | 17.6%      | 20.2% | 16.3%      | 19.7% | 17.4%         | 20.2% | 13.3% | 17.8% |
| Regulations/red tape                                    | Count | 278           | 168   | 342             | 272   | 117        | 50    | 445        | 115   | 636        | 355   | 421        | 414   | 290           | 137   | 313   | 161   |
|   | %     | 38.2%         | 44.0% | 34.9%           | 42.0% | 30.5%      | 50.0% | 36.0%      | 43.9% | 32.4%      | 45.9% | 38.4%      | 47.3% | 31.3%         | 46.9% | 35.6% | 48.3% |
| Availability/cost of suitable premises                  | Count | 125           | 50    | 149             | 86    | 60         | 22    | 209        | 35    | 305        | 111   | 160        | 148   | 160           | 44    | 128   | 38    |
|   | %     | 17.2%         | 13.1% | 15.2%           | 13.3% | 15.6%      | 22.0% | 16.9%      | 13.3% | 15.6%      | 14.4% | 14.6%      | 16.9% | 17.3%         | 15.1% | 14.5% | 11.4% |
| Competition in the market                               | Count | 322           | 133   | 446             | 246   | 175        | 48    | 586        | 106   | 885        | 314   | 487        | 347   | 436           | 145   | 451   | 138   |
|   | %     | 44.2%         | 34.8% | 45.5%           | 38.0% | 45.7%      | 47.5% | 47.4%      | 40.3% | 45.1%      | 40.6% | 44.4%      | 39.6% | 47.0%         | 49.7% | 51.3% | 41.4% |
| Workplace pensions                                      | Count | 72            | 66    | 106             | 78    | 35         | 8     | 144        | 30    | 199        | 80    | 139        | 87    | 86            | 32    | 116   | 26    |
|   | %     | 9.9%          | 17.3% | 10.8%           | 12.0% | 9.1%       | 8.0%  | 11.7%      | 11.5% | 10.1%      | 10.3% | 12.7%      | 9.9%  | 9.3%          | 11.0% | 13.2% | 7.8%  |
| Late payment  | Count | 200           | 98    | 281             | 182   | 106        | 46    | 328        | 58    | 573        | 242   | 266        | 251   | 269           | 83    | 216   | 77    |
|   | %     | 27.5%         | 25.7% | 28.6%           | 28.1% | 27.6%      | 45.5% | 26.6%      | 22.1% | 29.2%      | 31.3% | 24.3%      | 28.7% | 29.0%         | 28.4% | 24.5% | 23.2% |
| Any other major issues or obstacles                     | Count | 95            | 36    | 105             | 94    | 57         | 12    | 133        | 50    | 217        | 91    | 150        | 113   | 102           | 51    | 84    | 32    |
|   | %     | 13.0%         | 9.4%  | 10.7%           | 14.5% | 14.8%      | 12.0% | 10.8%      | 19.1% | 11.1%      | 11.8% | 13.7%      | 12.9% | 11.0%         | 17.5% | 9.5%  | 9.6%  |
| None of these   | Count | 112           | 91    | 212             | 84    | 72         | 17    | 262        | 46    | 358        | 111   | 216        | 138   | 202           | 54    | 200   | 54    |
|   | %     | 15.4%         | 23.8% | 21.6%           | 13.0% | 18.8%      | 17.0% | 21.2%      | 17.5% | 18.3%      | 14.3% | 19.7%      | 15.8% | 21.8%         | 18.6% | 22.8% | 16.2% |
| Don't know/No opinion                                   | Count | 1             | 2     | 3               | 1     | .          | .     | 6          | 0     | 2          | 2     | 0          | 2     | 0             | 0     | 5     | 1     |
|   | %     | .1%           | .5%   | .3%             | .2%   | .          | .     | .5%        | 0.0%  | .1%        | .3%   | 0.0%       | .2%   | 0.0%          | 0.0%  | .6%   | .3%   |

Source: LSBS (2015): question G4 which of the following would you say are major obstacles to the success of your business in general?

Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ ).

**Table A.6 Business's External Finance obtained at the regional level**

| Have you tried to obtain external finance for your business in the past 12 months? |       | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--|-------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|  |       | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes - once   | Count | 50            | 34    | 72              | 54    | 31         | 3     | 72         | 9     | 170        | 63    | 88         | 61    | 64            | 29    | 43    | 22    |
|  | %     | 6.9%          | 8.9%  | 7.3%            | 8.3%  | 8.1%       | 3.0%  | 5.8%       | 3.4%  | 8.7%       | 8.2%  | 8.0%       | 7.0%  | 6.9%          | 9.9%  | 4.9%  | 6.6%  |
| Yes - twice  | Count | 13            | 5     | 15              | 11    | 1          | 1     | 22         | 3     | 17         | 17    | 27         | 19    | 9             | 6     | 28    | 5     |
|  | %     | 1.8%          | 1.3%  | 1.5%            | 1.7%  | 0.3%       | 1.0%  | 1.8%       | 1.1%  | 0.9%       | 2.2%  | 2.5%       | 2.2%  | 1.0%          | 2.1%  | 3.2%  | 1.5%  |
| Yes - three to five times  | Count | 7             | 6     | 7               | 5     | 14         | 3     | 27         | 4     | 35         | 5     | 11         | 13    | 10            | 7     | 8     | 1     |
|  | %     | 1.0%          | 1.6%  | 0.7%            | 0.8%  | 3.7%       | 3.0%  | 2.2%       | 1.5%  | 1.8%       | 0.6%  | 1.0%       | 1.5%  | 1.1%          | 2.4%  | 0.9%  | 0.3%  |
| Yes - six to ten times   | Count | 6             | 0     | 3               | 2     | 0          | 0     | 2          | 1     | 6          | 1     | 0          | 0     | 1             | 0     | 0     | 0     |
|  | %     | 0.8%          | 0.0%  | 0.3%            | 0.3%  | 0.0%       | 0.0%  | 0.2%       | .4%   | 0.3%       | 0.1%  | 0.0%       | 0.0%  | 0.1%          | 0.0%  | 0.0%  | 0.0%  |
| Yes - more than ten  | Count | 1             | 1     | 3               | 5     | 1          | 0     | 3          | 0     | 3          | 1     | 4          | 1     | 4             | 1     | 1     | 0     |
|  | %     | 0.1%          | 0.3%  | 0.3%            | 0.8%  | 0.3%       | 0.0%  | 0.2%       | 0.0%  | 0.2%       | 0.1%  | 0.4%       | 0.1%  | 0.4%          | 0.3%  | 0.1%  | 0.0%  |
| No   | Count | 643           | 335   | 871             | 569   | 336        | 94    | 1100       | 244   | 1718       | 682   | 960        | 778   | 837           | 248   | 795   | 302   |
|  | %     | 88.3%         | 87.7% | 88.7%           | 87.8% | 87.7%      | 93.1% | 89.1%      | 93.1% | 87.6%      | 88.3% | 87.7%      | 88.8% | 90.2%         | 84.9% | 90.5% | 90.7% |

Source: LSBS (2015), H4: Have you tried to obtain external finance for your business in the past 12 months?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05).

**Table A.7 Types of Finance currently being used at the regional level**

| Types of finance   | East Midland |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--|--------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|  | Urban        | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Bank overdraft   | 55           | 43    | 94              | 78    | 33         | 5     | 102        | 29    | 198        | 73    | 123        | 131   | 89            | 31    | 101   | 36    |
|  | 35.3%        | 41.3% | 44.1%           | 44.6% | 26.8%      | 17.9% | 35.7%      | 51.8% | 48.2%      | 33.2% | 42.3%      | 50.2% | 42.0%         | 36.5% | 49.0% | 37.9% |
| Commercial mortgage  | 8            | 6     | 15              | 34    | 7          | 3     | 23         | 12    | 18         | 18    | 16         | 31    | 15            | 10    | 22    | 14    |
|  | 5.2%         | 5.8%  | 7.0%            | 19.4% | 5.6%       | 10.3% | 8.0%       | 21.4% | 4.4%       | 8.2%  | 5.5%       | 11.9% | 7.1%          | 11.8% | 10.6% | 14.7% |
| Credit cards   | 57           | 39    | 90              | 70    | 41         | 9     | 113        | 31    | 166        | 100   | 115        | 90    | 63            | 32    | 86    | 37    |
|  | 36.8%        | 37.5% | 42.1%           | 40.0% | 33.3%      | 31.0% | 39.5%      | 55.4% | 40.4%      | 45.2% | 39.5%      | 34.5% | 29.7%         | 37.2% | 41.7% | 38.9% |
| Equity Finance (including peer to peer/ crowd funding, business angels, venture capital, equity from shareholders) | 2            | 4     | 10              | 10    | 0          | 2     | 10         | 1     | 28         | 11    | 10         | 6     | 4             | 2     | 8     | 2     |
|  | 1.3%         | 3.8%  | 4.7%            | 5.7%  | 0.0%       | 6.9%  | 3.5%       | 1.8%  | 6.8%       | 5.0%  | 3.4%       | 2.3%  | 1.9%          | 2.3%  | 3.9%  | 2.1%  |
| Factoring/invoice discounting  | 6            | 12    | 9               | 2     | 2          | 1     | 18         | 3     | 11         | 6     | 8          | 4     | 12            | 3     | 3     | 1     |
|  | 3.8%         | 11.5% | 4.2%            | 1.1%  | 1.6%       | 3.4%  | 6.3%       | 5.3%  | 2.7%       | 2.7%  | 2.7%       | 1.5%  | 5.7%          | 3.5%  | 1.5%  | 1.1%  |
| Leasing or hire purchase   | 43           | 31    | 60              | 37    | 20         | 5     | 64         | 24    | 86         | 65    | 68         | 63    | 52            | 27    | 49    | 26    |
|  | 27.7%        | 29.8% | 28.2%           | 21.1% | 16.3%      | 17.9% | 22.3%      | 42.9% | 20.9%      | 29.5% | 23.3%      | 24.1% | 24.5%         | 31.8% | 23.7% | 27.7% |
| Loan from a bank, building society or other financial institution  | 48           | 35    | 63              | 70    | 31         | 9     | 100        | 24    | 107        | 57    | 89         | 104   | 71            | 33    | 73    | 19    |
|  | 30.8%        | 33.7% | 29.6%           | 40.0% | 25.2%      | 31.0% | 34.8%      | 42.9% | 26.0%      | 25.9% | 30.5%      | 39.8% | 33.5%         | 38.4% | 35.3% | 20.0% |
| Mezzanine finance  | 0            | 0     | 2               | 0     | 0          | 0     | 0          | 0     | 1          | 2     | 5          | 2     | 0             | 5     | 0     | 0     |
|  | 0.0%         | 0.0%  | .9%             | 0.0%  | 0.0%       | 0.0%  | 0.0%       | 0.0%  | .2%        | .9%   | 1.7%       | .8%   | 0.0%          | 5.8%  | 0.0%  | 0.0%  |
| Peer to peer /crowd funding platform for debt  | 1            | 2     | 2               | 3     | 0          | 2     | 4          | 5     | 15         | 3     | 11         | 3     | 5             | 0     | 2     | 0     |
|  | .6%          | 1.9%  | .9%             | 1.7%  | 0.0%       | 6.9%  | 1.4%       | 8.9%  | 3.6%       | 1.4%  | 3.8%       | 1.1%  | 2.4%          | 0.0%  | 1.0%  | 0.0%  |
| Public equity (e.g. issue of shares on public market)  | 1            | 1     | 2               | 0     | 0          | 0     | 0          | 0     | 1          | 5     | 0          | 0     | 2             | 0     | 0     | 0     |
|  | .6%          | 1.0%  | .9%             | 0.0%  | 0.0%       | 0.0%  | 0.0%       | 0.0%  | 0.2%       | 2.3%  | 0.0%       | 0.0%  | .9%           | 0.0%  | 0.0%  | 0.0%  |
| Charitable/ Trust/ Grant   | 1            | 5     | 6               | 1     | 6          | 0     | 11         | 2     | 15         | 7     | 5          | 10    | 3             | 8     | 3     | 4     |
|  | 0.6%         | 4.8%  | 2.8%            | .6%   | 4.9%       | 0.0%  | 3.8%       | 3.5%  | 3.6%       | 3.2%  | 1.7%       | 3.8%  | 1.4%          | 9.3%  | 1.4%  | 4.2%  |
| Government schemes   | 4            | 0     | 6               | 1     | 14         | 0     | 8          | 0     | 16         | 1     | 0          | 1     | 0             | 0     | 1     | 1     |
|  | 2.6%         | 0.0%  | 2.8%            | .6%   | 11.3%      | 0.0%  | 2.8%       | 0.0%  | 3.9%       | 0.5%  | 0.0%       | .4%   | 0.0%          | 0.0%  | .5%   | 1.1%  |
| Other loans (inc personal finance)   | 4            | 1     | 5               | 2     | 0          | 1     | 5          | 0     | 8          | 10    | 6          | 4     | 3             | 1     | 13    | 0     |
|  | 2.6%         | 1.0%  | 2.3%            | 1.1%  | 0.0%       | 3.4%  | 1.7%       | 0.0%  | 2.0%       | 4.5%  | 2.1%       | 1.5%  | 1.4%          | 1.2%  | 6.3%  | 0.0%  |
| Other finance  | 3            | 2     | 4               | 1     | 2          | 2     | 7          | 3     | 14         | 3     | 11         | 2     | 16            | 2     | 3     | 0     |
|  | 1.9%         | 1.9%  | 1.9%            | .6%   | 1.6%       | 6.9%  | 2.4%       | 5.3%  | 3.4%       | 1.4%  | 3.8%       | 0.8%  | 7.5%          | 2.3%  | 1.4%  | 0.0%  |
| None of these  | 27           | 15    | 37              | 21    | 23         | 9     | 46         | 3     | 62         | 35    | 50         | 44    | 44            | 14    | 38    | 22    |
|  | 17.3%        | 14.4% | 17.4%           | 12.0% | 18.7%      | 32.1% | 16.0%      | 5.3%  | 15.1%      | 15.9% | 17.1%      | 16.9% | 20.8%         | 16.5% | 18.4% | 23.2% |
| Don't know   | 3            | 0     | 0               | 0     | 0          | 0     | .          | .     | 1          | 0     | 0          | 0     | 0             | 0     | .     | .     |
|  | 1.9%         | 0.0%  | 0.0%            | 0.0%  | 0.0%       | 0.0%  | .          | .     | .2%        | 0.0%  | 0.0%       | 0.0%  | 0.0%          | 0.0%  | .     | .     |
| Total  | 260          |       | 388             |       | 153        |       | 343        |       | 631        |       | 552        |       | 297           |       | 302   |       |

Source: LSBS (2015), H6: Are you currently using any of these types of finance? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.8 Amount of Finance obtained: Rural-urban Classification at regional level**

| Amount of finance obtained in the last 12 months. | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|---|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|   | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Less than £24,999                                 | 49            | 15    | 58              | 29    | 21         | 3     | 72         | 3     | 96         | 43    | 74         | 34    | 51            | 28    | 30    | 14    |
|   | 79.0%         | 45.5% | 68.2%           | 46.8% | 80.8%      | 50.0% | 69.9%      | 20.0% | 65.3%      | 60.6% | 72.5%      | 45.3% | 71.8%         | 70.0% | 56.6% | 58.3% |
| £25,000 to £99,999                                | 5             | 10    | 6               | 10    | 3          | 0     | 12         | 5     | 27         | 11    | 17         | 14    | 14            | 5     | 10    | 2     |
|   | 8.1%          | 30.3% | 7.1%            | 16.1% | 11.5%      | 0%    | 11.7%      | 33.3% | 18.4%      | 15.5% | 16.7%      | 18.7% | 19.7%         | 12.5% | 18.9% | 8.3%  |
| £100,000 to £1,999,999                            | 6             | 5     | 11              | 19    | 1          | 3     | 14         | 6     | 15         | 10    | 8          | 21    | 6             | 5     | 9     | 8     |
|   | 9.7%          | 15.2% | 12.9%           | 30.6% | 3.8%       | 50.0% | 13.6%      | 40.0% | 10.2%      | 14.8% | 7.8%       | 28.0% | 8.5%          | 12.5% | 17.0% | 33.3% |
| £2 million or more                                | 0             | 2     | 0               | 0     | 0          | 0     | 1          | 0     | 4          | 0     | 0          | 0     | 0             | 0     | 1     | 0     |
|   | 0%            | 6.1%  | 0%              | 0%    | 0%         | 0%    | 1.0%       | 0%    | 2.7%       | 0%    | 0%         | 0%    | 0%            | 0%    | 1.9%  | 0%    |
| Total   | 62            | 33    | 85              | 62    | 26         | 6     | 103        | 15    | 147        | 71    | 102        | 75    | 71            | 40    | 53    | 24    |

Source: LSBS (2015), H9F: How much finance did you obtain in the last 12 months?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.9 Businesses stopped applying for finance at the regional level**

| Whether anything stopped them from applying for finance | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|---|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|   | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes   | 46            | 11    | 49              | 33    | 28         | 2     | 75         | 8     | 89         | 37    | 31         | 29    | 51            | 7     | 30    | 6     |
|   | 64.8%         | 31.4% | 57.0%           | 52.4% | 90.3%      | 25.0% | 61.0%      | 53.3% | 58.2%      | 50.7% | 49.2%      | 55.8% | 58.0%         | 43.8% | 61.2% | 28.6% |
| No  | 25            | 24    | 37              | 29    | 3          | 6     | 40         | 7     | 59         | 35    | 32         | 23    | 30            | 8     | 16    | 15    |
|   | 35.2%         | 68.6% | 43.0%           | 46.0% | 9.7%       | 75.0% | 32.5%      | 46.7% | 38.6%      | 47.9% | 50.8%      | 44.2% | 34.1%         | 50.0% | 32.7% | 71.4% |
| Don't know  | 0             | 0     | 0               | 1     | .          | .     | 8          | 0     | 5          | 1     | 0          | 0     | 7             | 1     | 3     | 0     |
|   | 0.0%          | 0.0%  | 0.0%            | 1.6%  | .          | .     | 6.5%       | 0.0%  | 3.3%       | 1.4%  | 0.0%       | 0.0%  | 8.0%          | 6.3%  | 6.1%  | 0.0%  |
| Total   | 71            | 35    | 86              | 63    | 31         | 8     | 123        | 15    | 153        | 73    | 63         | 52    | 88            | 16    | 49    | 21    |

Source: LSBS (2015), H97: if any reason for not applying for finance?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.10 Business capabilities in England**

| Capability for | Capability for people management. |             | Capability for developing and implementing a business plan and strategy |              | Capability for developing and introducing new products or services |             | Capability for accessing external finance |             | Capability for operational improvement |              |
|----------------|-----------------------------------|-------------|---|--------------|--|-------------|---|-------------|--|--------------|
|                | Urban                             | Rural       | Urban   | Rural        | Urban  | Rural       | Urban                                     | Rural       | Urban                                  | Rural        |
| Very poor      | 12 (0.7%)                         | 3 (0.3%)    | 472 (5.8%)  | 177 (4.8%)   | 672 (8.2%)   | 287 (7.8%)  | 1375 (16.8%)                              | 523 (14.3%) | 325 (4.0%)                             | 139 (3.8%)   |
| Poor           | 24 (1.3%)                         | 28 (2.9%)   | 644 (7.9%)  | 386 (10.5%)  | 755 (9.2%)   | 306 (8.3%)  | 934 (11.4%)                               | 412 (11.2%) | 472 (5.8%)                             | 185 (5.0%)   |
| Average        | 260 (14.2%)                       | 153 (15.6%) | 2506 (30.6%)  | 985 (26.9%)  | 2,001 (24.4%)  | 905 (24.7%) | 1362 (16.6%)                              | 645 (17.6%) | 1,944 (23.7%)                          | 879 (24.0%)  |
| Strong         | 764 (41.8%)                       | 385 (39.3%) | 2367 (28.9%)  | 1159 (31.6%) | 2,171 (26.5%)  | 951 (25.9%) | 1029 (12.6%)                              | 545 (14.9%) | 2638 (32.2%)                           | 1227 (33.5%) |
| Very strong    | 748 (40.9%)                       | 397 (40.5%) | 1763 (21.5%)  | 783 (21.4%)  | 1,549 (18.9%)  | 785 (21.4%) | 981 (12.0%)                               | 494 (13.5%) | 2069 (25.3%)                           | 964 (26.3%)  |

Source: LSBS (2015), F4: How capable would you say your business is at, on the scale of 1 of 5 where 1 is very poor for doing these, and 5 is very strong. How capable is your business? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.11 Business capabilities at the regional level**

| Capability for accessing external finance. |       | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--|-------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|  |       | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Very poor                                  | Count | 125           | 49    | 181             | 94    | 94         | 12    | 194        | 49    | 292        | 91    | 196        | 143   | 145           | 37    | 149   | 48    |
|  | %     | 17.2%         | 12.8% | 18.4%           | 14.5% | 24.5%      | 11.9% | 15.7%      | 18.6% | 14.9%      | 11.8% | 17.9%      | 16.3% | 15.6%         | 12.7% | 17.0% | 14.5% |
| Poor                                       | Count | 84            | 20    | 105             | 51    | 44         | 24    | 136        | 28    | 248        | 103   | 130        | 102   | 73            | 30    | 115   | 53    |
|  | %     | 11.5%         | 5.2%  | 10.7%           | 7.9%  | 11.5%      | 23.8% | 11.0%      | 10.6% | 12.7%      | 13.3% | 11.9%      | 11.7% | 7.9%          | 10.3% | 13.1% | 16.0% |
| Average                                    | Count | 133           | 70    | 161             | 103   | 47         | 15    | 203        | 46    | 331        | 152   | 186        | 141   | 162           | 65    | 139   | 53    |
|  | %     | 18.3%         | 18.3% | 16.4%           | 15.9% | 12.2%      | 14.9% | 16.4%      | 17.5% | 16.9%      | 19.7% | 17.0%      | 16.1% | 17.5%         | 22.3% | 15.8% | 16.0% |
| Strong                                     | Count | 101           | 50    | 110             | 97    | 55         | 8     | 164        | 43    | 233        | 104   | 124        | 138   | 129           | 51    | 112   | 54    |
|  | %     | 13.9%         | 13.1% | 11.2%           | 14.9% | 14.3%      | 7.9%  | 13.3%      | 16.3% | 11.9%      | 13.5% | 11.3%      | 15.8% | 13.9%         | 17.5% | 12.8% | 16.3% |
| Very strong                                | Count | 50            | 69    | 133             | 64    | 58         | 19    | 166        | 18    | 225        | 105   | 129        | 129   | 105           | 48    | 115   | 42    |
|  | %     | 6.9%          | 18.1% | 13.5%           | 9.9%  | 15.1%      | 18.8% | 13.4%      | 6.8%  | 11.5%      | 13.6% | 11.8%      | 14.7% | 11.3%         | 16.4% | 13.1% | 12.7% |

Source: LSBS (2015), F4: How capable would you say your business is at, on the scale of 1 of 5 where 1 is very poor for doing these, and 5 is very strong. How capable is your business? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.12 Goods Export of Rural and Urban businesses at the regional level**

| Whether export goods. | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|-----------------------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|                       | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes                   | 40            | 27    | 42              | 40    | 22         | 5     | 58         | 8     | 124        | 47    | 51         | 76    | 41            | 17    | 41    | 21    |
|                       | 5.5%          | 7.1%  | 4.3%            | 6.2%  | 5.7%       | 5.0%  | 4.7%       | 3.0%  | 6.3%       | 6.1%  | 4.7%       | 8.7%  | 4.4%          | 5.8%  | 4.7%  | 6.3%  |
| No                    | 687           | 353   | 938             | 608   | 362        | 95    | 1176       | 255   | 1835       | 723   | 1045       | 798   | 887           | 274   | 838   | 312   |
|                       | 94.4%         | 92.7% | 95.7%           | 93.8% | 94.3%      | 95.0% | 95.2%      | 97.0% | 93.6%      | 93.5% | 95.3%      | 91.1% | 95.6%         | 94.2% | 95.3% | 93.7% |
| Don't know            | 1             | 1     | 0               | 0     | 0          | 0     | 1          | 0     | 1          | 3     | 0          | 2     | 0             | 0     | 0     | 0     |
|                       | .1%           | .3%   | 0.0%            | 0.0%  | 0.0%       | 0.0%  | .1%        | 0.0%  | .1%        | .4%   | 0.0%       | .2%   | 0.0%          | 0.0%  | 0.0%  | 0.0%  |
| Total                 | 728           | 381   | 980             | 648   | 384        | 100   | 1235       | 263   | 1960       | 773   | 1096       | 876   | 928           | 291   | 879   | 333   |

Source: LSBS (2015), C1: in the past 12 months did your business export any services outside of the UK: Rural-Urban England?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)



**TableA13 Services Export of Rural and Urban businesses at the regional level**

| Whether export services. | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--------------------------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|                          | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes                      | 47            | 30    | 78              | 59    | 8          | 3     | 77         | 10    | 194        | 68    | 80         | 78    | 41            | 26    | 54    | 16    |
|                          | 6.5%          | 7.9%  | 8.0%            | 9.1%  | 2.1%       | 3.0%  | 6.2%       | 3.8%  | 9.9%       | 8.8%  | 7.3%       | 8.9%  | 4.4%          | 8.9%  | 6.1%  | 4.8%  |
| No                       | 679           | 349   | 902             | 589   | 376        | 97    | 1157       | 252   | 1758       | 696   | 1014       | 796   | 885           | 264   | 825   | 316   |
|                          | 93.3%         | 91.4% | 91.9%           | 90.8% | 97.9%      | 97.0% | 93.7%      | 96.2% | 89.7%      | 90.0% | 92.6%      | 90.8% | 95.5%         | 90.7% | 93.9% | 95.2% |
| Don't know               | 2             | 3     | 1               | 1     | 0          | 0     | 1          | 0     | 8          | 9     | 1          | 3     | 1             | 1     | 0     | 0     |
|                          | 0.3%          | 0.8%  | 0.1%            | 0.2%  | 0.0%       | 0.0%  | 0.1%       | 0.0%  | 0.4%       | 1.2%  | 0.1%       | 0.3%  | 0.1%          | 0.3%  | 0.0%  | 0.0%  |
| Total                    | 728           | 382   | 981             | 649   | 384        | 100   | 1235       | 262   | 1960       | 773   | 1095       | 877   | 927           | 291   | 879   | 332   |

Source: LSBS (2015), C1: in the past 12 months did your business export any services outside of the UK?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.14 Export Potentiality of Small Businesses at the regional level**

| Does your business have any goods or services that are suitable for exporting? | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|  | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes  | 89            | 55    | 140             | 106   | 56         | 9     | 161        | 41    | 274        | 137   | 115        | 124   | 119           | 37    | 101   | 60    |
|  | 14.3%         | 17.0% | 17.1%           | 19.6% | 16.9%      | 10.1% | 14.9%      | 16.9% | 17.0%      | 21.2% | 12.2%      | 16.9% | 14.4%         | 14.8% | 13.1% | 21.2% |
| No   | 530           | 267   | 678             | 436   | 276        | 80    | 916        | 195   | 1331       | 506   | 823        | 607   | 701           | 206   | 671   | 223   |
|  | 85.3%         | 82.4% | 82.7%           | 80.4% | 83.1%      | 89.9% | 85.1%      | 80.6% | 82.4%      | 78.3% | 87.1%      | 82.9% | 84.8%         | 82.4% | 86.9% | 78.8% |
| Don't know   | 2             | 1     | 2               | 0     | 0          | 0     | 0          | 6     | 11         | 3     | 7          | 1     | 6             | 7     | 0     | 0     |
|  | 0.3%          | 0.3%  | .2%             | 0.0%  | 0.0%       | 0.0%  | 0.0%       | 2.5%  | 0.7%       | 0.5%  | 0.7%       | 0.1%  | 0.7%          | 2.8%  | 0.0%  | 0.0%  |
| Refused  | 0             | 1     | 0               | 0     | 0          | 0     | .          | .     | 0          | 0     | .          | .     | 1             | 0     | .     | .     |
|  | 0.0%          | 0.3%  | 0.0%            | 0.0%  | 0.0%       | 0.0%  | .          | .     | 0.0%       | 0.0%  | .          | .     | .1%           | 0.0%  | .     | .     |
| Total  | 621           | 324   | 820             | 542   | 332        | 89    | 1077       | 242   | 1616       | 646   | 945        | 732   | 827           | 250   | 772   | 283   |

Source: LSBS (2015), C6: Does your business have any goods or services that are suitable for exporting?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.15 has your business introduced any new or significantly improved services in the last 3 year? – regional analysis**

| New or improved services | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--------------------------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|                          | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes                      | 208           | 118   | 300             | 201   | 115        | 40    | 379        | 58    | 608        | 244   | 352        | 259   | 274           | 108   | 238   | 81    |
|                          | 28.6%         | 30.9% | 30.6%           | 31.0% | 29.9%      | 40.0% | 30.7%      | 22.1% | 31.0%      | 31.6% | 32.1%      | 29.6% | 29.5%         | 36.9% | 27.0% | 24.4% |
| No                       | 519           | 263   | 677             | 441   | 269        | 60    | 852        | 204   | 1347       | 527   | 742        | 616   | 651           | 184   | 635   | 250   |
|                          | 71.4%         | 68.8% | 69.0%           | 68.1% | 70.1%      | 60.0% | 69.0%      | 77.9% | 68.7%      | 68.2% | 67.8%      | 70.4% | 70.2%         | 62.8% | 72.2% | 75.3% |
| Don't know               | 0             | 1     | 4               | 6     | 0          | 0     | 3          | 0     | 4          | 2     | 1          | 0     | 3             | 1     | 7     | 1     |
|                          | 0.0%          | 0.3%  | 0.4%            | 0.9%  | 0.0%       | 0.0%  | 0.2%       | 0.0%  | 0.2%       | 0.3%  | 0.1%       | 0.0%  | 0.3%          | 0.3%  | 0.8%  | 0.3%  |
| Refused                  | 0             | 0     | .               | .     | .          | .     | 1          | 0     | 1          | 0     | .          | .     | .             | .     | .     | .     |
|                          | 0.0%          | 0.0%  | .               | .     | .          | .     | .1%        | 0.0%  | .1%        | 0.0%  | .          | .     | .             | .     | .     | .     |
| Total                    | 727           | 382   | 981             | 648   | 384        | 100   | 1235       | 262   | 1960       | 773   | 1095       | 876   | 928           | 293   | 880   | 332   |

Source: LSBS (2015), J1A: has your business introduced any new or significantly improved services in the last 3 year?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.16 business had introduced any new or significantly improved processes for goods or services in the last 3 years – regional analysis**

| Any new or significantly improved processes | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|---|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|   | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Yes   | 113           | 51    | 194             | 124   | 67         | 19    | 231        | 39    | 368        | 162   | 195        | 193   | 154           | 56    | 128   | 60    |
|   | 15.5%         | 13.4% | 19.8%           | 19.1% | 17.4%      | 19.0% | 18.7%      | 14.8% | 18.8%      | 21.0% | 17.8%      | 22.0% | 16.6%         | 19.2% | 14.6% | 18.1% |
| No  | 611           | 330   | 774             | 523   | 317        | 75    | 1000       | 218   | 1579       | 609   | 897        | 681   | 768           | 235   | 749   | 268   |
|   | 83.9%         | 86.4% | 78.9%           | 80.7% | 82.6%      | 75.0% | 81.0%      | 82.9% | 80.5%      | 78.8% | 81.9%      | 77.7% | 82.8%         | 80.8% | 85.2% | 80.7% |
| Don't know                                  | 4             | 1     | 8               | 0     | 0          | 6     | 3          | 6     | 13         | 2     | 3          | 2     | 5             | 0     | 2     | 4     |
|   | 0.5%          | 0.3%  | .8%             | 0.0%  | 0.0%       | 6.0%  | .2%        | 2.3%  | 0.7%       | 0.3%  | 0.3%       | 0.2%  | 0.5%          | 0.0%  | 0.2%  | 1.2%  |
| Total                                       | 728           | 382   | 981             | 648   | 384        | 100   | 1234       | 263   | 1961       | 773   | 1095       | 876   | 927           | 291   | 879   | 332   |

Source: LSBS (2015), J3: Has your business introduced any new or significantly improved processes for producing or supplying goods or services in the last 3 years?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.17 Whether goods/services new to the business – regional analysis**

| Whether goods/service s new to the business. | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|  | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| At least some new to the market              | 97            | 42    | 125             | 70    | 50         | 10    | 140        | 26    | 203        | 121   | 113        | 104   | 101           | 28    | 100   | 29    |
|  | 37.2%         | 27.3% | 34.8%           | 30.6% | 39.7%      | 21.7% | 32.3%      | 32.5% | 28.2%      | 40.7% | 27.2%      | 31.5% | 30.1%         | 21.1% | 33.1% | 31.9% |
| All just new to the business                 | 163           | 105   | 230             | 150   | 76         | 36    | 283        | 54    | 502        | 172   | 298        | 223   | 229           | 104   | 199   | 61    |
|  | 62.5%         | 68.2% | 64.1%           | 65.5% | 60.3%      | 78.3% | 65.4%      | 67.5% | 69.7%      | 57.9% | 71.6%      | 67.6% | 68.2%         | 78.2% | 65.9% | 67.0% |
| Don't know                                   | 1             | 7     | 4               | 9     | .          | .     | 9          | 0     | 11         | 4     | 5          | 1     | 6             | 1     | 3     | 0     |
|  | 0.4%          | 4.5%  | 1.1%            | 3.9%  | .          | .     | 2.1%       | 0.0%  | 1.5%       | 1.3%  | 1.2%       | 0.3%  | 1.8%          | 0.8%  | 1.0%  | 0.0%  |
| Total  | 261           | 154   | 359             | 229   | 126        | 46    | 433        | 80    | 720        | 297   | 416        | 330   | 336           | 133   | 302   | 91    |

Source: LSBS (2015), J2: were any of these new or significantly improved goods and services innovations new to the market, or were they all just new to your business?

Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.18 Did you cooperate with anyone in the innovation process? – regional analysis**

| Did your introduction of new goods, service or process innovations involve co-operation with any of the following? |       | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|--|-------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|  |       | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Other businesses within your enterprise group  | Count | 62            | 45    | 111             | 63    | 48         | 15    | 145        | 20    | 183        | 82    | 112        | 99    | 74            | 48    | 101   | 22    |
|  | %     | 21.4%         | 27.3% | 28.2%           | 23.6% | 35.6%      | 29.4% | 29.8%      | 18.7% | 22.6%      | 24.8% | 25.0%      | 25.8% | 19.3%         | 31.2% | 28.2% | 19.1% |
| Suppliers of equipment, materials, services or software  | Count | 137           | 101   | 194             | 141   | 75         | 18    | 262        | 59    | 374        | 165   | 231        | 204   | 193           | 76    | 138   | 42    |
|  | %     | 47.1%         | 61.6% | 49.1%           | 52.8% | 55.6%      | 35.3% | 54.0%      | 55.1% | 46.2%      | 49.8% | 51.4%      | 53.3% | 50.4%         | 49.4% | 38.5% | 36.5% |
| Clients or customers from the private sector   | Count | 100           | 80    | 136             | 118   | 68         | 13    | 188        | 32    | 321        | 135   | 174        | 146   | 142           | 59    | 134   | 43    |
|  | %     | 34.5%         | 48.8% | 34.4%           | 44.2% | 50.4%      | 25.5% | 38.7%      | 29.6% | 39.6%      | 40.8% | 38.8%      | 38.1% | 37.1%         | 38.3% | 37.4% | 37.4% |
| Clients or customers from the public sector  | Count | 78            | 52    | 109             | 82    | 54         | 13    | 128        | 26    | 200        | 68    | 119        | 89    | 100           | 25    | 85    | 30    |
|  | %     | 26.8%         | 31.7% | 27.7%           | 30.7% | 40.0%      | 25.5% | 26.4%      | 24.3% | 24.7%      | 20.5% | 26.6%      | 23.2% | 26.1%         | 16.2% | 23.7% | 26.1% |
| Competitors or other businesses in your industry   | Count | 56            | 39    | 103             | 68    | 29         | 17    | 89         | 17    | 158        | 68    | 87         | 80    | 83            | 56    | 80    | 16    |
|  | %     | 19.3%         | 23.8% | 26.1%           | 25.5% | 21.5%      | 33.3% | 18.4%      | 15.7% | 19.5%      | 20.5% | 19.4%      | 20.9% | 21.7%         | 36.4% | 22.4% | 13.9% |
| Consultants, commercial labs or private R&D institutes   | Count | 45            | 23    | 46              | 30    | 14         | 2     | 59         | 18    | 90         | 35    | 56         | 40    | 26            | 34    | 28    | 14    |
|  | %     | 15.5%         | 14.0% | 11.6%           | 11.2% | 10.4%      | 3.9%  | 12.1%      | 16.7% | 11.1%      | 10.6% | 12.5%      | 10.4% | 6.8%          | 22.1% | 7.8%  | 12.2% |
| Universities or other higher education institutions  | Count | 31            | 11    | 40              | 38    | 9          | 4     | 69         | 11    | 69         | 13    | 39         | 18    | 50            | 17    | 22    | 19    |
|  | %     | 10.7%         | 6.7%  | 10.1%           | 14.2% | 6.7%       | 7.8%  | 14.2%      | 10.2% | 8.5%       | 3.9%  | 8.7%       | 4.7%  | 13.1%         | 11.0% | 6.1%  | 16.5% |
| Government or public research institutes   | Count | 19            | 0     | 16              | 16    | 7          | 4     | 33         | 10    | 26         | 13    | 22         | 20    | 34            | 15    | 25    | 8     |
|  | %     | 6.5%          | 0.0%  | 4.1%            | 6.0%  | 5.1%       | 7.8%  | 6.8%       | 9.3%  | 3.2%       | 3.9%  | 4.9%       | 5.2%  | 8.9%          | 9.7%  | 7.0%  | 7.0%  |
| None of these  | Count | 64            | 29    | 70              | 36    | 21         | 16    | 74         | 25    | 205        | 78    | 90         | 80    | 102           | 22    | 134   | 43    |
|  | %     | 22.1%         | 17.7% | 17.8%           | 13.4% | 15.6%      | 31.4% | 15.3%      | 23.1% | 25.3%      | 23.6% | 20.1%      | 20.9% | 26.6%         | 14.3% | 37.4% | 37.4% |
| Dont know  | Count | 4             | 0     | 5               | 6     | 0          | 0     | 0          | 0     | 3          | 1     | 1          | 1     | 0             | 1     | 1     | 0     |
|  | %     | 1.4%          | 0.0%  | 1.3%            | 2.2%  | 0.0%       | 0.0%  | 0.0%       | 0.0%  | 0.4%       | 0.3%  | 0.2%       | 0.3%  | 0.0%          | 0.6%  | 0.3%  | 0.0%  |

Source: LSBS (2015), J5: did your introduction of new goods, service or process innovations involve co-operation with any of the following? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05).

**Table A.19 Business capability for developing and introducing new products or services – regional analysis**

| Capability for developing and introducing new products or services. |       | East Midlands |       | East of England |       | North East |       | North West |       | South East |       | South West |       | West Midlands |       | Y&H   |       |
|---|-------|---------------|-------|-----------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|---------------|-------|-------|-------|
|   |       | Urban         | Rural | Urban           | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban      | Rural | Urban         | Rural | Urban | Rural |
| Very poor   | Count | 58            | 49    | 75              | 44    | 31         | 2     | 108        | 27    | 191        | 44    | 80         | 76    | 60            | 23    | 68    | 22    |
|   | %     | 8.0%          | 12.8% | 7.6%            | 6.8%  | 8.1%       | 2.0%  | 8.8%       | 10.3% | 9.7%       | 5.7%  | 7.3%       | 8.7%  | 6.5%          | 7.9%  | 7.7%  | 6.6%  |
| Poor  | Count | 56            | 31    | 67              | 58    | 20         | 13    | 113        | 29    | 197        | 60    | 129        | 67    | 76            | 25    | 96    | 22    |
|   | %     | 7.7%          | 8.1%  | 6.8%            | 9.0%  | 5.2%       | 12.9% | 9.2%       | 11.0% | 10.0%      | 7.8%  | 11.8%      | 7.7%  | 8.2%          | 8.6%  | 10.9% | 6.6%  |
| Average   | Count | 145           | 71    | 302             | 146   | 88         | 31    | 328        | 47    | 430        | 207   | 234        | 240   | 278           | 77    | 197   | 87    |
|   | %     | 19.9%         | 18.5% | 30.8%           | 22.6% | 22.9%      | 30.7% | 26.6%      | 17.9% | 21.9%      | 26.8% | 21.4%      | 27.4% | 30.0%         | 26.5% | 22.4% | 26.2% |
| Strong  | Count | 227           | 112   | 255             | 180   | 136        | 27    | 265        | 71    | 557        | 198   | 287        | 207   | 209           | 74    | 234   | 81    |
|   | %     | 31.2%         | 29.2% | 26.0%           | 27.8% | 35.4%      | 26.7% | 21.5%      | 27.0% | 28.4%      | 25.6% | 26.2%      | 23.7% | 22.5%         | 25.4% | 26.7% | 24.4% |
| Very strong   | Count | 140           | 77    | 183             | 125   | 72         | 15    | 233        | 66    | 361        | 155   | 219        | 205   | 180           | 56    | 161   | 85    |
|   | %     | 19.2%         | 20.1% | 18.6%           | 19.3% | 18.8%      | 14.9% | 18.9%      | 25.1% | 20.1%      | 18.4% | 20.0%      | 23.4% | 19.4%         | 19.2% | 18.3% | 25.6% |

Source: LSBS (2015), F4: How capable would you say your business is at, on the scale of 1 of 5 where 1 is very poor for doing these, and 5 is very strong. How capable is your business? Shading denotes statistically significant response using Chi-square test ( $\chi^2$ : p-value < 0.05)

**Table A.20 Reason for using information/advice – regional analysis**

| Reason for using information/advice                               | East Midlands |             | East of England |             | North East |            | North West  |             | South East  |             | South West  |             | West Midlands |             | Y&H         |             |
|---|---------------|-------------|-----------------|-------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|
|   | Urban         | Rural       | Urban           | Rural       | Urban      | Rural      | Urban       | Rural       | Urban       | Rural       | Urban       | Rural       | Urban         | Rural       | Urban       | Rural       |
| Business growth   | 32<br>24.2%   | 21<br>19.3% | 29<br>14.1%     | 37<br>24.0% | 9<br>15.3% | 6<br>17.6% | 50<br>18.8% | 11<br>22.0% | 83<br>19.9% | 43<br>21.2% | 52<br>20.7% | 36<br>14.9% | 29<br>15.9%   | 18<br>17.5% | 31<br>22.0% | 19<br>30.2% |
| E-commerce/technology   | 29<br>22.0%   | 14<br>12.8% | 28<br>13.7%     | 10<br>6.5%  | 5<br>8.5%  | 6<br>17.6% | 25<br>9.4%  | 1<br>2.0%   | 37<br>8.9%  | 10<br>4.9%  | 16<br>6.4%  | 11<br>4.5%  | 12<br>6.6%    | 8<br>7.8%   | 15<br>10.6% | 4<br>6.3%   |
| Employment law/redundancies                                       | 3<br>2.3%     | 10<br>9.2%  | 8<br>3.9%       | 6<br>3.9%   | 3<br>5.1%  | 2<br>5.7%  | 27<br>10.2% | 4<br>8.0%   | 27<br>6.5%  | 16<br>7.9%  | 20<br>8.0%  | 9<br>3.7%   | 18<br>9.9%    | 3<br>2.9%   | 12<br>8.5%  | 7<br>11.3%  |
| Exporting   | 1<br>0.8%     | 3<br>2.8%   | 3<br>1.5%       | 6<br>3.9%   | 2<br>3.4%  | 1<br>2.9%  | 2<br>.8%    | 0<br>0.0%   | 18<br>4.3%  | 5<br>2.5%   | 10<br>4.0%  | 7<br>2.9%   | 7<br>3.8%     | 0<br>0.0%   | 0<br>0.0%   | 0<br>0.0%   |
| Financial advice e.g. how and where to get finance                | 12<br>9.1%    | 6<br>5.5%   | 9<br>4.4%       | 8<br>5.2%   | 1<br>1.7%  | 4<br>11.8% | 12<br>4.5%  | 3<br>6.0%   | 27<br>6.5%  | 17<br>8.4%  | 4<br>1.6%   | 9<br>3.7%   | 14<br>7.7%    | 4<br>3.9%   | 6<br>4.2%   | 4<br>6.5%   |
| Financial advice e.g. accounting, for general running of business | 23<br>17.6%   | 15<br>13.8% | 45<br>22.0%     | 29<br>18.8% | 3<br>5.1%  | 6<br>17.6% | 54<br>20.3% | 15<br>30.0% | 87<br>20.9% | 43<br>21.2% | 46<br>18.3% | 51<br>21.1% | 34<br>18.7%   | 13<br>12.6% | 28<br>19.9% | 8<br>12.7%  |
| Health and safety   | 8<br>6.1%     | 3<br>2.8%   | 6<br>2.9%       | 8<br>5.2%   | 7<br>11.9% | 0<br>0.0%  | 16<br>6.0%  | 1<br>2.0%   | 13<br>3.1%  | 7<br>3.4%   | 7<br>2.8%   | 22<br>9.1%  | 5<br>2.8%     | 2<br>1.9%   | 5<br>3.5%   | 3<br>4.8%   |
| Improving business efficiency/productivity                        | 28<br>21.4%   | 19<br>17.4% | 20<br>9.8%      | 26<br>16.9% | 2<br>3.4%  | 2<br>5.9%  | 17<br>6.4%  | 7<br>14.0%  | 30<br>7.2%  | 12<br>5.9%  | 28<br>11.2% | 21<br>8.7%  | 17<br>9.4%    | 21<br>20.4% | 13<br>9.2%  | 8<br>12.9%  |
| Innovation  | 14<br>10.7%   | 9<br>8.3%   | 11<br>5.4%      | 9<br>5.8%   | 0<br>0.0%  | 0<br>0.0%  | 2<br>.8%    | 0<br>0.0%   | 12<br>2.9%  | 7<br>3.4%   | 3<br>1.2%   | 1<br>.4%    | 2<br>1.1%     | 2<br>1.9%   | 1<br>.7%    | 1<br>1.6%   |
| Legal issues  | 6<br>4.6%     | 8<br>7.3%   | 23<br>11.3%     | 14<br>9.2%  | 3<br>5.1%  | 4<br>11.8% | 16<br>6.0%  | 2<br>3.9%   | 21<br>5.0%  | 25<br>12.3% | 14<br>5.6%  | 15<br>6.2%  | 20<br>11.0%   | 2<br>1.9%   | 13<br>9.2%  | 4<br>6.5%   |
| Management/leadership development                                 | 0<br>0.0%     | 2<br>1.8%   | 2<br>1.0%       | 5<br>3.2%   | 1<br>1.7%  | 0<br>0.0%  | 4<br>1.5%   | 0<br>0.0%   | 11<br>2.60% | 3<br>1.5%   | 12<br>4.8%  | 3<br>1.2%   | 6<br>3.3%     | 0<br>0.0%   | 2<br>1.4%   | 6<br>9.7%   |
| Marketing   | 12<br>9.1%    | 11<br>10.1% | 26<br>12.7%     | 7<br>4.6%   | 6<br>10.2% | 0<br>0.0%  | 37<br>13.9% | 6<br>12.0%  | 44<br>10.6% | 9<br>4.4%   | 26<br>10.4% | 16<br>6.6%  | 6<br>3.3%     | 4<br>3.9%   | 18<br>12.8% | 3<br>4.8%   |
| Regulations   | 13<br>9.8%    | 16<br>14.7% | 13<br>6.3%      | 6<br>3.9%   | 1<br>1.7%  | 5<br>14.7% | 21<br>7.9%  | 4<br>8.0%   | 32<br>7.7%  | 19<br>9.4%  | 14<br>5.6%  | 31<br>12.8% | 5<br>2.8%     | 10<br>9.7%  | 7<br>5.0%   | 9<br>14.5%  |
| Relocation  | .<br>.        | .<br>.      | 0<br>0.0%       | 1<br>.7%    | 0<br>0.0%  | 0<br>0.0%  | 1<br>.4%    | 0<br>0.0%   | 0<br>0.0%   | 1<br>.5%    | 1<br>0.4%   | 8<br>3.3%   | 5<br>2.7%     | 1<br>1.0%   | 0<br>0.0%   | 0<br>0.0%   |
| Tax/national insurance law and payments                           | 19<br>14.5%   | 8<br>7.3%   | 26<br>12.7%     | 21<br>13.7% | 2<br>3.4%  | 3<br>8.6%  | 35<br>13.2% | 4<br>8.0%   | 40<br>9.6%  | 28<br>13.8% | 23<br>9.2%  | 21<br>8.7%  | 25<br>13.8%   | 10<br>9.7%  | 18<br>12.8% | 11<br>17.7% |
| Training/skills needs   | 0<br>0.0%     | 6<br>5.5%   | 6<br>2.9%       | 4<br>2.6%   | 0<br>0.0%  | 0<br>0.0%  | 8<br>3.0%   | 1<br>2.0%   | 23<br>5.5%  | 7<br>3.4%   | 8<br>3.2%   | 12<br>5.0%  | 4<br>2.2%     | 6<br>5.8%   | 8<br>5.7%   | 6<br>9.7%   |
| Workplace pensions  | 6<br>4.6%     | 5<br>4.6%   | 7<br>3.4%       | 8<br>5.2%   | 1<br>1.7%  | 1<br>2.9%  | 10<br>3.8%  | 4<br>8.0%   | 18<br>4.3%  | 11<br>5.4%  | 13<br>5.2%  | 10<br>4.1%  | 7<br>3.9%     | 3<br>2.9%   | 6<br>4.20%  | 1<br>1.6%   |
| Other   | 10<br>7.6%    | 12<br>11.0% | 39<br>19.0%     | 19<br>12.3% | 9<br>15.3% | 3<br>8.6%  | 36<br>13.5% | 5<br>10.0%  | 55<br>13.2% | 25<br>12.3% | 30<br>12.0% | 42<br>17.4% | 27<br>14.9%   | 8<br>7.8%   | 12<br>8.5%  | 5<br>7.9%   |

Source: LSBS (2015): question K4: what did you seek information or advice about in the last year? Shading denotes statistically significant response using Chi-square test ( $\chi^2 < 0.05$ )