

# Research Report

Understanding levels of rural entrepreneurial activity in the UK: A pre-Covid assessment using Global Entrepreneurship Monitor (GEM) data

**Authors:** Dr Serdal Ozusaglam, Prof Stephen Roper and Dr Neha Prashar

**NICRE Research Report No 6:** April 2022

**Contacts:** [serdal.ozusaglam@wbs.ac.uk](mailto:serdal.ozusaglam@wbs.ac.uk), [stephen.roper@wbs.ac.uk](mailto:stephen.roper@wbs.ac.uk), [n.prashar@aston.ac.uk](mailto:n.prashar@aston.ac.uk)

## Abstract

Entrepreneurial activity – creating and developing a new business – provides the opportunity for new wealth creation in a community and creates the potential for new employment. In rural areas where alternative employment opportunities may be less accessible, local entrepreneurship may be particularly important. However, arguments related to agglomeration have often suggested that entrepreneurial activity may be less rewarding in rural areas. Yet, prior experiences, local connections, and specific local knowledge have all been suggested as supporting levels of rural entrepreneurship. Here, using data from the 2019 Global Entrepreneurship Monitor (GEM) dataset, we compare levels of early-stage entrepreneur and established business owners between rural and urban areas (outside London) in the UK. Allowing for a wide range of control variables, the results point to levels of entrepreneurial activity 1.5 to 3.6 percentage points higher in rural areas, when assessed in 2019 immediately before the Covid-19 pandemic. Attitudinal and individual characteristics also prove important in shaping levels of entrepreneurial activity. Our results confirm earlier studies which have suggested higher levels of entrepreneurial activity in rural areas of the UK and studies of business demographics which point to higher business density per capita in rural areas. Future studies could usefully explore why rural areas have higher levels of entrepreneurial activity and the relative importance of opportunity, experience, social capital and local knowledge effects.

## Acknowledgements and funding

This paper is published by the National Innovation Centre for Rural Enterprise (NICRE) which is funded by Research England to collaborate, research and co-design ideas and solutions to foster rural enterprise and unlock the potential of rural economies.

NICRE works with businesses, policy makers and other partners across the UK to take part in research and catalyse change.

It brings together the strengths of its founding university partners: Centre for Rural Economy and Business School at Newcastle University, Enterprise Research Centre at Warwick University and Countryside and the Community Research Institute at the University of Gloucestershire and Royal Agricultural University.

This report is based on data collected by the GEM consortium and the GEM UK team. Responsibility for analysis and interpretation of the data is the sole responsibility of the authors. The authors would like to thank Mark Hart for making the data available for this paper and his constructive comments and suggestions leading to this present version.

Founding research partners:



Funded in partnership with:



Founding business partners:



BNP PARIBAS GROUP

## Contents

<b>Executive summary</b> .....	<b>5</b>
<b>1. Introduction</b> .....	<b>6</b>
<b>2. Comparing levels of rural and urban entrepreneurship in the UK: prior evidence</b> .....	<b>8</b>
2.1 Business demography data .....	8
2.2 GEM data.....	9
<b>3. The UK GEM 2019 data</b> .....	<b>11</b>
<b>4. Empirical analysis</b> .....	<b>11</b>
4.1 Descriptive analysis .....	11
4.2 Empirical model.....	14
4.3 Estimation results .....	15
<b>5. Discussion and conclusions</b> .....	<b>17</b>
<b>References</b> .....	<b>18</b>
<b>Tables</b> .....	<b>19</b>

## Executive summary

Entrepreneurial activity – creating and developing a new business – provides the opportunity for new wealth creation in a community and creates the potential for new employment and increased community resilience. However, the research literature predominantly focuses on entrepreneurship in urban areas. In this paper we seek to redress the balance by examining levels of rural entrepreneurship activity in the UK immediately prior to the Covid-19 pandemic. We compare levels of rural entrepreneurship to urban areas to provide an indication of the relative level of engagement with early-stage entrepreneurship and the ownership/management of established businesses in the adult, working-age population.

Our empirical analysis is based on information from the Global Entrepreneurship Monitor (GEM) 2019, which provides measures of the extent and nature of entrepreneurial activity among the UK adult population aged 18 to 64. We use a large number of control variables, allowing us to identify a potential urban-rural difference in engagement in entrepreneurship controlling for individuals' characteristics and attitudes, which previous studies have suggested may vary between urban and rural areas (Hart and Levie, 2012).

The results suggest some, perhaps unexpected, contrasts between urban and rural areas with respect to entrepreneurial activities. Individuals residing in rural areas of the UK are *more* likely to engage in early-stage entrepreneurship and own/manage new businesses compared to individuals in urban areas. This contradicts some prior studies which suggest that rural areas lag behind urban areas with respect to entrepreneurship.

Moreover, our results indicate that individuals' characteristics, attitudes and market perceptions have similar impacts on the probability of engaging in early-stage entrepreneurship and own/manage new businesses regardless of where people reside. Combined these insights suggest potential opportunities for policies directed towards rural areas, and individuals in those areas, that can improve entrepreneurial attitudes and perceptions, and simultaneously decrease fear of business failure. One example may be university-based training, entrepreneurship and networking programmes for individuals in rural areas to learn about real-life examples of successful entrepreneurs, to hone their start-up skills, and help identify relevant market opportunities.

Future analyses could usefully investigate the contrasting drivers of urban and rural entrepreneurship reflecting the availability (or lack of availability) of alternative employment opportunities (Phillipson et al. 2020) as well as the heritage, home advantage and/or traditional innovation factors which may make rural areas effective enablers of entrepreneurial activity.

## 1. Introduction

Entrepreneurial activity – creating and developing a new business – provides the opportunity for new wealth creation in a community and creates the potential for new employment. In rural areas where alternative employment opportunities may be less accessible, local entrepreneurship may be particularly important. Rural entrepreneurship has received relatively little attention in the research literature – compared to urban entrepreneurship – and studies often suggest that 'entrepreneurship in rural areas can hardly be competitive due to limited agglomeration effects, missing elements of entrepreneurial eco-systems and organisational thinness' (Habersetzer et al. 2021, p. 936).

In this paper we use data from the UK Global Entrepreneurship Monitor (GEM) dataset for 2019 to examine levels of rural entrepreneurship activity in rural areas of the UK immediately prior to the Covid-19 pandemic. We compare levels of rural entrepreneurship to urban areas of the UK outside London to provide an indication of the relative level of entrepreneurial activity. London is excluded from our urban comparison group as previous studies using GEM data suggest that the capital has a very different entrepreneurial eco-system to other parts of the country. The GEM 2019 data covers 6,787 adults aged 18-80 interviewed by phone (mobile or landline) during the early summer of 2019. Our results are specific to this cross-sectional survey but reassuringly they echo those of earlier comparative analyses of urban-rural entrepreneurship in the UK (Hart and Levie 2009; Hart and Levie 2012). Each of these previous studies, and our own results, emphasise the significantly *higher* overall level of entrepreneurial activity in rural areas.

This is perhaps not surprising as there are good conceptual reasons for thinking that rural regions can provide a strong enabling context for entrepreneurship through a 'heritage' or 'home advantage' effect. Klepper (2011) emphasises a heritage approach suggesting that work experience and origins of entrepreneurs may be critical before the founding of their new business. This can work in two ways. First, entrepreneurs may be involved in some type of activity locally and then draw on that experience to develop a new local enterprise. Examples of this type of business in a rural context would be farm diversification or a farmer moving into contracting. In both cases businesses would be strongly embedded in the local economy which may also benefit their subsequent growth (Habersetzer et al. 2021). Heritage effects may also operate where individuals with strong prior experience in a sector may move into a rural area where they recognise distinctive opportunities and assets associated with rurality (Bosworth and Bat Finke, 2020) and then start a business. A second approach emphasises the home advantage of rural entrepreneurs drawing on a combination of their extra-local connections and access to local forms of capital (Bosworth and Bat Finke, 2020; Bosworth and Atterton, 2012) and suggests that the strong social embeddedness of founders in their local communities may provide a supporting and enabling basis for entrepreneurial success (Martynovich 2017). De Guzman et al.

(2020) suggest, in particular, that rural communities may place a high value on supporting local youth entrepreneurship<sup>1</sup>.

Both the heritage and home advantage effects on rural entrepreneurship have taken on new meaning due to the Covid-19 pandemic and its effects on business diversification and population relocations (Aronica et al. 2021). As Phillipson et al. (2020, p. 6) comment: 'Necessity is an important driving force for rural business innovation. For instance, some creative and digital businesses are taking advantage of opportunities afforded by people working from home. Some businesses are also likely to face additional demand or identify complementary or alternative products and markets, and in turn these will require innovation in their processes, goods and services'. The Covid-19 pandemic has also had a significant impact on residential preferences in the UK with an increasing premium being attached to rural and coastal properties, which accelerated pattern of net internal migration and counter-urbanisation. During 2019/20 period there was net internal migration inwards of 97,500 people for Predominantly Rural areas in contrast, for Predominantly Urban areas there was net internal migration outwards of 149,100 (Defra, 2022). In September 2021 the BBC reported that Cornwall had overtaken London as the most searched for location on the property site Rightmove, followed by Devon<sup>2</sup>. The impact of these changes on rural entrepreneurship are as yet uncertain, potentially increasing the number of rurally-based businesses run by in-movers at the expense of existing local entrepreneurs if priced-out of local housing markets.

A third argument for rural entrepreneurship emerges from the literature on innovation rather than entrepreneurship and suggests the potential importance of 'traditioventions', i.e., 'practices and techniques deriving from historical or past traditional knowledge or re-invented practices and techniques, showing, thanks also to the support of science and research, a capability to operate as innovation' (Cannarella et al. 2011, p. 691). Such traditioventions may include the adoption of traditional production styles such as artisanal food or drink production (Quinn and Seaman 2019), locationally-specific products such as those with Geographical Indications (Ceï et al. 2018), or the exploitation of local cultural or craft traditions (Iomaire 2018).

---

<sup>1</sup> This may be particularly important where returning young entrepreneurs could improve business practices and exploit the economic opportunities by utilising information, knowledge, skills, values and networks obtained in urban areas. Accordingly, we checked the total levels of early-stage entrepreneurship among those that lived in rural and urban areas for less than 10 years and found that 'Total Entrepreneurial Activity' (TEA) is significantly higher in urban areas (18.3 per cent) than in rural areas (8 per cent). However, we also found that the total level of TEA amongst UK-born regional in-migrants is 11.2 per cent in rural areas as compared to 9.8 per cent in urban areas. Combined the evidence suggests that in-migration is one driving force for the total level of TEA in rural areas.

<sup>2</sup> See <https://www.bbc.co.uk/news/business-56359865>. Accessed: 1<sup>st</sup> November 2021.

## 2. Comparing levels of rural and urban entrepreneurship in the UK: prior evidence

Two data sources provide information that allows for comparison of rural and urban entrepreneurship activity across the UK: analysis based on the Inter-Departmental Business Register (DBR) and the Global Entrepreneurship Monitor (GEM) database. These two sources provide alternative, and sometimes conflicting, views of the extent of entrepreneurial activity in rural areas.

### 2.1 Business demography data

On an annual basis Defra publishes a range of business statistics as part of their Statistical Digest of Rural England based on an analysis of businesses registered for VAT or PAYE and therefore included in the IDBR. Here, the unit of analysis is the enterprise – the level at which businesses register for VAT or PAYE – which in the case of a multi-site enterprise – the location of the registered head office. The implication is that where a firm's headquarters are in an urban area, rural branches will not be counted separately and instead aggregated into the (urban) headquarters return. As most company headquarters are in urban areas this may bias some analyses. Alternatively, analyses may be based on Local Units, which distinguishes the location of individual branches of each firm.

Analysis of the IDBR within the Defra Statistical Digest of Rural England suggests the number of enterprises and local units per capita is significantly higher in rural areas of England (Table 1). In 2019/20, there were 40.1 per cent more enterprises per capita in rural areas than in urban areas of the UK.

In terms of local units, the differential was smaller (29.5 per cent), reflecting the greater concentration of many local units of multi-site firms in urban areas.

**Table 1: Local unit and enterprises per capita: England 2019/20**

	No. of enterprises	Enterprises/10000 population	No. of local units	Local units/10000 population
Urban	1,839,695	421	2,168,820	496
Rural	551,275	590	600,525	642
England (Total)	2,390,970	451	2,769,345	522

Source: Statistical Digest of Rural England – Businesses 2021, page 4 and page 17.

The size distribution of local units also differs significantly between urban and rural locations (Table 2). Rural local units are concentrated in smaller size bands with 17.0 per cent having no employees compared to only 7.0 per cent in urban areas of England. These size differences were also evident in the average turnover and turnover per employee of enterprises in urban and rural areas. On average urban enterprises had a turnover of £2.68m in 2019/20 compared to £922k in rural areas while turnover per employee was £209k pa in urban areas and £138k in rural areas<sup>3</sup>.

<sup>3</sup> Source: Defra, Statistical Digest of Rural England – Businesses 2021, page 4.



**Table 2: Size distribution of local units in England: 2019/20**

	Employee size band:					All
	None	1-9	10-49	50-249	250+	
<b>(a) Number of local units</b>						
Urban	152,280	1,675,075	271,430	60,710	9,325	2,168,820
Rural	102,280	427,230	59,895	9,890	1,230	600,525
England (Total)	254,560	2,102,305	331,325	70,600	10,555	2,769,345
<b>(b) Percentage of firms</b>						
Urban	7.0	77.2	12.5	2.8	0.4	100.0
Rural	17.0	71.1	10.0	1.6	0.2	100.0
England (Total)	9.2	75.9	12.0	2.5	0.4	100.0

Source: Statistical Digest of Rural England – Businesses 2021, page 17.

Defra evidence on start-ups comes from a different data analysis based on PAYE registered businesses only and is presented for slightly different geographies - local authorities which are predominantly rural and those which are predominantly urban. Evidence (Defra, 2022) suggests that during the last decade the numbers of registered business start-ups were initially higher (in relative terms) in Predominantly Rural areas than in Predominantly Urban areas (excluding London). However, there has been a reversal in this trend; while the evidence suggests that start-up rates are notably higher in London, notably after 2013 start-up rates per 10,000 population were also marginally higher in predominantly urban areas (56 per 10,000) than in predominantly rural areas (45 per 10,000) in 2019/20`.

## 2.2 GEM data

The primary data source for direct comparisons of urban and rural entrepreneurship in the UK has been the Global Entrepreneurship Monitor (GEM) data. One of the earliest urban-rural comparisons using data from the GEM UK (2003 - 2006) survey examined entrepreneurial activity in England and Wales and found that entrepreneurial activity in rural areas of Wales and England exceeded that in urban areas at all stages of business ownership, although the ratio of activity levels was more equal for earlier stage activities (Williams et al. 2008).

Subsequently, Hart and Levie (2009) used GEM data for the 2004-08 period to examine urban-rural contrasts in entrepreneurial activity in England. Their data analysis suggested that the level of total early-stage entrepreneurial activity in rural locations in England was significantly higher than that observed in urban locations during the period 2004-08: 7.2 per cent compared to 5.4 per cent. Women were also significantly more likely to be entrepreneurs in rural locations than in urban locations – and especially in rural villages, dispersed rural and sparse rural locations. Accordingly, the gap between male and female entrepreneurial activity in these areas was narrower than in more urban locations. The higher levels of entrepreneurial activity found by Hart and Levie (2009) persist even after controlling for a range of characteristics (i.e., age, gender, education, income etc.). Their analysis also suggested that entrepreneurial attitudes in rural locations were different

than in urban locations – in particular, fear of failure was significantly lower, possession of start-up skills was significantly higher and whether individuals know an entrepreneur was significantly higher in rural villages.

Hart and Levie (2012) also used GEM data (2011-2012) similar to that in the analysis reported later in this paper to examine levels of entrepreneurship activity in remote rural areas of England. They found a higher level of early-stage entrepreneurial activity in remote rural areas (a Total Entrepreneurial Activity' – or TEA index of 12 per cent) than in England as a whole (10.3 per cent). Other key results from Hart and Levie (2012) were:

- There was no significant difference between male and female TEA rates in the more remote rural areas of England – contrary to the UK as a whole where males have significantly higher TEA rates than females.
- Entrepreneurial attitudes in remote rural areas were broadly similar to those observed in the UK overall – however, a higher proportion of individuals in the more remote rural areas agreed there were good opportunities for starting a business in their local area in the next six months compared to the UK.
- High growth expectation in terms of jobs is similar in businesses operating in remote rural areas to other UK areas although use of technology and low levels of exporting were potential areas of concern.

### 3. The UK GEM 2019 data

Our analysis of entrepreneurship in urban and rural areas is based on the Global Entrepreneurship Monitor (GEM) 2019 data which provides measures of the extent and nature of entrepreneurial activity among the UK adult population. One of the key entrepreneurship indicator within the GEM dataset is an index of early-stage entrepreneurship (known as the 'Total Entrepreneurial Activity' rate or TEA). The TEA index is the sum of nascent entrepreneurs<sup>4</sup> and new firm entrepreneurs<sup>4</sup> as a percentage of the adult population. These measures are derived from a telephone survey of a random sample of the adult population which is conducted on an annual basis. It is important to acknowledge that the TEA index does not measure all entrepreneurial activity and is not based on a survey of business entities. Instead, it measures the characteristics of entrepreneurial individuals and the types of entities they establish. As such it is a unique and internationally comparative measure of an area or region to be entrepreneurial. The GEM survey also contains information on Established Business Owners (EBO), which indicates the proportion of the adult population who owned and managed a business older than 42 months. Together the TEA and EBO are the two indicators used in this report to indicate the types of businesses are being created and managed in rural and urban areas. The methodology, sample sizes and weighting systems used for the GEM UK 2019 adult population survey are explained in more detail in the GEM UK 2019 report<sup>5</sup>. The 2019 GEM survey in the UK was undertaken in early summer of 2019 and covered 6787 adults aged 18 to 80, although we focus here on the sub-sample of working-age adults (4874 adults aged 18 to 64) living outside London.

## 4. Empirical analysis

### 4.1 Descriptive analysis

Our empirical analysis reflects the level of engagement with the early-stage entrepreneurship (TEA) and the established business owners (EBO) in the adult, working age population across the UK excluding London. Table A (in annex) presents the definition and measurement of all the variables used in the analysis and Table B (in annex) reports the pairwise correlation of the variables. In Table 3 we report the proportion of adults that are i) early-stage entrepreneurs (TEA) and ii) established business owners (EBO) for various population sub-groups in 2019.

---

<sup>4</sup> The active planning phase in which the entrepreneur has done something during the past 12 months to help start a new business, a new business that he/she will at least part own, and which has not paid wages or other income to the owners in the past 3 months.

<sup>4</sup> The second phase is defined as from 4 to 42 months after the new venture begins to provide income to the owners. Entrepreneurs who at least part own and manage a new business that has been paying some form of income to the owners for at least 4 and not more than 42 months are referred to as new firm entrepreneurs.

<sup>5</sup> Available at: <https://www.gemconsortium.org/file/open?fileId=50680>

**Table 3: Percentage of Early-stage Entrepreneurs (TEA) and Established Business Owners (EBO) in rural and urban firms.**

	Early-stage Entrepreneurs (TEA)			Established Business Owners (EBO)		
	All	Rural	Urban	All	Rural	Urban
Early-stage Entrepreneurs (TEA)	8.2%	9.3%	7.9%	-	-	-
Established Business Owners (EBO)	-	-	-	7.55%	10.6%	6.3%
<b>Gender:</b>						
Female	6.5%	7.7%	6.2%	4.7%	6.9%	3.5%
Male	9.9%	11.2%	9.6%	10.4%	14.7%	9%
<b>Graduate:</b>						
Yes	9.7%	11.7%	9.1%	6.8%	9.1%	5.8%
No	7%	7.5%	7%	8.2%	11.7%	6.9%
<b>Age band:</b>						
18-24	8.4%	8.3%	8.5%	1%	2.3%	0.3%
25-34	11.6%	12.7%	11.3%	5.4%	8.1%	4.7%
35-44	9.6%	11.9%	9.2%	8.3%	10.7%	7.5%
45-54	7.1%	8%	6.9%	10%	12.4%	9.15%
55-64	4.1%	6.2%	3.4%	10.9%	16%	8.3%
<b>Mobility:</b>						
UK born resident	8%	9.3%	7.8%	7.5%	10.75%	6.2%
Immigrants	11.1%	9.9%	10.6%	7.2%	4.8%	8%
<b>Ethnicity:</b>						
White	7.5%	9.5%	6.8%	7.7%	10.6%	6.5%
Non-white	18.1%	-	19.7%	5.1%	8.7%	4.6%
<b>Income:</b>						
Up to GBP11,499	6.35%	12.2%	4.1%	3.3%	2.7%	3.9%
GBP11,500 to GBP17,499	7.3%	8.8%	7.1%	8.3%	11.6%	6.5%
GBP17,500 to GBP29,999	6.9%	8.8%	6%	5.2%	8.7%	3.2%
GBP30,000 to GBP49,999	7.8%	11.3%	6.7%	7.2%	11%	5.7%
GBP50,000 to GBP99,999	9.2%	9.2%	9.5%	9.5%	12%	8.4%
GBP100,000 or more	13.7%	16.6%	13.5%	10.9%	8.1%	11.7%

On average, 8.2% of the individuals are early-stage entrepreneurs in the UK<sup>6</sup> and about 9.3% and 7.9% of the individuals in rural and urban areas, respectively (Table 3). The average levels of established business ownership are comparable to early-stage entrepreneurship; about 7.5% of all the individuals in the UK, and 10.6% and 6.3% of the individuals in rural and urban areas of the UK are established business owners, respectively.

We also see about 6.5% of females in the UK are early-stage entrepreneurs which is lower than the average in rural areas (7.7%) and slightly higher than in urban areas (6.2%). About 6.9% of females are established business owners in rural areas, which is significantly higher than the UK average (4.7%) and in urban areas (3.5%). The average level of early-

<sup>6</sup> The sample includes individuals from i) England and Wales, ii) Scotland and iii) Northern Ireland. England and Wales aggregated to a single country as the number of observations in Wales are significantly less compared to the other countries.

stage entrepreneurship for males is slightly higher than that of females in the UK (9.9%), in rural areas (11.2%) and in urban areas (9.6%). Similarly, the average level of established business ownership for males in the UK (10.4%), in rural areas (14.7%) and in urban areas (9%) are higher than of females.

The average level of early-stage entrepreneurship and established business ownership also vary depending on individuals' other personal characteristics and education. For example, the average level of early-stage entrepreneurship for graduates is about 9.7% in the UK, and about 11.7% and 9% in rural and urban areas, respectively whereas for the non-graduates the TEA rate is about 7% in the UK as a whole, and about 7.5% and 7% in rural and urban areas, respectively. There are slightly less established business owners amongst graduates; about 6.8% of the graduates in the UK are established business owners, and about 9.1% and 5.8% of graduates are established business owners in rural and urban areas, respectively. The average level of established business ownership among non-graduates is slightly higher than that of graduates. The average level of established business ownership for non-graduates is about 8.2% in the UK and about 11.7% and 6.9% in rural and urban areas, respectively.

Overall, early-stage entrepreneurs' age profile is broadly similar in rural and urban areas. The average levels of early-stage entrepreneurs are significantly higher at younger age bands than in older age bands. On the contrary, we observe that the average levels of established business ownership are significantly higher at older age groups than in younger age bands.

The average level of early-stage entrepreneurship for "UK born residents" is about 8% in the UK, whereas in rural and urban areas about 9.3% and 7.8%, respectively. The average level of early-stage entrepreneurship is significantly higher for immigrants than that of UK born residents. About 11.1% of immigrants are early-stage entrepreneurs in the UK, and about 9.9% and 10.6% of immigrants are early-stage entrepreneurs in rural and urban areas, respectively. The average level of established business ownership for UK born residents is about 7.5% in the UK and about 10.8% in rural areas and 6.2% in urban areas. Similarly, the average level of established business ownership amongst immigrants is about 7.2% in the UK, 4.8% in rural areas and 8.0% in urban areas.

The average level of early-stage entrepreneurship and established business ownership is correlated with "*income level*". We observe that the average level of early-stage entrepreneurship is significantly higher at higher income levels. For example, the average level of early-stage entrepreneurship is about 13.7% for the individuals with £100K+ income level in the UK as opposed to 6.35% for the individuals with <£11.499 income level. This contrast is significantly bigger for established business ownership. Accordingly, the average level of established business ownership for individuals with £100K+ income level in the UK is about 10.9%, whereas the average level of established business ownership for individuals with <£11.499 income level is about 3.3%.

GEM also provides a range of variables which capture individuals' attitudes to entrepreneurship and these have been shown to vary between urban and rural areas in previous studies (Hart and Levie 2012). The same type of variation in attitudes to entrepreneurship is also evident in the 2019 data (Table 4). The key distinctions are:

- About 27.6% of the individuals in the sample reported that there are good opportunities for starting a business in the next 6 months, which is comparable to rates in rural (29%) and urban (27.5%) areas.
- About 50% of the individuals in the sample believe that they have the necessary skills to start a new business venture, whereas 54% of the individuals in rural areas and 48% of the individuals in urban areas believe that they have the necessary skills.
- About 50% of individuals in the sample report that the fear of failure is an important barrier to entrepreneurship, which is broadly the same in rural (48%) and urban locations (51%).
- About 52% of the individuals in the sample reported that it is easy to start a business in the UK, with similar rates in rural and urban areas (52%).
- About 51% of the individuals in the sample reported that they have personally known an entrepreneur within the last 12 months, with similar rates in rural areas (48%) and urban areas (51%).

**Table 4: Entrepreneurial attitudes and perceptions (Percentage of individuals reporting entrepreneurial attitude and perception in rural and urban locations)**

	All	Rural	Urban
<b>Good opportunities exist:</b>			
Yes	27.6%	28.7%	27.5%
No	72.4%	71.3%	72.5%
<b>Possession of start-up skills:</b>			
Yes	49.6%	54%	48%
No	50.4%	46%	52%
<b>Fear of failure:</b>			
Yes	50.5%	48.2%	51.1%
No	49.5%	51.2%	48.9%
<b>Easy to start a business</b>			
Yes	51.9%	52.3%	51.9%
No	48.1%	47.7%	48.1%
<b>Know an entrepreneur:</b>			
Yes	50.9%	47.7%	51%
No	49.1%	52.3%	49%

## 4.2 Empirical model

The differences in individuals' personal attributes e.g., gender, education, age etc. as well as perception of attitudinal and situational factors presented above suggest that they may be important drivers of entrepreneurial activity in rural areas. To be able to identify any specific 'rural' effect however, we need to estimate an econometric model controlling for

these individual specific attributes and factors, and check whether or not their relationship is statistically significant. To do so, we estimate a logistic regression model using two binary entrepreneurship indicators, Total Entrepreneurial Activity (TEA) and Established Business Ownership (EBO). The base model in equation (1) includes individual specific control variables and the second model in equation (2) includes “urban vs rural dummy” and a separate dummy for each entrepreneurial attitude in addition to the controls employed in model (1). Accordingly, in equation (2)  $y_{it}^*$  represents one of the two binary dependent variables, TEA or EBO.  $\beta_{1-8}^x$  captures the individual effects of gender, education, age, mobility and so on.  $\gamma_2-\gamma_7$  represents the coefficients for the explanatory variables and,  $\varepsilon_i$  represents the idiosyncratic random error term.

$$\text{logit}(y_i^*) = \beta_1 \text{Gender}_i + \beta_2 \text{Graduate}_i + \beta_3 \text{Age}_i + \beta_4 \text{Age\_sq}_i + \dots + \beta_8 \text{Country}_i + \varepsilon_i \quad (1)$$

$$\text{logit}(y_i^*) = \beta_{1-8}^x \text{controls}_i + \gamma_2 \text{Urban\_vs\_Rural}_i + \gamma_3 \text{Good\_opp}_i + \gamma_4 \text{Skills}_i + \gamma_5 \text{Fear}_i + \gamma_6 \text{Easy}_i + \gamma_7 \text{Know\_ent}_i + \varepsilon_i \quad (2)$$

### 4.3 Estimation results

In this section we report Logit models for the probability that an individual will engage in entrepreneurial activity; TEA and EBO. The results are included in Table C. We report the marginal effects of the estimated coefficients to be able to explain the magnitude of the effect of rural vs urban location on entrepreneurial activity, attitudes and perceptions. These models contain a large number of control variables and they allow us to identify potential urban-rural differences in engagement in entrepreneurship, after controlling for individuals' characteristics and attitudes.

The estimated coefficient for urban areas proves significant and negative across models (Model 1 and 3 in Table C), which indicates that individuals in urban areas are less likely to engage in total early-stage entrepreneurial activity and own/manage an established business compared to individuals in rural areas. More important is that the significance and the sign of the estimated coefficient for the urban vs rural dummy remains robust even after controlling for individuals' entrepreneurial attitudes and perceptions (Model 2 and 4). Accordingly, individuals in urban areas are 1.7% (Model 2) and 2.5% (Model 4) less likely to engage in early-stage entrepreneurial activity and own/manage an established business compared to individuals in rural areas. The implication is that even when we allow for a wide range of factors linked to entrepreneurial attitudes and perceptions there remains a higher propensity for individuals to engage in entrepreneurial activity in rural areas. This is consistent with the earlier evidence from the UK GEM surveys (Williams et al. 2008; Hart and Levie 2009, 2012).

The findings also point out a range of other attitudinal and situational factors:

- The likelihood of engaging in early-stage entrepreneurial activity and owning/managing an established business decreases with “fear of failure”. More precisely, individuals who fear that the business might fail are 3.3% less likely to engage in early-stage entrepreneurial activity and 4.8% less likely to own/manage an established business compared to individuals who do not fear business failure.

- The probability of engaging in early-stage entrepreneurial activity and owning/managing an established business increases with “possession of start-up skills”, “knowing an entrepreneur” and “perception of good business opportunities”. Individuals who possess start-up skills are 9.1% and 12.1% more likely to engage in early-stage entrepreneurial activity and to own/manage an established business, respectively, compared to the individuals who do not possess such skills. Similarly, the individuals who “know an entrepreneur” are 7.6% and 1.6% more likely to engage in early-stage entrepreneurial activity and own/manage an established business, compared to the individuals who do not know an entrepreneur. Finally, those who think there will be good opportunities for starting a business in the area where they live are 2.3% more likely to engage in early-stage entrepreneurial activity.
- We find no statistically significant difference between males and females regarding the likelihood to engage in early-stage entrepreneurial activity after controlling for entrepreneurial attitude and perceptions (Model 2). However, we observe that males are significantly more likely (4.2%) to own/manage an established business (Model 4) compared to females.
- We also observe that an individual’s educational attainment (bachelor’s degree or more) is particularly important for engaging in early-stage entrepreneurial activity but less so owning or managing an established business. Accordingly, “Graduates” are 1.8% more likely to engage in early-stage entrepreneurial activity (Model 2) compared to non-graduates.
- There is a significant and inverted U-shaped relationship between the age of an individual and the probability to engage in early-stage entrepreneurial activity and owning/managing an established business. The estimated coefficient for Age is mostly significant and positive whereas the estimated coefficient for “Age Square” has a negative sign and is significant in almost all models. Accordingly, the results suggest that while there is a significant and positive relationship between an individual’s age and the probability to engage in early-stage entrepreneurial activity and owning/managing an established business, the probability decreases as the individuals’ age increases.
- There is no statistical difference between UK-born residents and immigrants regarding the probability to engage in early-stage entrepreneurial activity and owning/managing an established business. The estimated coefficient for “Residency” has a positive sign but is not significant. Similarly, we do not find statistically significant relationship between “Ethnicity” and probability to engage in early-stage entrepreneurial activity and owning/managing an established business.
- We found a statistically meaningful relationship between individuals’ “income level” and the probability to own/manage an established business but not with early-stage entrepreneurship. More precisely, in model 4 we observe that the individuals with £50-99K and £100K+ income levels are 4.3% and 4.9% more likely to own/manage an established business, respectively.



- Finally, the results indicate the individuals residing in England and Wales are 1.9% (Model 2) more likely to engage in early-stage entrepreneurial activity compared to those residing in Scotland and Northern Ireland. However, we did not observe a significant difference between the individuals in England and Wales, Scotland and Northern Ireland regarding the probability to own/manage an established business.

## 5. Discussion and conclusions

Entrepreneurship is one of the most important indicators of an economy's prosperity and entrepreneurs, who are composed of individuals from all groups in a society, have different entrepreneurial attitudes and perceptions. These attitudes and perceptions are amongst the main drivers of and barriers to a dynamic entrepreneurship sector, and they may also have a significant impact on employment, competitiveness and the innovative capacity of an economy. The literature focuses mainly on entrepreneurship in urban areas due to large levels of supply and demand of goods, services, and employment in an urban context. Rural entrepreneurship, however, has received relatively little attention as rural economies are often seen as agriculture-dependent, or with little or no incentive for entrepreneurship due to economies of scale, limited agglomeration effects and fewer alternative employment opportunities. Accordingly, in this research we examine levels of rural entrepreneurship activity in rural areas of the UK and how these differ from those in more urban areas. To do so, we employed the UK Global Entrepreneurship Monitor (GEM) dataset, which provides detailed and unique information about an individual's personal attributes e.g., gender, education, age etc. as well as their attitudes to and perceptions of entrepreneurial activity. Accordingly, we examined the probability that an individual will engage in entrepreneurial activity, measuring early-stage entrepreneurs and established business owners.

The results indicate that there are significant differences between rural and urban locations in the UK with respect to engagement in early-stage entrepreneurship activity and own/manage an established business. Precisely, the results indicate that individuals residing in rural areas of the UK are more likely to engage in early-stage entrepreneurship and own/manage an established business compared to individuals in urban areas. This is consistent with earlier studies using the GEM data – and also the evidence from business demographics (Tables 1 and 2) (Williams et al. 2008; Hart and Levie 2009, 2012) and higher densities of business activity per capita in rural areas (Tables 1 and 2). Accordingly, our main finding contradicts some prior studies which suggest that rural areas lag behind urban areas with respect to entrepreneurship (Bosma and Sternberg, 2014). Future analyses could usefully investigate the contrasting drivers of urban and rural entrepreneurship reflecting the availability (or lack of availability) of alternative employment opportunities (Phillipson et al. 2020) as well as the heritage, home advantage and/or tradition factors discussed earlier.

We also observe that i) perception of good opportunities, ii) possession of start-up skills and iii) knowing an entrepreneur have significant and positive impacts on the probability to be an early-stage entrepreneur. Possession of start-up skills is especially significant in relation to established business owners. Whilst fear of failure remains a significant barrier to both stages of entrepreneurship. Combined these insights suggest potential opportunities for policies directed towards rural areas (training, entrepreneurship and

mentoring/networking programs etc.), and individuals in those areas, that can capitalise on entrepreneurial attitudes and perceptions, and simultaneously decrease fear of business failure.

Our analysis pre-dates the Covid-19 pandemic which may have significantly changed the entrepreneurial landscape due to acceleration of urban to rural shifts in population. Future analysis could usefully look at later waves of the GEM data and potentially other data sources to examine how the pandemic has influenced urban and rural start-up activity as well as business survival and growth.

## References

Aronica, M., et al. (2021). "The Diversification of Sicilian Farms: A Way to Sustainable Rural Development." *Sustainability* **13**(11).

Bosma, N., & Sternberg, R. (2014). Entrepreneurship as an urban event? Empirical evidence from European cities. *Regional studies*, *48*(6), 1016-1033.

Bosworth, G., & Atterton, J. (2012). Entrepreneurial in-migration and neoendogenous rural development. *Rural Sociology*, *77*(2), 254-279.

Bosworth, G., and Bat Finke, H. (2020). Commercial Counterurbanisation: A driving force in rural economic development. *Environment and Planning A: Economy and Space*, *52*(3), 654-674.

Cannarella, C. and V. Piccioni (2011). "Traditioventions: Creating innovation from the past and antique techniques for rural areas." *Technovation* **31**(12): 689-699.

Cei, L., et al. (2018). "From Geographical Indications to Rural Development: A Review of the Economic Effects of European Union Policy." *Sustainability* **10**(10): 21.

de Guzman, M. R. T., et al. (2020). "Rural communities as a context for entrepreneurship: Exploring perceptions of youth and business owners." *Journal of Rural Studies* **80**: 45-52.

Habersetzer, A., et al. (2021). "Entrepreneurship in rural regions: the role of industry experience and home advantage for newly founded firms." *Regional Studies* **55**(5): 936-950.

Hack-Polay, D., et al. (2020). "Immigrant entrepreneurs in rural England - An examination of the socio- cultural barriers facing migrant small businesses in Lincolnshire." *Local Economy* **35**(7): 676-694.

Hart, M and Levie (2012) GEM UK: Entrepreneurship in Remote Rural Areas in England 2012.

Hart, M and Levie, J (2009) Entrepreneurship in English Rural Regions: 2004-08  
Iomaire, M. M. (2018). "Recognizing food as part of Ireland's intangible cultural heritage." *Folk Life-Journal of Ethnological Studies* **56**(2): 93-115.

Klepper, S. (2011). Nano-economics, spinoffs, and the wealth of regions. *Small Business Economics*, **37**(2), 141–154.

Martynovich, M. (2017). The role of local embeddedness and non-local knowledge in entrepreneurial activity. *Small Business Economics*, **49**(4), 741–762.

Phillipson, J., et al. (2020). "The COVID-19 Pandemic and Its Implications for Rural Economies." *Sustainability* **12**(10): 3973.

Quinn, B. and C. Seaman (2019). "Artisan food production, small family business and the Scottish food paradox." *Nutrition & Food Science* **49**(3): 455-463.

Williams, R., et al. (2008). Entrepreneurial Activities: An Urban and Rural Comparison for England & Wales.

## Tables

**Table A: Definition of the variables**

	Definition
Early-stage entrepreneur	Binary variable that takes the value of 1 if an individual is an early-stage entrepreneur, and 0 otherwise.
Established Business Owner	Binary variable that takes the value of 1 if an individual is an established business owner or manager, and 0 otherwise
Urban vs Rural	Binary variable that takes the value of 1 if an individual is residing Urban areas and 0 if residing in Rural areas (base category).
<b>Entrepreneurial Attitudes:</b> <i>Good opportunities exist</i>	Binary variable that takes the value of 1 if an individual reported that in the next six months, there will be good opportunities for starting a business in the area where he/she lives, and 0 otherwise.
Possession of start-up skills	Binary variable that takes the value of 1 if an individual reported that he/she has the knowledge, skills and experience required to start a business, and 0 otherwise.
<i>Fear of failure</i>	Binary variable that takes the value of 1 if an individual reported that he/she won't start a business for fear it might fail, and 0 otherwise.
<i>Easy to start business</i>	Binary variable that takes the value of 1 if an individual reported that in the UK, it is easy to start a business, and 0 otherwise.
Know an entrepreneur	Binary variable that takes the value of 1 if an individual reported that he/she personally knows someone who has started a business in the past 2 years, and 0 otherwise.
<b>Controls:</b> Gender	Binary variable that takes the value of 1 if an individual is male, and 0 if female.
Graduate	Binary variable that takes the value of 1 if an individual has at least Bachelor's degree, and 0 otherwise.

Age band	Categorical variable indicating an individual's age band. This variable ranges 1 to 6 where: Age band 1 = 18-24 Age band 2 = 25-34 Age band 3 = 35-44 Age band 4 = 45-54 Age band 5 = 55-64
Mobility	Binary variable that takes the value of 1 if an individual is an immigrant, and 0 if UK born resident (base category).
Ethnicity	Binary variable that takes the value of 1 if an individual is non-white (other), and 0 if white (base category).
Income	Categorical variable indicating an individual's income level. This variable ranges 1 to 6 where: Income 1 = up to £11,499 Income 2 = £11,500 to £17,499 Income 3 = £17,500 to £29,999 Income 4 = £30,000 to £49,999 Income 5 = £50,000 to £99,999 Income 6 = £100,000 or more
Country	Categorical variable indicating the country of residence of an individual where: Country 1 = Scotland Country 2 = England and Wales Country 3 = Northern Ireland

---

**Table B. Pairwise correlation of the variables.**

		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Early-Stage Entrepreneur	1												
2	Established Business Owner	-0.034***	1											
3	Good Opp.	0.01***	0.04***	1										
4	Possession of start-up	0.21***	0.24***	0.13***	1									
5	Fear of failure	-0.07***	-0.10***	-0.07***	-0.10***	1								
6	Easy to start	0.08***	0.1***	0.22***	0.22***	-0.07***	1							
7	Know an entrepreneur	0.19***	0.09***	0.13***	0.21***	-0.008	0.13***	1						
8	Gender	0.06***	0.11***	0.09***	0.18***	-0.036***	0.14***	0.04***	1					
9	Graduate	0.06***	0.014	0.02	0.11***	0.04***	0.02*	0.07***	-0.02*	1				
10	Age	-0.13***	0.02*	-0.03**	-0.07***	-0.14***	0.02	-0.21***	-0.004	-0.18***	1			
11	Mobility	0.04***	0.001	0.01	0.02	-0.01	0.01	0.03**	-0.013	0.08***	-0.05***	1		
12	Ethnicity	0.08***	-0.015	0.01	0.04***	0.01	0.01	0.04***	0.02*	0.08***	-0.13***	0.25***	1	
13	Income	0.08***	0.1***	0.05***	0.19	0.05***	0.04**	0.14***	0.11***	0.32***	-0.33***	0.03**	0.02	1

Note: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table C: Logit models for the probability of engaging in early-stage entrepreneurship and owning/managing a new business: 2019/20**

VARIABLES	(1) TEA (Model 1)	(2) TEA (Model 2)	(3) EBO (Model 3)	(4) EBO (Model 4)
Urban locations	-0.025*** (0.008)	-0.015* (0.008)	-0.035*** (0.009)	-0.026*** (0.009)
<b>Entrepreneurial Attitudes:</b>				
Good opportunities exist	-	0.021*** (0.008)	-	-0.009 (0.009)
Possession of start-up skills	-	0.095*** (0.012)	-	0.121*** (0.013)
Fear of failure	-	-0.033*** (0.008)	-	-0.049*** (0.009)
Easy to start a business	-	0.006 (0.008)	-	0.013 (0.009)
Know an entrepreneur	-	0.076*** (0.010)	-	0.012 (0.008)
<b>Gender:</b>				
Male vs Female (1/0)	0.030*** (0.008)	0.01 (0.008)	0.066*** (0.009)	0.042*** (0.009)
Graduate vs non-graduate (1/0)	0.021** (0.008)	0.017** (0.008)	-0.008 (0.009)	-0.008 (0.009)
Age	0.005*** (0.002)	0.004** (0.002)	0.014*** (0.002)	0.013*** (0.002)
Age_square	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
<b>Mobility:</b>				
Immigrants vs UK-born residents (1/0)	0.018 (0.021)	0.027 (0.022)	0.019 (0.024)	0.017 (0.024)
<b>Ethnicity:</b>				
White vs Non-white (1/0)	0.050** (0.025)	0.032 (0.022)	-0.000 (0.024)	-0.005 (0.022)
<b>Income:</b>				
GBP11,500 to GBP17,499	0.005 (0.022)	-0.006 (0.03)	0.023 (0.016)	0.030 (0.021)
GBP17,500 to GBP29,999	0.001 (0.018)	-0.02 (0.024)	0.020 (0.013)	0.017 (0.016)
GBP30,000 to GBP49,999	0.007 (0.017)	-0.026 (0.023)	0.037*** (0.013)	0.024 (0.015)
GBP50,000 to GBP99,999	0.010 (0.017)	-0.023 (0.024)	0.068*** (0.014)	0.043*** (0.016)
GBP100,000 or more	0.038* (0.021)	-0.008 (0.026)	0.083*** (0.020)	0.049** (0.019)
<b>Country:</b>				
England and Wales	0.016* (0.009)	0.017** (0.008)	0.011 (0.009)	0.014 (0.009)
Northern Ireland	-0.008 (0.013)	-0.001 (0.014)	0.003 (0.015)	0.014 (0.015)
Observations	4,175	3,929	4,175	3,929

Note: Standard error in parenthesis. \*p<0.05, \*\*p<0.01, \*\*\*p<0.001.



Other Research Reports are available on the NICRE website [www.ncl.ac.uk/nicre/research/publications](http://www.ncl.ac.uk/nicre/research/publications) The views expressed in this review represent those of the author and are not necessarily those of NICRE or its funders.

For further information about NICRE:

Email: [nicre@newcastle.ac.uk](mailto:nicre@newcastle.ac.uk)

Visit: [www.ncl.ac.uk/nicre](http://www.ncl.ac.uk/nicre)

Twitter: [@NICRErural](https://twitter.com/NICRErural)

LinkedIn: [National Innovation Centre for Rural Enterprise](https://www.linkedin.com/company/nicre)

Facebook: [@NICRErural](https://www.facebook.com/NICRErural)