NatWest

Global Entrepreneurship Monitor

United Kingdom 2017 Monitoring Report

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QUEEN'S UNIVERSITY BELFAST

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Foreword

Alison Rose, CEO of Commercial and Private Banking, NatWest

Entrepreneurs are the lifeblood of the UK economy. As the country's biggest supporter of small businesses, NatWest understands that helping businesses succeed, not just through traditional lending but with full wraparound care, connectivity and know-how, is crucial for a strong economy.

That's why we're focused on nurturing and coaching high-potential start-ups through our Entrepreneur Accelerator programme. Based in 12 accelerator hubs located in major cities in every region of the country, the programme provides free mentoring, insight and bespoke coaching, specifically developed for entrepreneurs who want to grow and scale their business.

We're proud that this is now the UK's largest free business accelerator network. It allows us to support up to 1,000 entrepreneurs at any one time. Our size and our expertise means we can bring a lot to the table, including free office space and wi-fi, business advice and access to our networks and supply chains, all of which helps to ensure these businesses get the best possible start.

Since we launched the programme three years ago, we have supported 4,000 entrepreneurs who, in turn, have raised £255m in cumulative investment and created over 8,000 jobs. What's more, the businesses supported in these hubs have a remarkable one-year survival rate of 87%, well above the national average.

It's incredible to be part of the journey with these ambitious entrepreneurs, and to see them create so many jobs and secure the funding they need, especially as, in turn, the businesses we are supporting are generating employment and millions of pounds for their local economies.

Now it's time to take this a step further. We're diversifying and expanding the reach of the network to support 5,000 entrepreneurs by the end of the year. We have developed specialist programmes for fintechs, scale-ups and high-growth businesses. We understand that their needs are different from early stage start ups and have designed these programmes accordingly.

All of this support is provided to entrepreneurs fully funded with no strings attached. We don't take equity or a stake in their businesses, and the entrepreneurs don't even need to bank with us. The aim is to support them to be successful and ultimately drive their growth and that of the economy. We understand that if these businesses do well the economy benefits and the bank does well. This is truly sustainable banking.

This year's Global Entrepreneurship Monitor UK report highlights the different motivations that entrepreneurs have for starting their own business. While making money and working for yourself will always be important, making a difference to society and "creating meaning" are as important, if not more, among a variety of demographics, particularly women and younger people. By understanding the motivations of an entrepreneur, we can tailor the support we provide, ensuring it reflects what they and their business need.

Through the NatWest everywoman Women in Business programme we now have 500 accredited women in business specialists who are experts in understanding the specific support needs and motivations of female business owners.

With women still much less likely than men to take the leap and start their own business, this type of specialist support is crucial for female entrepreneurs to succeed. Currently, 48% of the entrepreneurs in our Entrepreneur Accelerator hubs are women.

At the end of 2017, there was a record 5.7 million businesses in the UK. Over 99% are SMEs and of these, 5.5 million are micro-businesses with less than 10 employees. This shows just how vital it is that we all work to create an environment where entrepreneurs can flourish.

List of Figures and Tables

Acknowledgements

NatWest is proud to sponsor the 2017 Global Entrepreneurship Monitor UK Report. As the UK's biggest supporter of small businesses, we understand the important role that start ups, scale ups and high growth businesses play in a strong and prosperous UK economy. The report's insight into the motivations and aspirations of the country's entrepreneurs is invaluable as we work to create an environment in which their businesses can thrive.

Participation in the GEM Global project in 2017 by the UK consortium was made possible by funding from the Department for Business, Energy and Industrial Strategy (BEIS) Business Innovation Directorate, Hunter Centre for Entrepreneurship at the University of Strathclyde, the Welsh Government, Invest Northern Ireland and Power to Change.

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Disclaimer
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.

Executive Summary

Background

- The Global Entrepreneurship Monitor (GEM) research consortium tracks rates of entrepreneurship across multiple phases in 54 economies, making it the world's most authoritative comparative study of entrepreneurial activity in the general adult population. In the UK in 2017, 12,646 adults aged 18 to 80 participated in the GEM survey.

- This monitoring report for the UK compares GEM measures of entrepreneurial attitudes, activity and aspirations in the UK, France, Germany and the United States. It also compares the results for the four home nations of the UK.

Entrepreneurial Activity

- Total early-stage Entrepreneurial Activity or TEA (the sum of the nascent entrepreneurship rate and the new business owner-manager rate - without double counting) in the UK in 2017 was 8.7%.

- The 2017 UK TEA rate was not significantly different to 2016 but exceeded the previous long-run rate of around 6% which prevailed until 2010. It is important to note, however, that this increase is largely in low job expectation entrepreneurial activity, with the relative prevalence of high expectation activity dropping by around one quarter since the early 2000s.

- The TEA rate of 8.7% in the UK compares favourably to France (3.9%) and Germany (5.3%) but is lower than that of the US (13.6%); the gap with the US is due largely to differences in the nascent entrepreneurship rate rather than the new business owner rate.

- TEA rates in 2017 were similar across the home nations of Wales at 6.3%, Scotland at 6.7% and Northern Ireland at 6.5% and were significantly lower than the UK rate. England recorded the highest rate in the UK at 9.1%.

- More than four-fifths of those involved in early-stage entrepreneurial activity in the UK were opportunity-motivated. The opportunity TEA rate was unchanged at 7.3% in 2017. The necessity rate was also similar to 2016 at 1.1%.

- Employees can also be engaged in entrepreneurial activity on behalf of their employers; this is measured through the Entrepreneurial Employee Activity (EEA) Rate. In 2017 the UK's rate was 6.8%, which was significantly higher than 2016 (5.5%). Considering both TEA and EEA together provides a more comprehensive picture of entrepreneurial activity in a nation.

- This year, new measures of motivation which are complementary to the opportunity-necessity conceptualisation are introduced: "making money" and "creating meaning". These two motivations are not correlated in the overall sample but demonstrate different patterns among individuals with different demographic profiles. For example, women entrepreneurs are significantly more likely to report they are motivated by creating meaning, such as helping others, making a difference to society, and building long term relationships with stakeholders. Individuals from non-white ethnic backgrounds and people under the age of 30 are more likely to be strongly motivated by both making money and creating meaning than those who identify with white ethnic backgrounds or are aged 30 or over. Making money is more important to individuals with low or no educational qualifications. An additional motivation, of carrying on a family tradition, is, not surprisingly, more frequent among those with a family business background, ethnic minorities, and immigrants.

Entrepreneurial Activity Types

In total, 1 in 5 individuals of working age in the UK were engaged in some type of entrepreneurial activity or intended to start a business within the next three years. This is similar to 2016 and, again, higher than the historical trend.

- 9.3% of working age adults expected to start a business within the next 3 years compared to 8.9% in Germany; both rates were lower than those in France (19.1%) and the US (19.0%).

- 4.8% of the adult population in the UK were actively trying to start a business (*nascent entrepreneurs*), compared with 3.4% in Germany, 2.9% in France and 9.4% in the US.

- 4.1% of the working age adult population were owner-managers of a business that was 3 to 42 months old (*new business owner-managers*). This was similar to the US rate of 4.6% and higher than the German rate of 1.1% and the French rate of 2.0%.

- The 2017 UK rate of intention to start-up was down significantly on 2016, the other activity measures remained unchanged.

- 6.6% of the UK adult population owned and managed a business older than 42 months (*established business owner-managers*). This was unchanged from 2016, and lay between the rates for France (3.6%) and the US (7.7%). The German rate was similar to the UK at 6.1%.

- 2.1% of working age people in the UK discontinued a business (either through closure or sale) in the past 12 months. Discontinuations of businesses in the US (2.0%), France (1.9%) and Germany (0.9%) were also similar.

Demographics

- In 2017 the male TEA rate stood at 11.9% and the female rate 5.6%; there were no significant changes in either rate since 2016. However, the ratio of female to male early-stage entrepreneurship does vary across the UK regions so care needs to be taken using the often repeated statement that 'women are half as likely as men to be starting their own business in the UK.'

- Those aged 25-34 in the UK are significantly more likely to be involved in early stage activity than 18-24 year olds and 55-64 year olds.

- Immigrants continue to be more entrepreneurial than the resident population. In 2017 the TEA rate for immigrants was 12.5% which was significantly higher than the rate for the life-long resident population at 8.6%.

- Similar to life-long residents, immigrants are primarily driven into entrepreneurship by opportunity motivations.

Attitudes and Aspirations

- Attitudes of non-entrepreneurial individuals to entrepreneurship remained relatively upbeat in 2017. Similar shares to 2016 felt they had the skills, knowledge and experience to start a business and start-up opportunity perception remained unchanged.

- Around 80% of the non-entrepreneurial population believe that entrepreneurs have a high status in society, however, there remains a 20 percentage point gap between that share and those that believe starting a business is a good career choice; the latter measure was the only attitudinal measure to decline over the year.

- Around 1 in 6 UK early-stage entrepreneurs have high job expectations, a lower share than the US where it is 1 in 3. The rate of established business owners with high job expectations is lower across all countries; just 3% in the UK; 2% in the European comparator nations and 6% in the US.

GEM UK 2017: Results and Analysis

1 INTRODUCTION

1.1 SCOPE OF REPORT

This report documents Global Entrepreneurship Monitor (GEM) measures of entrepreneurial attitudes, activity and aspiration in the United Kingdom (UK) and compares the rates to those in France, Germany and the United States (US). It also summarizes entrepreneurial attitudes, activity and aspiration across the four nations of the UK and reports on business start-up funding expectations.

1.2 GEM: HISTORY, PURPOSE AND MEASURES

The Global Entrepreneurship Monitor (GEM) research consortium has been measuring the entrepreneurial activity of working age adults across a wide range of countries in a comparable way since 1998. In 2017 the study conducted surveys in 54 sovereign nations and represented the world's most authoritative comparative study of entrepreneurial activity in the general adult population.

GEM's primary focus is on the study of three areas:

- To measure differences in the level of entrepreneurial activity between countries
- To uncover factors leading to appropriate levels of entrepreneurship
- To suggest policies that may enhance the national level of entrepreneurial activity.

The 2017 GEM global study was based on an analysis of adult population survey (APS) results from 54 economies which cover 67.8% of the world's population. The core of the APS is identical in each country and asks respondents about their *attitudes* towards entrepreneurship, whether they are involved in some form of entrepreneurial *activity* and, if so, their *aspirations* for their business. The global GEM Executive 2017 Report was published in January 2018[1] and can be downloaded from www.gemconsortium.org.

From the APS survey, we examine individual entrepreneurs at three key stages:

- Nascent entrepreneurs (NAE): The stage at which individuals begin to commit resources, such as time or money, to starting a business. To qualify as a nascent entrepreneur, the business must not have been paying wages for more than three months.
- New business owner-managers (NBO): Those whose business has been paying income, such as salaries or drawings, for more than three, but not more than forty-two, months.
- Established business owner-managers (EBO): Those whose business has been paying income, such as salaries or drawings, for more than forty-two months.

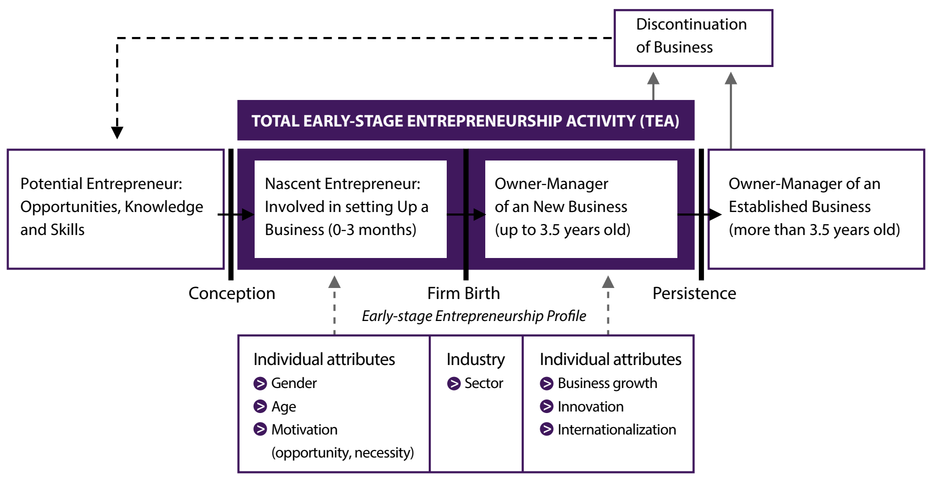
In addition, we measure general intention to start a business by asking individuals if they expect to start a business within the next three years (FUT). Finally, we ask individuals if they have sold, shut down, discontinued or quit a business, in the past year (BC). It is important to understand that the main subject of study in GEM is entrepreneurs rather than the businesses that they run. GEM measures the entrepreneurial activity of people from intention to exit. The first two stages of active business development, the nascent entrepreneur stage and the new business owner-manager stage, are combined into one index of Total early-stage Entrepreneurial Activity, or TEA[2], which is represented in Figure 1 below.

As much of this entrepreneurial activity is pre-start-up or includes very small new businesses that do not have to register for VAT, TEA rates will not necessarily match with published official statistics on business ownership and, indeed, should not be interpreted as such. Rather, GEM enables the measurement of the *propensity* of individuals in particular countries to be entrepreneurial *given* the current social, cultural and economic framework conditions that exist there.

The methodology, sample sizes and weighting systems used for the GEM UK 2017 adult population survey are explained in more detail in Appendix 1. An important change in the sample design was introduced in 2010 when 10% of respondents in each Government Office Region (GOR) were selected at random from households which had mobile phones but not fixed phone landlines. The proportion of mobile-only households in the survey (19%) matched OfCom estimates of the proportion of adults in mobile-only households in Q1 2017 for the UK (18%)[3], to account for the higher mobile phone use of some hard to reach individuals, such as young men. Once again in 2017 there are no significant differences between landline only data and the full sample which includes mobile only households. Consequently, in this report, comparisons with other countries and time-based trends within the UK are made using the full sample (landline and mobile only households). See Appendix 1 for further details on the implications of the growth in mobile only households for the GEM survey.

Figure 1: The Entrepreneurial Process and GEM Operational Definitions

(Source: Singer, Herrington and Menipaz, 2018, pg.22)



1 Singer, S., Herrington, M. and Menipaz, E. (2018) Global Entrepreneurship Monitor 2017/18 Global Report. London: Global Entrepreneurship Research Association.

2 TEA is calculated in an identical way in each country. A telephone and/or face-to-face survey of a representative sample of the adult population in each country is conducted between May and September. Respondents are asked to respond to three questions that are the basis of the TEA index:

1) "are you, alone or with others, currently trying to start a new business independently of your work?",

2) "are you, alone or with others, currently trying to start a new business as part of your work?", and

3) "are you, alone or with others, currently the owner or manager of a business?" Those who respond positively to these questions are also asked filter questions to ensure they are actively engaged in business creation as owners and managers, how long they have been paying wages to employees, and other questions about cost and time to start up, sources of finance and numbers of jobs created. A distinction is made between two types of entrepreneurs: nascent entrepreneurs (those whose businesses have been paying wages for not more than three months) and new business owner-managers (those whose businesses have been paying salaries for more than three months but not more than 42 months). The TEA index is the proportion of nascent entrepreneurs and new business owner/managers (minus any double counting, i.e. those who respond positively to both are counted once) in the working age population.

3 www.ofcom.org.uk/about-ofcom/latest/media/facts accessed 16/06/18

2.1 ENTREPRENEURIAL ATTITUDES IN THE UK AND BENCHMARK COUNTRIES IN 2017

At least some of the difference in entrepreneurial activity rates between countries may be explained by differences in attitudes of the population towards entrepreneurship. Some researchers have suggested that individuals who are already entrepreneurs may feel compelled to provide positive answers in the APS thus Table 1 compares attitudes in 2017 in the UK, France, Germany and the US for that portion of the working age (18-64) population who are not already nascent entrepreneurs or business owner/managers.

Points of note include the following:

- More than one quarter of the non-entrepreneurial population of the UK know of a recent start-up entrepreneur. In the UK this rate remained unchanged over the year at 28%; the other countries also saw no significant change. Germany continues to have the lowest rates of the comparator countries.
- Three fifths of the non-entrepreneurial working age population in the US perceived that there were good start-up opportunities in the next 6 months. The rates in the European comparator countries were substantially lower, the share in France was just over half that of the US, in the UK the respective share was two fifths.
- The start-up skills perception rate remained stable in 2017 in all countries. The UK rate is closer to that in the US than it is to its European competitors with around two fifths of the non-entrepreneurial population in the UK perceiving that they have the skills, knowledge and experience to start a business.
- Fear of failure among those who perceive start-up opportunities is similar in the four comparator countries with two fifths of respondents agreeing that fear of failure would prevent them from starting a business.

Table 1: Attitudes towards entrepreneurship in the UK, France, Germany and US in 2017 - percentage of working age population who are neither nascent entrepreneurs nor existing business owner/managers, who expressed an opinion and agreed with the statement

(Source: GEM Global and UK APS 2017)

	I know someone who has started a business in the last 2 years	There are good start-up opportunities where I live in the next 6 months	I have the skills, knowledge and experience to start a business	Fear of failure would prevent me starting a business (for those who agree there are good start-up opportunities)
United Kingdom	**28.1**	**38.6**	**40.6**	**39.7**
France	30.4	32.2	32.7	40.8
Germany	20.3	38.8	31.4	41.2
United States	25.9	59.7	45.8	36.9

2.2 ENTREPRENEURIAL ATTITUDES IN THE UK IN 2015-2017

Estimates of changes in attitudes towards entrepreneurship by gender are shown in Table 2. The only significant difference in the overall attitudinal measures between 2016 and 2017 was in the perception of entrepreneurship as a good career choice, dropping from 58% to 55% over the year.

As in previous years, differences persisted between males and females with respect to skills self-perception and fear of failure. In 2017 just one third of non-entrepreneurial females felt they had the skills, knowledge and experience to start a business compared to almost half of males. In contrast, females had a significantly higher fear of failure. There have been incremental changes in these rates over time but taken together, the trends support the view that females continue to possess a differing set of attitudes to entrepreneurship compared to males.

In 2017 there remains a wide divergence between the 77% of the non-entrepreneurial population in the UK who think that successful business founders have a high status in society, and the 55% who think that most people would agree that starting a business is a good career choice. This is despite the fact that around three-fifths of the non-entrepreneurial working age population say they see stories about people starting successful new businesses in the media.

The UK is not unique in this respect and a similar gap is observed in Germany, Switzerland, Luxembourg, Slovenia and Ireland. These countries contrast with Latvia, Bosnia and Greece where the proportions

Table 2: Entrepreneurial attitudes in the UK among households in 2015, 2016 and 2017 (% non-entrepreneurially active respondents aged 18-64 expressing an opinion and agreeing with the statement)

(Source: GEM UK APS 2015, 2016, 2017)

	2015	2016	2017	2015	2015	2016	2016	2017	2017
	All	All	All	Male	Female	Male	Female	Male	Female
I personally know someone who has started a business in the last two years	25.8	28.4	28.1	28.4	23.4	30.0	26.9	28.7	27.5
There will be good start-up opportunities where I live in the next six months	37.6	37.9	38.6	42.4	33.2	41.9	34.2	40.8	36.6
I have the skills, knowledge and experience to start a business	37.5	41.1	40.6	44.9	30.8	48.0	35.0	48.8	33.4
Fear of failure would prevent me from starting a business (for those who agree there are good start-up opportunities)	39.5	39.6	39.7	36.8	42.6	36.7	42.8	35.7	43.9
Most people consider that starting a business is a good career choice	57.5	58.2	55.4	57.9	57.1	59.5	57.0	54.1	56.5
Those successful at starting a business have a high level of status and respect in society	79.8	77.7	76.7	79.0	80.4	77.5	77.9	77.3	76.3
You will often see stories about people starting successful new businesses in the media	59.9	59.9	58.5	61.9	58.0	59.4	60.4	60.1	57.2

of the non-entrepreneurial population who agree that starting a business is a good career choice are as high as those who regard successful business founders as having a high status in society[4]. This pattern may be due to different perceived opportunity costs of starting a business versus being an employee. For example, in countries with persistently high unemployment, the option of starting a business may appear to be relatively more attractive. Cultural difference in trust between employer and employee might also affect the relative attractiveness of starting a business, as well as the perceived benefits that are associated with some employee jobs.

The trend in attitudes towards entrepreneurship is shown in Figure 2. Attitudes across all measures have generally become more optimistic since 2002 although self-perception of skills to start a business and fear of failure rates are virtually unchanged in 2017 to the rates observed in 2002. The effects of the recession can be seen clearly amongst a number of the attitudinal indicators, most notably in the perception of start-up opportunities which fell considerably between 2007-09, although it has since recovered.

Figure 3 shows the trend in perceptions of good start-up opportunities in the local area in the next 6 months; males and female perceptions have followed the same trend, albeit with a consistent gap between the two. In both cases perceptions have recovered since the drop observed over the recession. Fear of failure amongst females has been consistently higher than males across the same period with the gap between the two widening during 2017 to over 8 percentage points.

2.3 ATTITUDES TOWARDS ENTREPRENEURSHIP IN THE UK HOME NATIONS

The self-reported attitudes of the non-entrepreneurially active working age population in the four UK home nations are

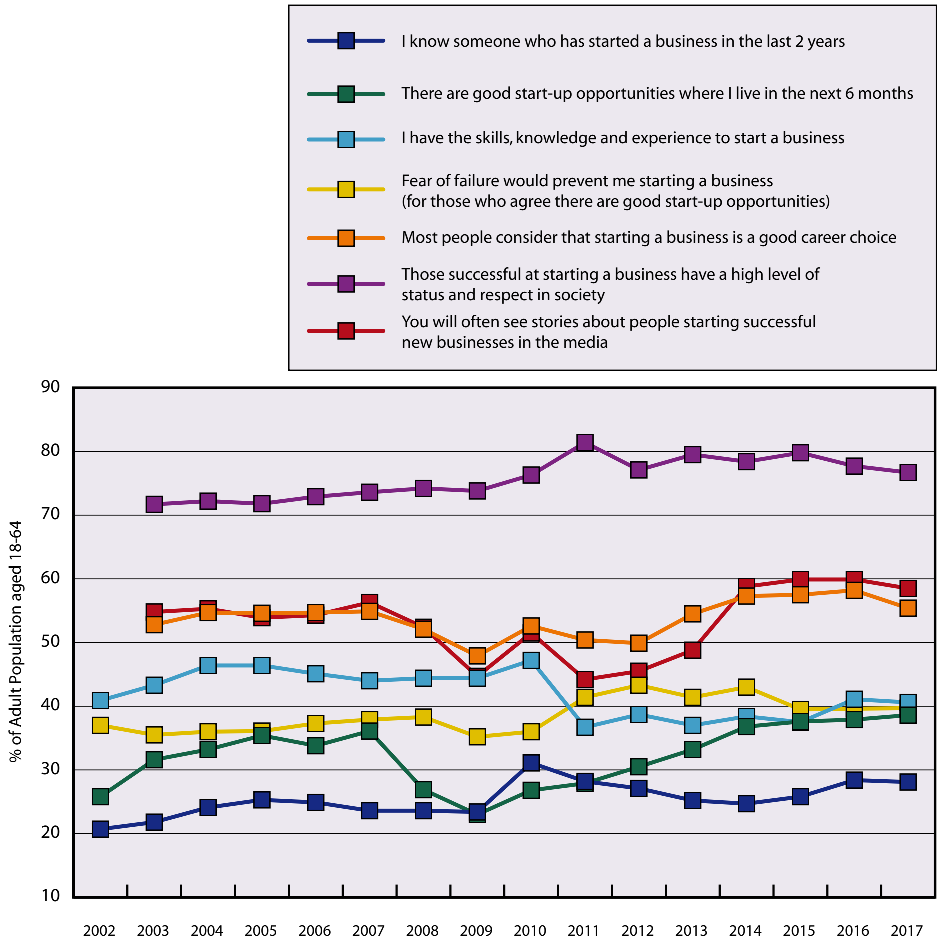


Figure 2: Entrepreneurial attitudes in the UK, 2002-2017: (% non-entrepreneurially-active respondents aged 18-64 expressing an opinion and agreeing with the statement)
(Source: GEM UK APS 2002-2017)

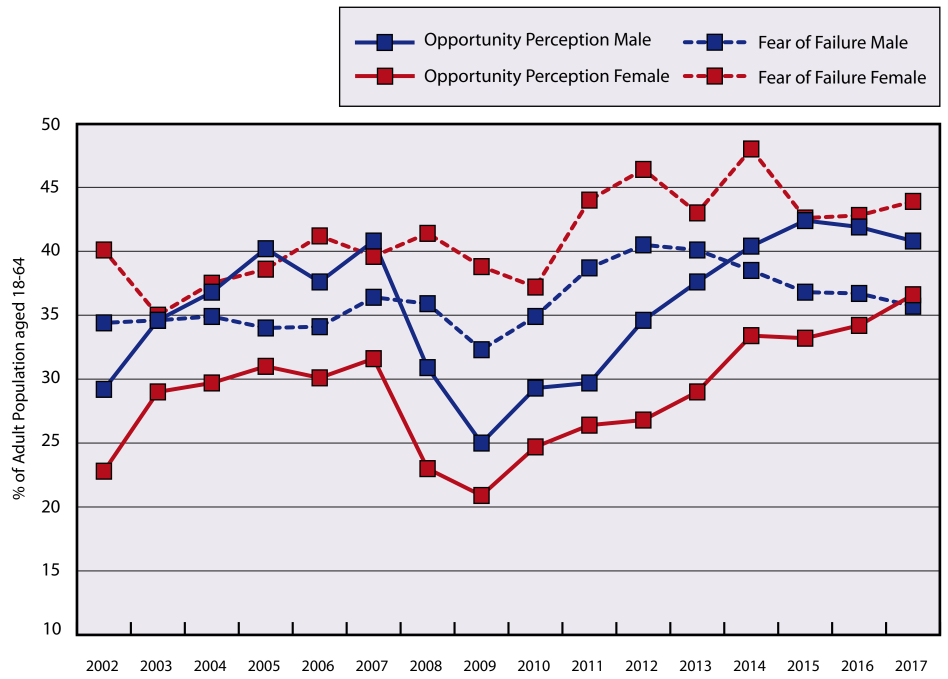


Figure 3: Male and female attitudes towards Good Opportunities and Fear of Failure (% non-entrepreneurially-active respondents aged 18-64 expressing an opinion and agreeing with the statements "There are good start-up opportunities where I live in the next 6 months"; "Fear of failure would prevent me from starting a business")
(Source: GEM UK APS 2002-2017)

presented in Table 3. The key findings for 2017 are as follows:

- The item "I personally know someone who has started a business in the last two years" may reflect the prevalence of new business start-up in a nation as well as the amount of networking by individuals. In 2017 just over one quarter of the non-entrepreneurial population agreed with the statement; there were no significant differences across the four UK nations.

- Around two-fifths of the non-entrepreneurially active population in England reported that there were good start-up opportunities in their local area in the next 6 months which was significantly higher than in Wales, Scotland and Northern Ireland, where around one-third or less reported good opportunities.

- The proportion of non-entrepreneurially active respondents who thought they had the skills to start a business was significantly lower in Northern Ireland than in England and Wales but there were no significant differences in the fear of failure rates.

- Most non-entrepreneurs had favourable attitudes towards those starting a business; similar shares of non-entrepreneurial individuals in the home nations, around 55%, agreed that "most people consider that starting a business is a good career choice".

- A higher share, more than three-quarters of non-entrepreneurial individuals, agreed that "those successful at starting a business have a high level of status and respect in society". This was consistent across the home nations.

- Around three fifths of non-entrepreneurs agreed that "you will often see stories about people starting successful new businesses in the media". Again this was a consistent finding across the UK home nations.

	England	Wales	Scotland	Northern Ireland	United Kingdom
I know someone who has started a business in the last 2 years	28.2	29.8	25.9	27.7	**28.1**
There are good start-up opportunities where I live in the next 6 months	40.0	31.2	34.2	29.1	**38.6**
I have the skills, knowledge and experience to start a business	41.3	38.2	37.5	31.9	**40.6**
Fear of failure would prevent me from starting a business (for those who agree there are good start-up opportunities)	40.0	38.7	36.0	44.7	**39.7**
Most people consider that starting a business is a good career choice	55.6	53.8	53.7	55.9	**55.4**
Those successful at starting a business have a high level of status and respect in society	76.5	75.7	77.9	80.7	**76.7**
You will often see stories about people starting successful new businesses in the media	58.5	56.0	59.0	61.5	**58.5**

Table 3: Perceptions of entrepreneurship among non-entrepreneurially active individuals in the UK Home Nations, 2017
(Source: GEM UK APS 2017)

3.1 ENTREPRENEURIAL ACTIVITY IN THE UK AND BENCHMARK COUNTRIES

GEM views entrepreneurship as a process in which individuals become increasingly engaged in entrepreneurial activity. Figure 4 illustrates the proportion of respondents by stage of entrepreneurial activity in the UK over the period 2002 to 2017. In this figure, individuals who engaged in more than one stage of the process at a time are included **in their most established stage** (see Figure 4b in Appendix for gross rates for each stage).

Following the trend first observed in 2011, in the UK in 2017 one fifth of working age individuals were either engaged in entrepreneurial activity or intended to start a business within the next three years. There was a drop in the proportion entering start-up activity in 2017 with the share intending to start a business dropping to 6% and a fall in the nascent entrepreneurship rate to 3.8%. The rates of new and established business ownership increased slightly on the year, however; and as a result around 11% of the working age population in 2017 were existing business owner-managers.

Total early-stage Entrepreneurial Activity (TEA) is the sum of the nascent entrepreneurship rate and the new business

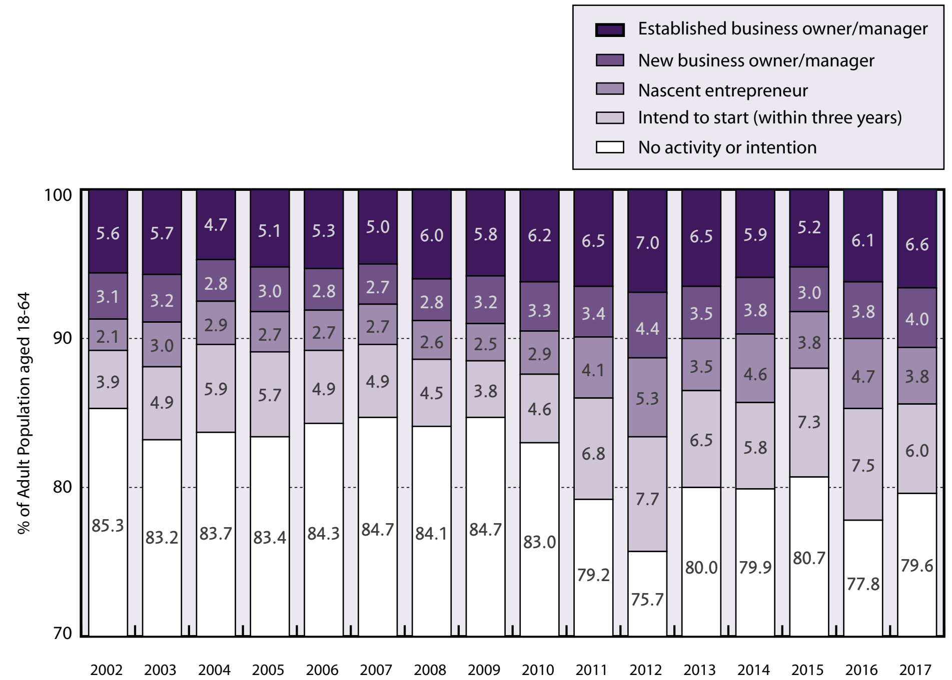


Figure 4: Participation in Entrepreneurship in the UK by most established stage of entrepreneurial activity, 2002 to 2017
(Source: GEM UK APS 2002-2017)

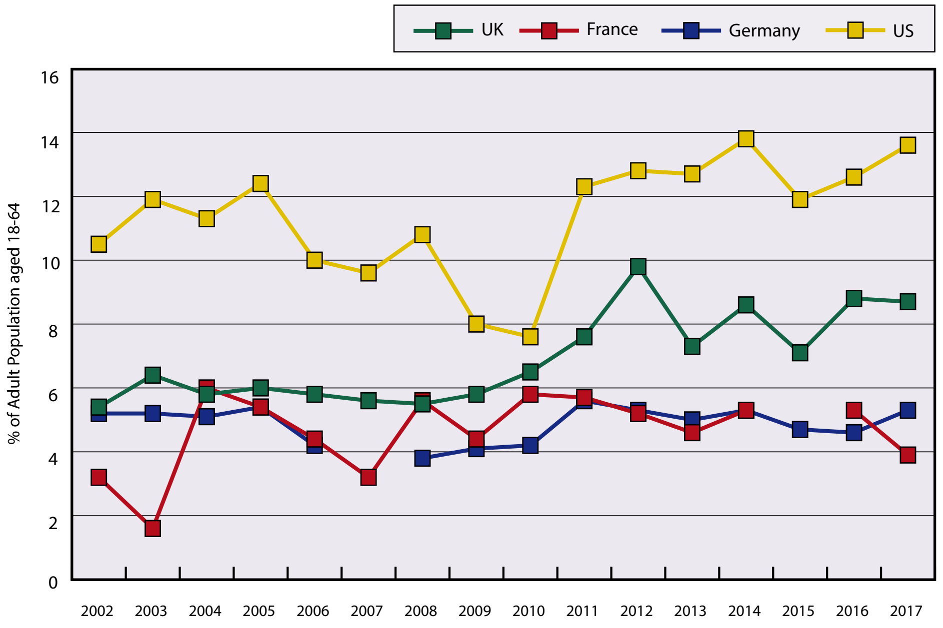
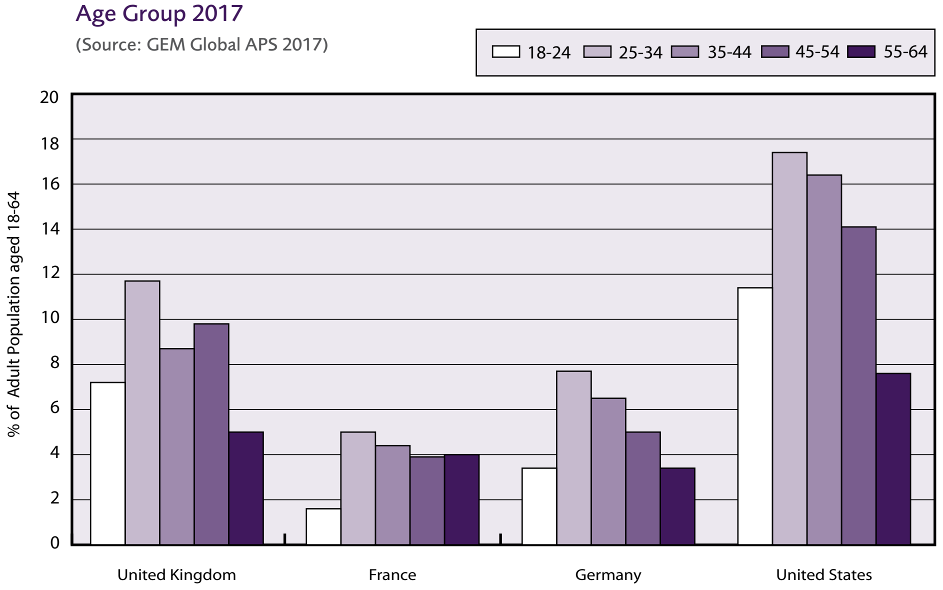


Figure 5: Total early-stage Entrepreneurial Activity (TEA) in UK, France, Germany and US (2002-2017)
(Source: GEM Global APS 2002-2017)

Figure 6: Total early-stage Entrepreneurial Activity (TEA) in the UK, France, Germany and the US by Age Group 2017
(Source: GEM Global APS 2017)



owner/manager rate. The trends in TEA rates between 2002 and 2017 for the UK, France, Germany and the US are shown in Figure 5. For the UK and US there appeared to be a break in the long-run trend around 2010, with both moving to a higher average TEA rate thereafter. Compared to the earlier observation period the UK TEA rate has been relatively volatile in recent years, although remained consistent between 2016-17. There was also little change in the French and German rates over the year.

TEA rates by age group for the UK, France Germany and the US are shown in Figure 6. In each country TEA rates are dominated by those in the 25-34 age group; in the UK TEA rates for this age group are significantly higher than for both 18-24 and 55-64 year olds.

Entrepreneurial activity is more prevalent amongst the young in the UK compared to their French and German counterparts with the TEA rate in the UK amongst 18-24 year olds more than double that in France and Germany.

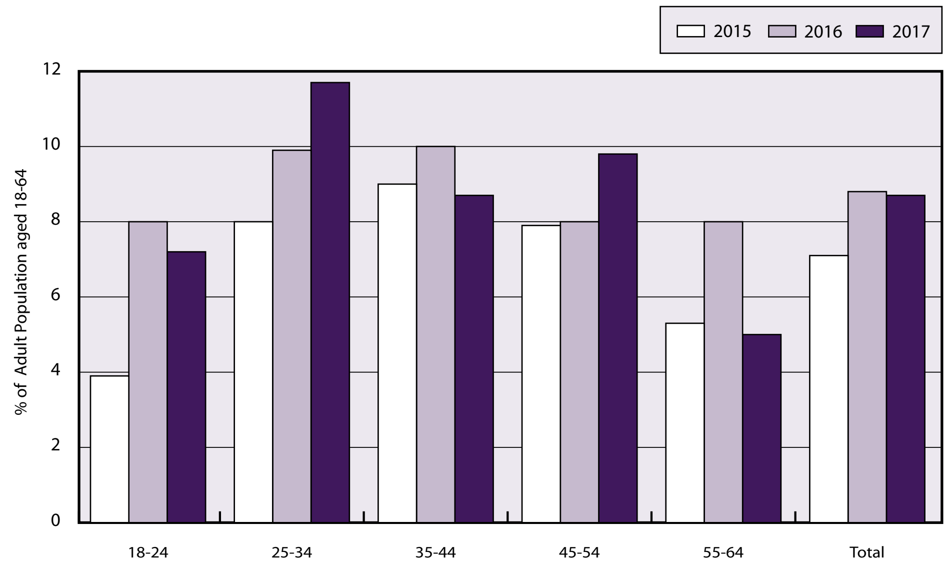
The trend in UK TEA rates by age group for the most recent three years is shown in Figure 7. Since 2015 the most significant changes have been for the youngest age groups, with the rate for 18-24 year olds up from 3.9% in 2015 to 7.2% in 2017, and the rate for 25-34 year olds up from 8.0% to 11.7%[5].

The TEA rate amongst 55-64 year olds increased in 2016 to match that of 18-24 year olds however in 2017 the rate for this age group dropped back to 2015 levels. Despite this, the TEA rate for this age group remains higher in the UK than in France and Germany, as shown in Figure 6.

In addition to TEA, GEM measures the proportion of established business owner-managers (EBO) in the working age population. Established business owner-managers have owned or managed a business for more than 42 months. GEM also measures the proportion of individuals of working age who, in the last 12 months, closed down a business which did not continue under a different form of ownership.

5 More detailed data on the long-term TEA rates by broad age-band (18-29, 30-49, 50-64) are provided in Appendix Table 10, along with the male and female rates for 50-64 year olds (Appendix Table 11) and opportunity and necessity rates for 50-64 year olds (Appendix Table 12).

Figure 7: Total early-stage Entrepreneurial Activity (TEA) in the UK by Age Group (2015 to 2017)
(Source: GEM APS 2015, 2016, 2017)



The ratio of established business ownership to early-stage entrepreneurship gives a proxy measure of transition rates and can be interpreted as a proxy survival measure. The ratio of closure to business ownership (new plus established) gives a proxy of entrepreneurial dynamism or "churn". The 2017 data for these metrics for the UK, France, Germany and the US are given in Table 4.

The business churn rate is similar for all countries at between 0.1 and 0.4%; the proxy early-stage survival rate is also similar in the UK and France, at just under 1%, however the rate in Germany, of 1.1%, is around twice that in the US. The German rate is explained by a higher rate of established business ownership than early-stage business ownership, contrary to the other countries.

In the UK expectation to start a business was down significantly on 2016, although there were no significant changes in the other measures.

In general, the UK measures of entrepreneurial activity are typically higher than in France and Germany but lower than the US. Table 4 shows, however, that in 2017 the rates of new business ownership are actually quite similar between the UK and US, at over 4%, around double that of the European competitors. The one measure in which France typically stands out is in the intention to start a business rate, which at 19.1% is identical to the US.

Table 4: Measures of entrepreneurial activity in the UK, France, Germany and the US, 2017
(Source: GEM Global APS 2017)

	I expect to start a business in the next 3 years	Nascent Entrepreneurial Activity rate (paying wages for 3 months or less)	New Business Owner-manager rate (4-42 months)	Nascent + New business owner-manager rate	Established Business Owners (>42 months)	Business closure rate (business closed in the last 12 months that has not continued)	Proxy early-stage business survival rate	Proxy business churn rate
	(FUT)	(NEA)	(NBO)	(TEA)	(EBO)	(BC)	(EBO/TEA)	BC/(NBO+EBO)
United Kingdom	**9.3**	**4.8**	**4.1**	**8.7**	**6.6**	**2.1**	**0.8**	**0.2**
France	19.1	2.9	1.1	3.9	3.6	1.9	**0.9**	**0.4**
Germany	8.9	3.4	2.0	5.3	6.1	0.9	**1.1**	**0.1**
United States	19.0	9.4	4.6	13.6	7.7	2.0	**0.6**	**0.2**

3.2 MALE AND FEMALE ENTREPRENEURIAL ACTIVITY COMPARED

In the UK the female TEA rate in 2017 was 5.6%, the male rate was 11.9%. Both rates were unchanged on 2016. TEA rates by gender for the UK, France, Germany and the US are shown in Figure 8. In most high income countries, males are around twice as likely to be early-stage entrepreneurs as females, and this was the case for the UK and France in 2017. In Germany and the US the female TEA rate was around 60% of the male rate; the former at much lower levels than the latter.

Comparing female rates across countries, the UK female early-stage entrepreneurial activity rate was more than twice that in France but around half the US rate in 2017. The UK male TEA rate was also twice that of France but the UK to US male ratio was narrower than for females at 77%.

Figure 9 presents the established business owner rates by gender. Comparing Figures 8 and 9 shows that the gap in participation rates between males and females was broadly the same for established business owner-managers (EBO) in the UK in 2017 as it was for early-stage entrepreneurs (TEA) at just under 50%.

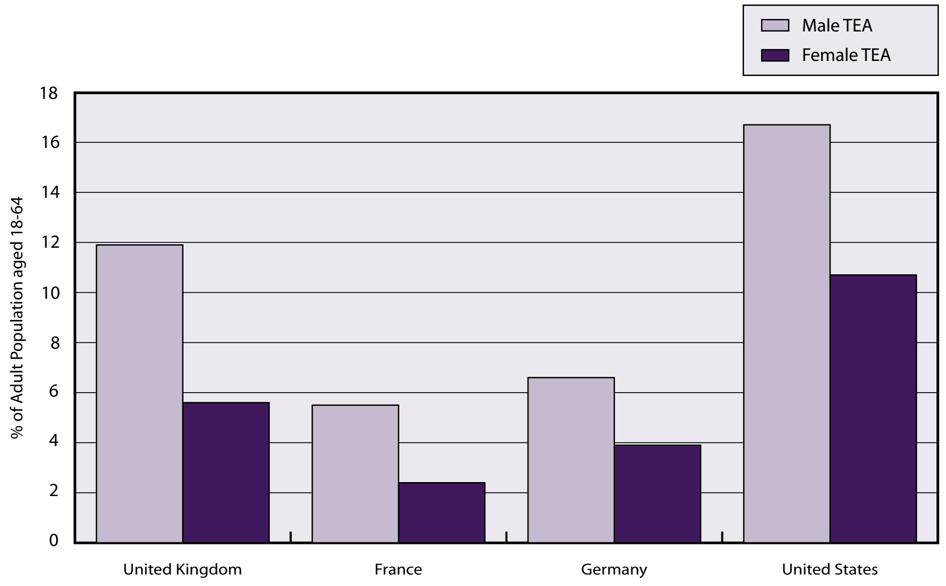


Figure 8: Total early-stage entrepreneurial activity by gender in the UK, France, Germany and the US in 2017
(Source: GEM Global APS 2017)

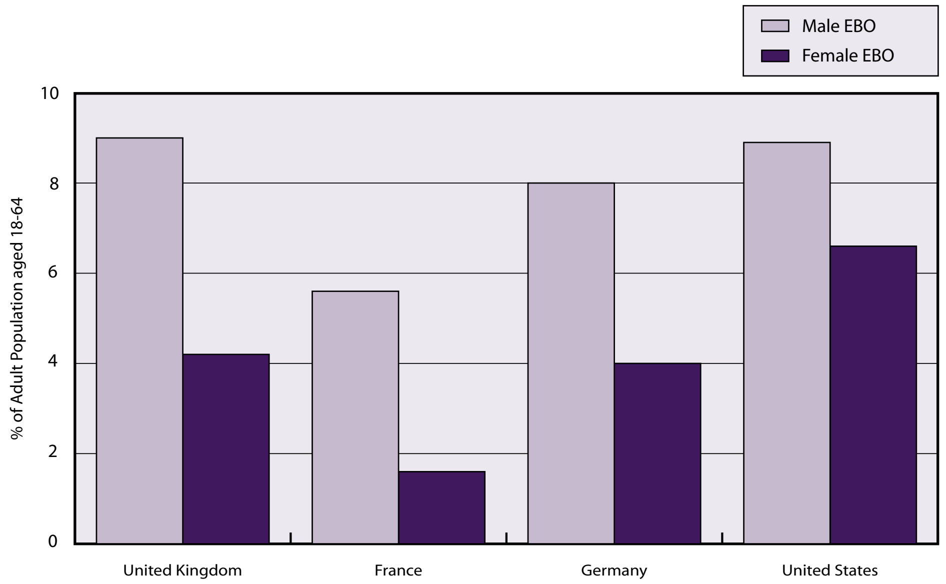


Figure 9: Established business ownership by gender in the UK, France, Germany and the US, 2017
(Source: GEM Global APS 2017)

The female to male established business owner ratio was also 50% in Germany, however the ratio in France was just 29% due for the most part to the low female established business owner rate. In contrast the female ratio in the US was almost three quarters of the male rate, the gap between the two further closing since 2016.

The trend in female TEA rates in each of the nations is shown in Figure 10. For the UK and US the rates in 2017 were largely unchanged on the previous year. The rate in Germany returned to 4%, last observed in 2014, while the rate in France dipped to 2%, last seen during the recession.

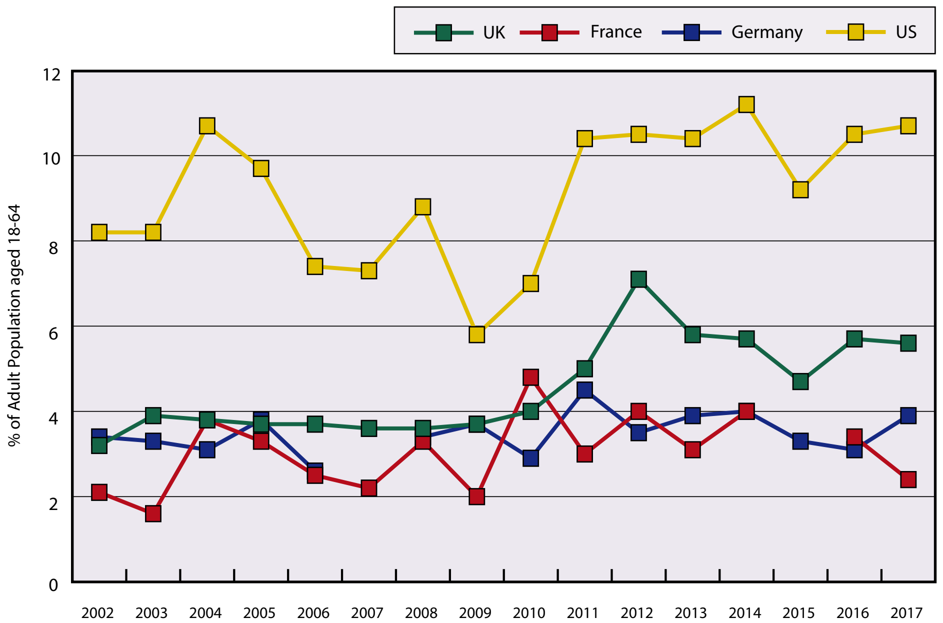


Figure 10: Female early-stage Entrepreneurial Activity in the UK, France, Germany and the US, 2002-2017
(Source: GEM Global APS 2002-2017)

3.3 ENTREPRENEURIAL ACTIVITY IN THE UK HOME NATIONS

Table 5 displays different measures of entrepreneurial activity in the four home nations of the UK for 2017. Together, these measures allow us to assess the degree of entrepreneurial dynamism and stability across the UK's constituent parts.

The overall TEA rate in the UK was not significantly higher in 2017 than 2016; likewise, there was no difference in the nascent and business ownership rates. The rates within the individual home nations were also not significantly different to 2016 except for the intention to start rate in Scotland which fell significantly from 9.9% to 7.0%.

Across the UK the TEA rates in Scotland and Wales were significantly lower than in England and in the UK as a whole in 2017. Scotland also saw lower rates of intention to start a business than in England and the UK while Wales had a lower rate of new business ownership.

The TEA rate in Northern Ireland was significantly lower than the UK rate in 2017. Intention to start a business was also lower in Northern Ireland than in England, Wales and the UK and the rate of new business ownership was also significantly lower in Northern Ireland than in England and the UK. On the upside the rate of business closure in Northern Ireland was significantly lower than in England and for the UK as a whole.

Table 5: Measures of Entrepreneurial Activity in the UK Home Nations, 2017
(Source: GEM APS 2017)

	I expect to start a business in the next 3 years	Nascent Entrepreneurial Activity rate (paying wages for 3 months or less)	New Business Owner-manager rate (4-42 months)	Nascent + New business owner-manager rate	Established Business Owners (>42 months)	Business closure rate (Business closed in the last 12 months that has not continued)	Proxy early-stage business survival rate	Proxy business churn rate
	(FUT)	(NEA)	(NBO)	(TEA)	(EBO)	(BC)	(EBO/TEA)	BC/(NBO+EBO)
England	9.8	4.9	4.3	9.1	6.8	2.3	0.7	0.2
Wales	7.9	3.7	2.7	6.3	5.7	1.4	0.9	0.2
Scotland	7.0	3.8	3.0	6.7	5.7	1.3	0.8	0.1
Northern Ireland	5.1	4.5	2.0	6.5	5.8	1.0	0.9	0.1
United Kingdom	**9.3**	**4.8**	**4.1**	**8.7**	**6.6**	**2.1**	**0.8**	**0.2**

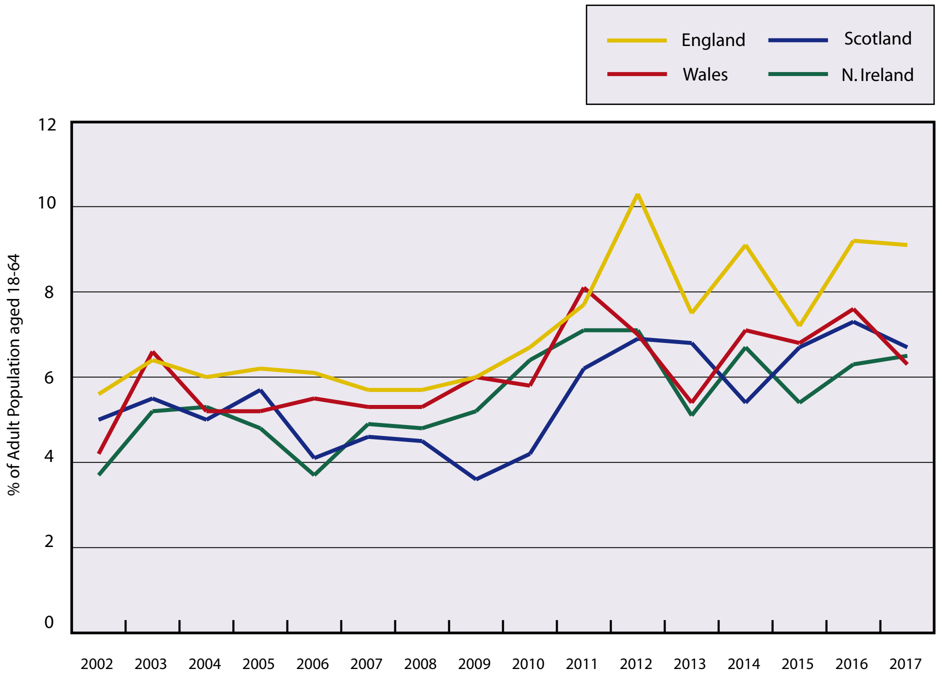


Figure 11: Total early-stage Entrepreneurial Activity in the UK Home Nations, 2002-2017
(Source: GEM UK APS 2002-2017)

Figure 12: Total Entrepreneurial Activity in the UK Home Nations by Index of Multiple Deprivation 2017
(Source: GEM UK APS 2017)

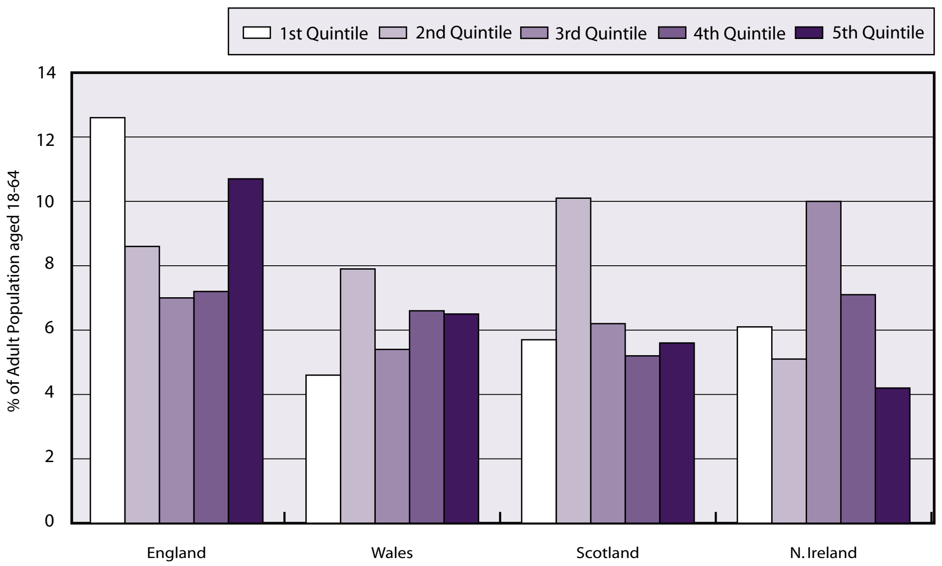


Figure 11 displays the trend in TEA rates in the home nations, they were relatively stable during the mid to late 2000s although there was somewhat of a break in the long-run trend in 2011 after which the rates became more volatile. Scotland's TEA rate dropped during early part of the recession; the other home nations experienced a decline in the latter part, around 2011-12. In 2017 the rates were all above their previous long-run average, with those in Wales, Scotland and Northern Ireland converging at around 6.5%, and the gap with England widening.

TEA rates may be expected to vary based on the extent of deprivation in an area and the differing start-up opportunities available. Figure 12 displays TEA rates by Index of Multiple Deprivation quintiles, where the first quintile refers to the most deprived area, and the fifth quintile the least deprived. The highest TEA rate was observed in the most deprived quintile in England, here the rate of 12.6% was significantly higher than the equivalent lowest quintiles in Wales and Scotland. It was also significantly higher than the TEA rates observed in the third and fourth quintiles in England, perhaps reflecting the lack of employment opportunities for those from deprived areas.

The female early-stage entrepreneurial activity rate in the UK in 2017 was 5.6% compared to 11.9% for males. The female rate was significantly lower than the male rate in the UK, this was also the case in England and Wales, as Figure 13 shows[6].

Across the home nations there were no significant differences in the rates of female early-stage entrepreneurship. The male TEA rates in Wales and Scotland were, however, significantly lower than those in England and the UK.

The UK female to male TEA ratio was 47%, in line with previous years. Scotland had the highest female to male TEA ratio at 67%[7] primarily due to a low male TEA rate. The ratio in Northern Ireland was 49% whilst in England and Wales the ratio was below the UK average at 45% and 43% respectively.

Combining data from the 2013-17 GEM UK annual surveys to analyse the female to male TEA rates in all the UK regions[8] reveals variation in the ratios (Figure 14). The Eastern region of England has the highest ratio

6 Expressing the female TEA rates as a proportion of the economically active population rather than the working age population, as shown here, does not alter the results. In the UK the respective rates expressed as a share of the economically active population are 6.1% for females and 12.5% for males.

7 Caution should be taken in interpreting annual changes in ratios such as these. Margins of error may be larger in ratio measures.

8 Combining data over several years provides more robust samples for disaggregation by gender at the regional level than the annual level data provides.

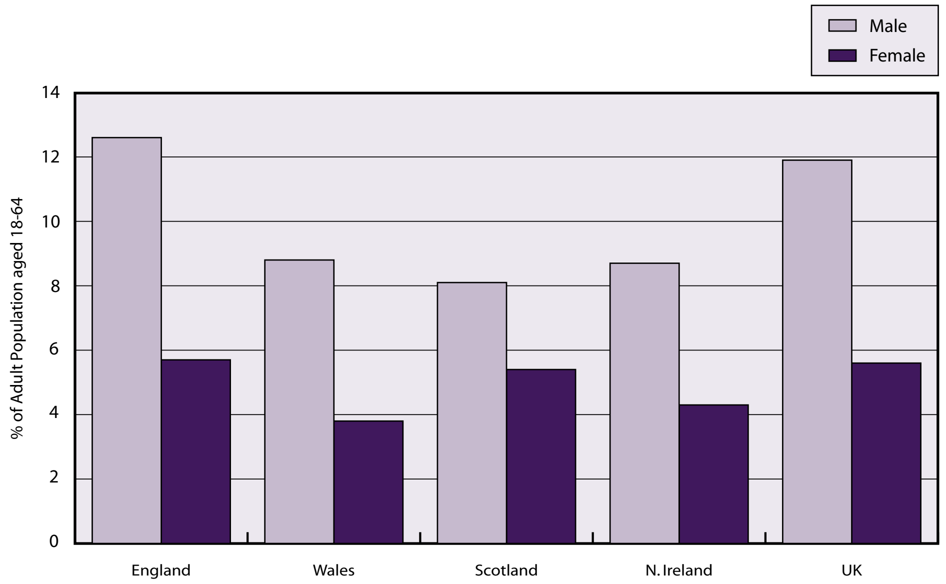
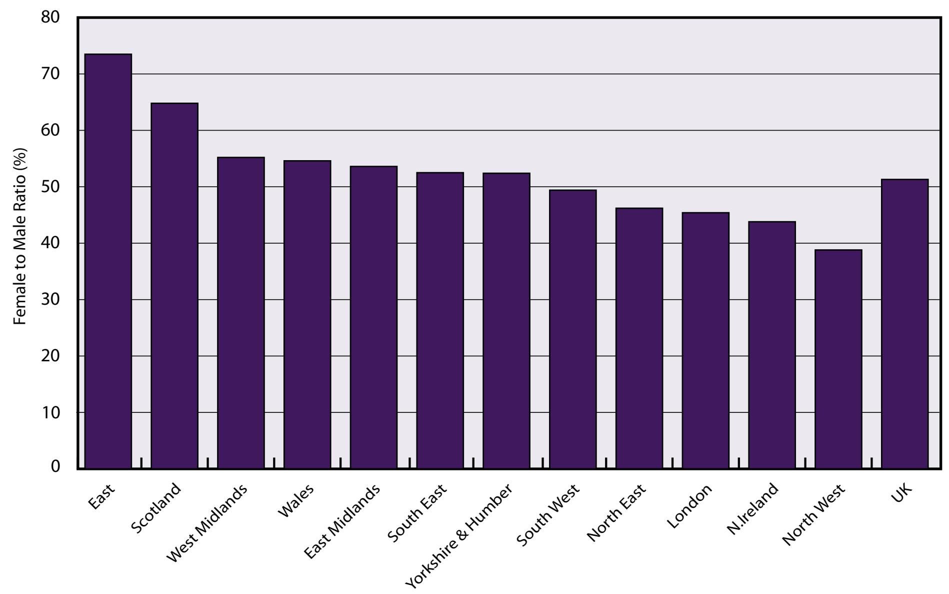


Figure 13: Male and Female Total early-stage Entrepreneurial Activity in the UK Home Nations, 2017
(Source: GEM UK APS 2017)

Figure 14: Female to Male Entrepreneurship Ratio in the UK regions (combined over 2013-17)
(Source: GEM UK APS 2013-2017)



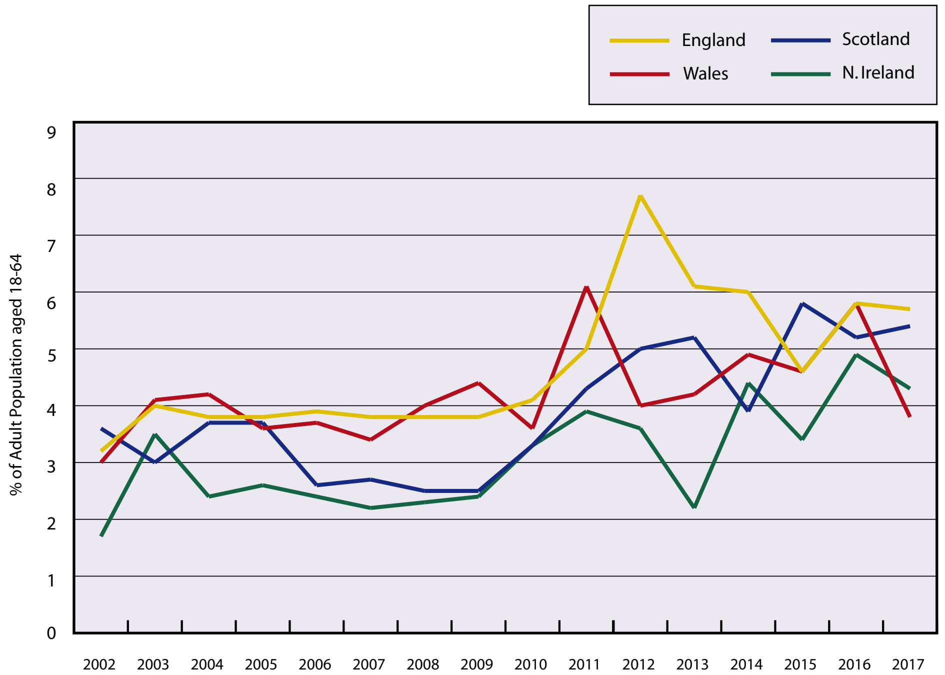
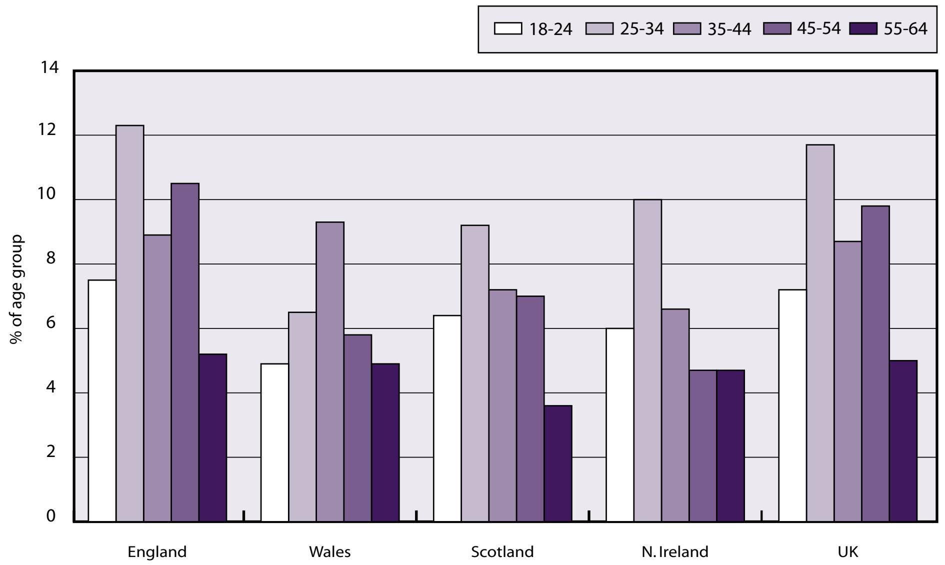


Figure 15: Female Total early-stage Entrepreneurial Activity in the UK Home Nations, 2002-2017
(Source: GEM UK APS 2002-2017)

Figure 16: Total early-stage Entrepreneurial Activity in the UK Home Nations by Age Group, 2017
(Source: GEM UK APS 2017)



with 71 female entrepreneurs per 100 male entrepreneurs which is driven both by a lower than average male TEA rate and a higher than average female rate. In contrast, the high ratio in Scotland is driven by the lower than UK average male rate, with the female rate close to the UK average. In the North East, where they are just 36 female entrepreneurs per 100 male entrepreneurs, there is a particularly low female TEA Rate, although the male rate is also lower than the UK average. However, the only statistically significant difference amongst the ratios in this pooled regional analysis is between Northern Ireland (44%) and Scotland (65%).

Since 2002 there has been a general upward trend in female entrepreneurship activity in the UK home nations (Figure 15). Despite the volatility observed since 2011, the rates have remained at around half of the male rate and in 2017, there were no significant differences in female early-stage activity compared to 2016.

The entrepreneurial activity rates of different age groups across the home nations are shown in Figure 16. In the UK as a whole there were no significant differences in activity rates between 2016 and 2017, except for the 55-64 age group whose activity rate fell from 8.0% to 5.0%.

In 2017 the activity rate of this age group (55-64 years old) in the UK was significantly lower than all other age groups, except 18-24 year olds. This age group in England and Scotland also had significantly lower TEA rates than 25-34 year olds. Wales and Northern Ireland were the only two home nations in which there were no significant differences in entrepreneurial activity between the age groups.

There were some notable differences, however, across the home nations. The activity rates of 25-34 year olds, and 45-54 year olds in Wales were both significantly lower than their respective age groups in England. Similarly, activity rates for 45-54 year olds in Northern Ireland were significantly lower than their counterparts in England.

Grouping 18 to 29 year olds together, Figure 17 shows trend in their TEA rates, via rolling averages over 2002-04 to 2015-17. The chart highlights the increase in entrepreneurial activity amongst this age group since 2002 and shows that activity continued to rise even during the recession. More recently, since 2013-15, entrepreneurial activity has increased in all home nations except Wales.

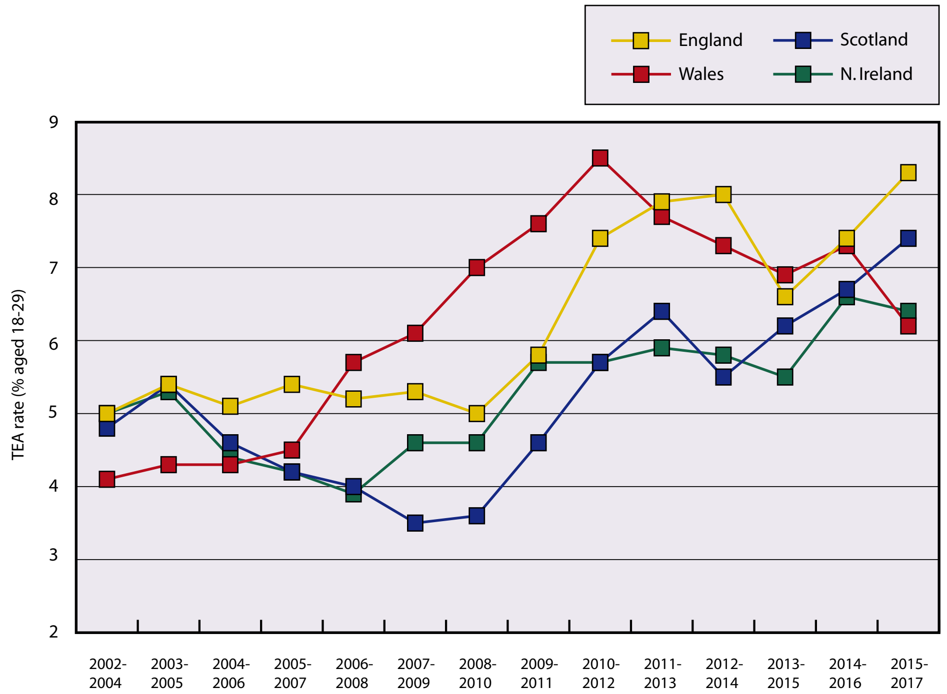


Figure 17: Trend in Total early-stage Entrepreneurial Activity in the UK Home Nations for 18 to 29 year olds, 3-year rolling averages 2002-04 to 2015-17
(Source: GEM UK APS 2002-2017)

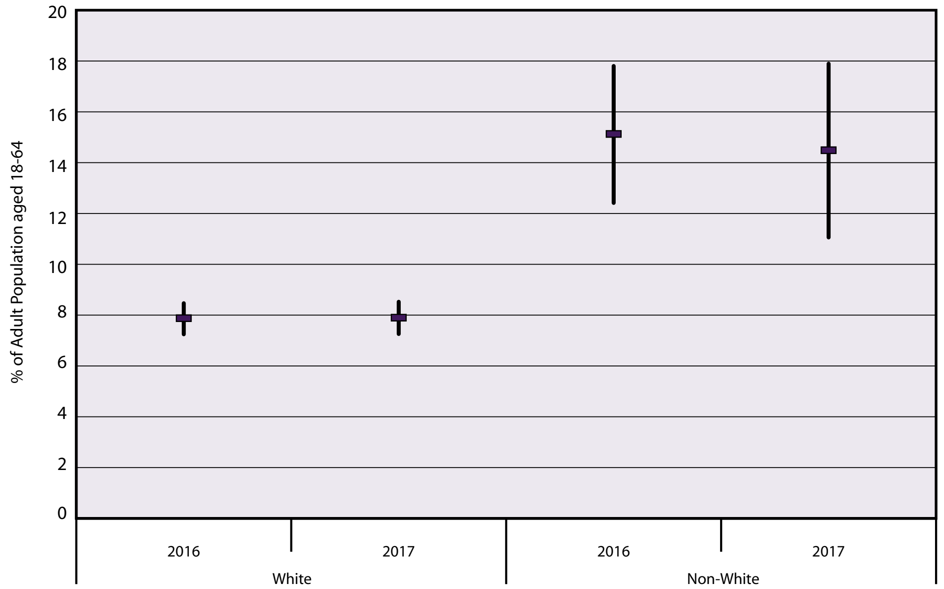
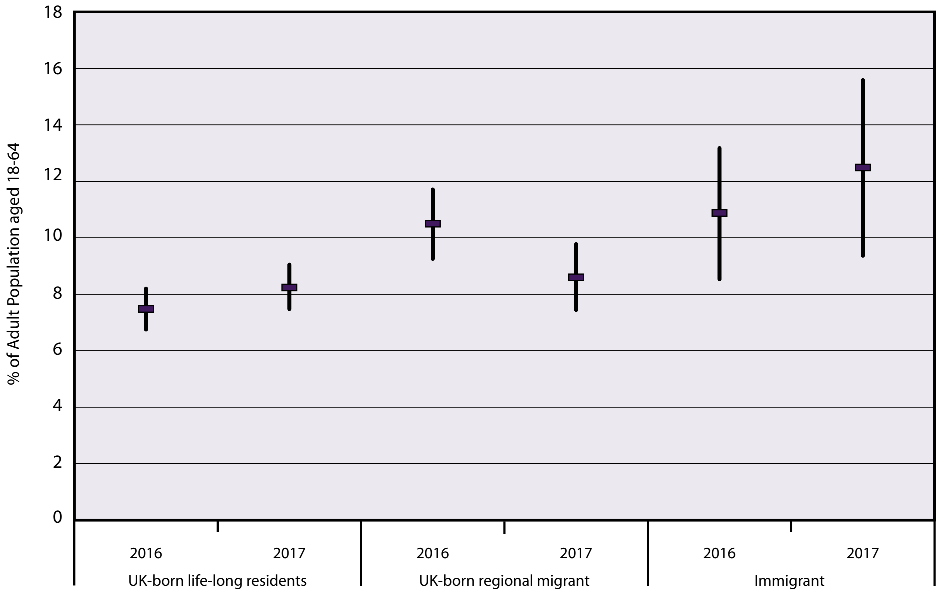


Figure 18: Total early-stage Entrepreneurial Activity Rate by White and Non-White Ethnic Status 2016 – 2017 (showing means and 95% Confidence Intervals)
(Source: GEM UK APS 2016, 2017)

Figure 19: Total early stage Entrepreneurial Activity Rate by Migrant Status 2016 – 2017 (showing means and 95% Confidence Intervals)
(Source: GEM UK APS 2016, 2017)



3.4 ENTREPRENEURIAL ACTIVITY BY ETHNICITY AND RESIDENT STATUS

Continuing recent trends the TEA rate of the white ethnic population in the UK in 2017 was significantly lower than that of the non-white population, at 7.9% compared to 14.5% respectively (Figure 18). In both cases there were no significant changes since 2016.

Examining entrepreneurial activity by migrant status (Figure 19) also shows no significant changes over the year. The immigrant rate, of 12.5%, remains significantly above the rate for UK born life-long residents at 8.2%. The activity rate for the regional in-migrant[9] population is similar to that for life-long residents at 8.6%.

9 Regional in-migrants are defined as those individuals that were born in the UK but now reside in a different region to that in which they were born.

Since 2015 UK-born respondents have been asked if they had ever lived outside the UK. In 2017 the TEA rate for those who had was 9.2% compared to the rate of 8.2% for life-long residents. The difference was not significant, nor was it significantly different to the rate for regional in-migrants at 8.5% (Figure 20). As indicated above the only significant difference was in the activity rates between immigrants and life-long residents.

Examining the motivations for entrepreneurship for these groups, using the simple opportunity versus necessity motivations (Figure 21) shows that all are driven primarily by business start-up opportunities rather than necessity reasons.

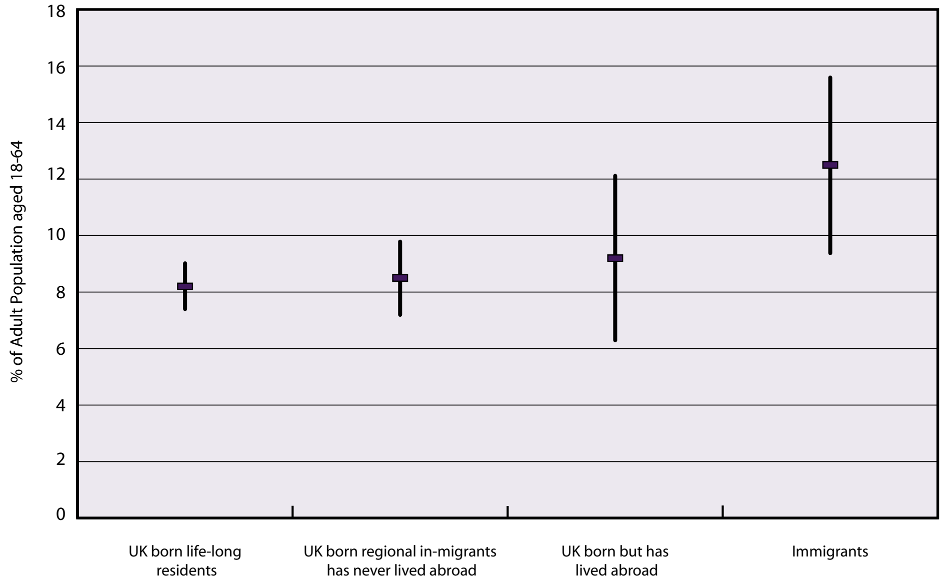
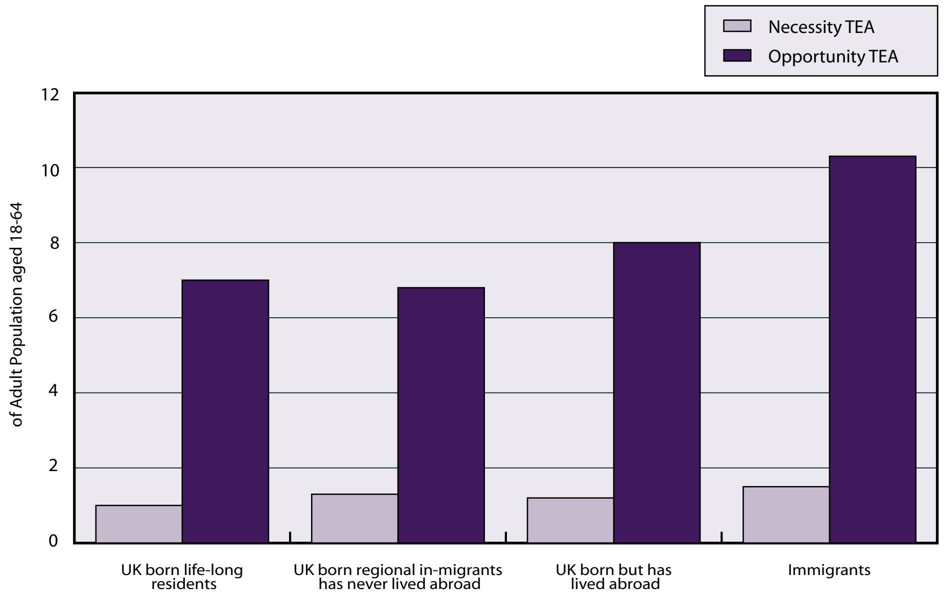


Figure 20: Total early stage Entrepreneurial Activity Rate by Migrant and Resident Status 2017 (showing means and 95% Confidence Intervals)
(Source: GEM UK APS 2017)

Figure 21: Necessity and Opportunity TEA by Migrant and Resident Status 2017
(Source: GEM UK APS 2017)



10 See Stephan, U et.al., (2015) "Understanding Motivations for Entrepreneurship", BIS Research Paper No. 212, March 2015.

11 World Economic Forum (WEF) and GEM Global (2016) "Europe's Hidden Entrepreneurs: Entrepreneurial Employee Activity and Competitiveness in Europe". www3.weforum.org/docs/WEF_Entrepreneurship_in_Europe.pdf

3.5 ENTREPRENEURIAL EMPLOYEE ACTIVITY

The TEA rate measures the extent to which the general population is engaged in the entrepreneurial process, however it says nothing about the activities of employees on behalf of their employers. Instead this is measured by the entrepreneurial employee activity (EEA) rate which is defined as proportion of employees aged 18-64 who play a leading role in the creation and development of new business activities for the organization in which they work, specifically those involved in developing or launching new goods or services or setting up a new business unit, a new establishment or subsidiary. Autonomy is a strong driver for all entrepreneurs to start their business and if this is increasingly provided in the workplace as the employee environment improves then higher levels of EEA should ensue[10].

A recent study[11] from the World Economic Forum (WEF) and GEM Global found that many European economies do not lack entrepreneurial activity at all. The findings go against the widely-held belief of the dismal state of entrepreneurship in Europe. Indeed, the report finds, what Europe lacks in early-stage entrepreneurship, it makes up for in intrapreneurship. Due to the risk- and opportunity-profiles that European economies offer, entrepreneurial individuals in Europe frequently choose to start new ventures or projects for their employers as employees rather than for themselves. Where this occurs, we observe a shift into intrapreneurship, also known as entrepreneurial employee activity (EEA).

The findings are important for future potential growth in Europe, as those who innovate within organizations tend to create more jobs than those who start their own business. A correlation also exists between intrapreneurship rates and economic competitiveness: every 2.5% increase in a country's intrapreneurship rate correlates to a 1 point increase in competitiveness as measured by the World Economic Forum's global competitiveness data.

The EEA rate in the UK in 2017 was 6.8%, a similar rate to the US but significantly higher than the rates in France and Germany (Figure 22). Unlike the TEA rate which was unchanged over the year, the UK's EEA rate in 2017 was significantly higher than in 2016.

When taken together the EEA and TEA rates provide a fuller picture of the extent of entrepreneurial activity being undertaken in a nation as it covers the actions of entrepreneurial individuals as well as entrepreneurial employees within a business; the latter, as noted above are found to be positively correlated with economic competitiveness. Figure 23 shows the TEA and EEA rates for the UK in 2016 and 2017. In both years the TEA rate is significantly higher than the EEA rate although the gap between the two rates is narrowing.

Not only does failing to take account of EEA miss a large part of entrepreneurial activity, it may well miss the most innovative and productive part. For example, in the 2017 survey, the median number of jobs that nascent and new entrepreneurs expected to create in the next five years was four. However, the median number of jobs that entrepreneurial employees expected to create in five years was 11. Similarly, 5% of early-stage entrepreneurs expected that at least a three-quarters of their sales will usually come from customers living outside the UK, compared with 13% of entrepreneurial employees. Some 26% of entrepreneurial employees but only 16% of early-stage entrepreneurs considered that all of their customers for their new business or project would find their products or services unfamiliar.

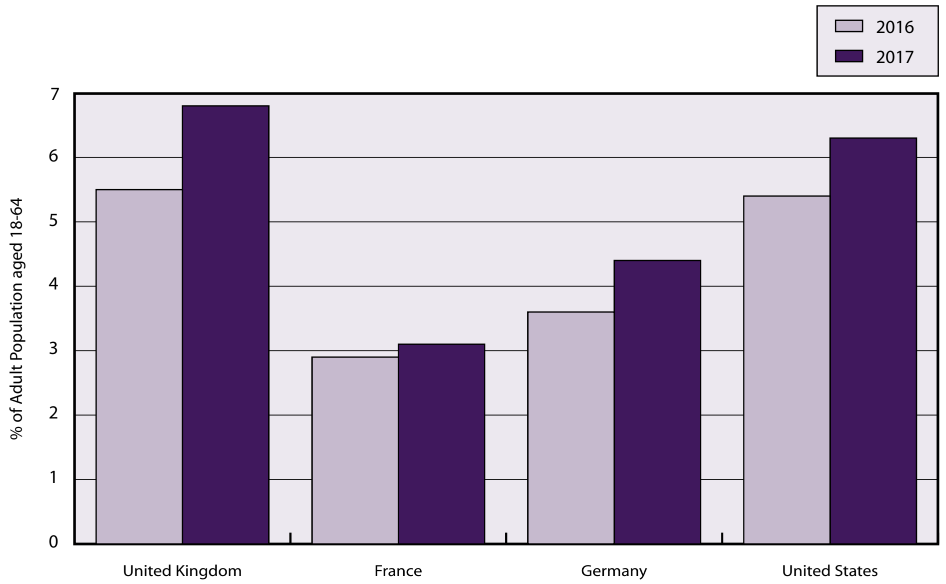
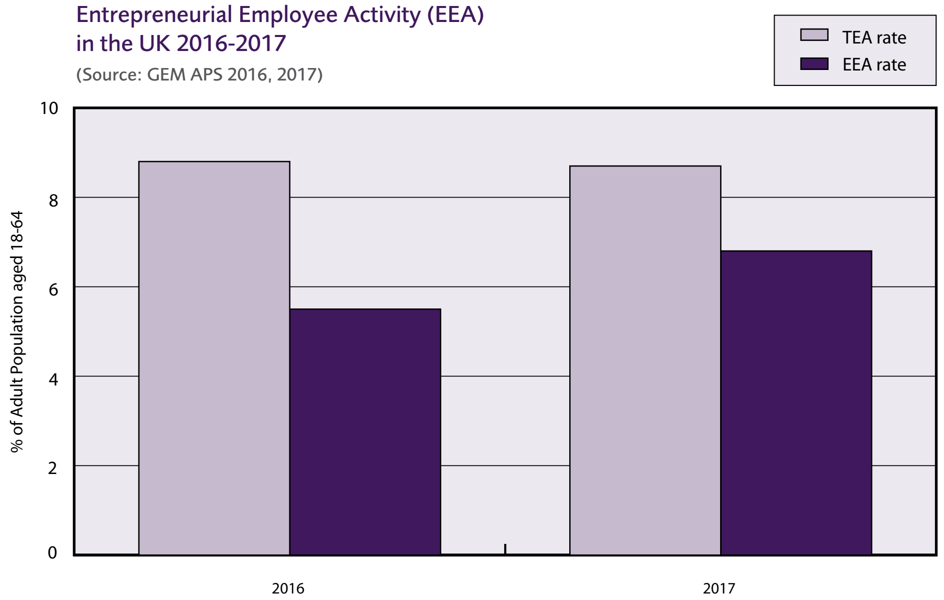


Figure 22: Entrepreneurial Employee Activity (EEA) in the UK, France, Germany and the US 2016-2017
(Source: GEM Global APS 2016, 2017)

Figure 23: Total early-stage Entrepreneurial Activity (TEA) and Entrepreneurial Employee Activity (EEA) in the UK 2016-2017
(Source: GEM APS 2016, 2017)



12 Stephan et al., (2015) "Understanding the Motivations for Entrepreneurship", BIS Research Report No. 212, March 2015). www.gov.uk/government/uploads/system/uploads/attachment_data/file/408432/bis-15-132-understanding-motivations-for-entrepreneurship.pdf

3.6 MOTIVATIONS FOR ENTRY INTO ENTREPRENEURSHIP

Different people may have different motivations to enter into entrepreneurial activity. For example, in some cases, the motivation to start a business may be based on necessity, that is, there are no better alternatives for work. Others may be motivated to start a business by opportunity, or the potential for new market creation. GEM identifies early-stage entrepreneurs according to their original motivation to start: opportunity or necessity. Most early-stage entrepreneurs can be classified into either of these two groups. As this is a rather simplistic classification the GEM UK team were involved in a study for BEIS in 2014 which sought to develop a more sophisticated framework, we report on this more sophisticated classification in Table 6 below[12].

Opportunity-motivated early-stage entrepreneurship rates (Opportunity TEA) and Necessity-driven early-stage entrepreneurship rates (Necessity TEA) for the UK, France, Germany and the US are presented in Figure 24 (next page). In each country, levels of necessity TEA were considerably lower than levels of opportunity TEA. In fact, in each country around four-fifths of those involved in early-stage entrepreneurial activity were opportunity-motivated. In the UK 7.3% of the working age adult population were opportunity driven entrepreneurs; just 1.1% were identified as necessity-driven.

	Male	Female
	%	%
To choose the people I want to work with	63.4	64.9
To continue a family tradition	13.7	21.6
To contribute to society	39.2	66.0
To build great wealth or a very high income	58.4	58.4
To fulfil a personal vision	69.4	79.7
To help others in need	38.2	58.0
To have good relationships with others	67.9	81.9
To build long-lasting relationships with others	62.1	72.8
To challenge myself	75.6	80.0
To be free to make my own decision	88.8	87.8

Table 6: Motivations for starting a business by gender 2017 (percentage of TEA entrepreneurs stating the motivation was fairly or very important)
(Source: GEM UK APS 2017)

Compared to 2016, there were no significant changes in either rate in the UK. Figure 25 also shows that there was little change in the rates for either nascent or new business owners.

Following the work of Stephan *et al.* (2015) we developed a more detailed investigation of the motivations of early-stage entrepreneurs. In the 2017 survey we found that having freedom to make decisions was the most popular motivation for both males and females (Table 6). Continuing a family tradition was the least cited motivation for both.

The data also highlighted that there were some significant differences in the motivations by gender. Two-thirds of females said they started a business to contribute to society; just two-fifths of men had the same motivation. There was also a 20 percentage point gap in the share of males and females who were motivated to start a business to help others in need. Likewise, the share of females who were motivated to start up to have good relationships with others was also significantly higher than for males.

A number of these motivations correlated highly with each other and could be seen as different dimensions of an underlying motivation which we call "creating meaning". These are: "To contribute to society", "To fulfil a personal vision", "To help others in need",

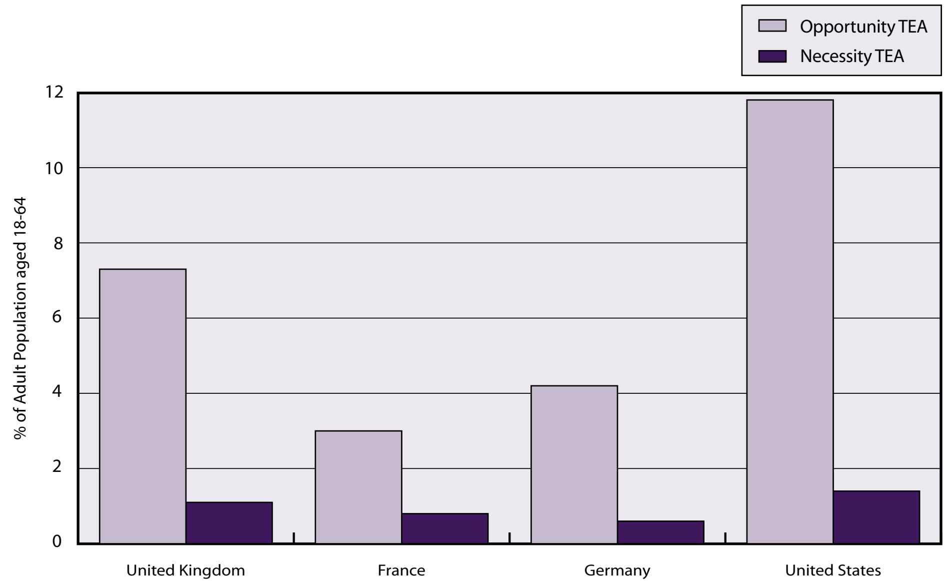
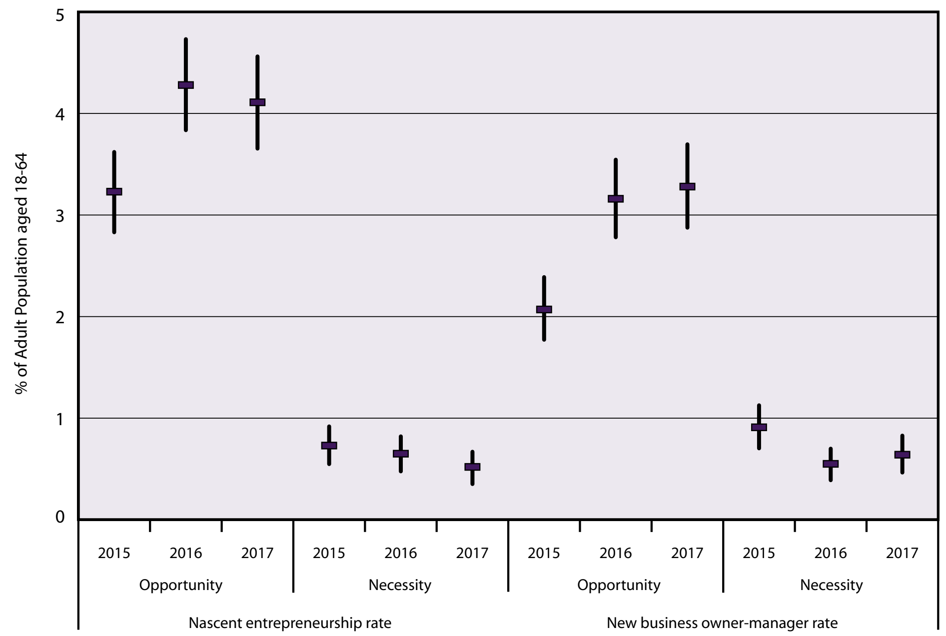


Figure 24: Necessity and opportunity TEA rates in the UK, France, Germany and the US in 2017
(Source: GEM Global APS 2017)

Figure 25: UK Necessity and Opportunity nascent and new business owner-manager TEA rates (showing means and 95% Confidence Intervals), 2015, 2016 and 2017
(Source: GEM UK APS 2015-17)



"To have good relationships with others" and "To build long-lasting relationships with others". These five items loaded quite well on to one factor (Cronbach's alpha = .74; KMO = .70). By contrast, "to build great wealth or a very high income" (i.e., "making money") did not correlate with other motivations, while "to continue a family tradition" correlated weakly with the making meaning motivation. We created standardized variables of each of these three motivations with a mean of zero and a standard deviation of 1.0.

Figure 26 shows the mean scores of nascent entrepreneurs and new business owners (i.e., TEA entrepreneurs) for different combinations of age and gender compared for the two motivations: "creating meaning" against "making money". While the mean for the overall sample is at the intersection of the two axes (i.e. at zero), there are significant differences in means by age and gender. For example, young men and women tend to report higher motivations on both "making money" and "creating meaning" than other age groups. Women aged 30 to 49 years are more motivated by meaning than money in setting up their new business venture. By contract, older males are less motivated by money or meaning.

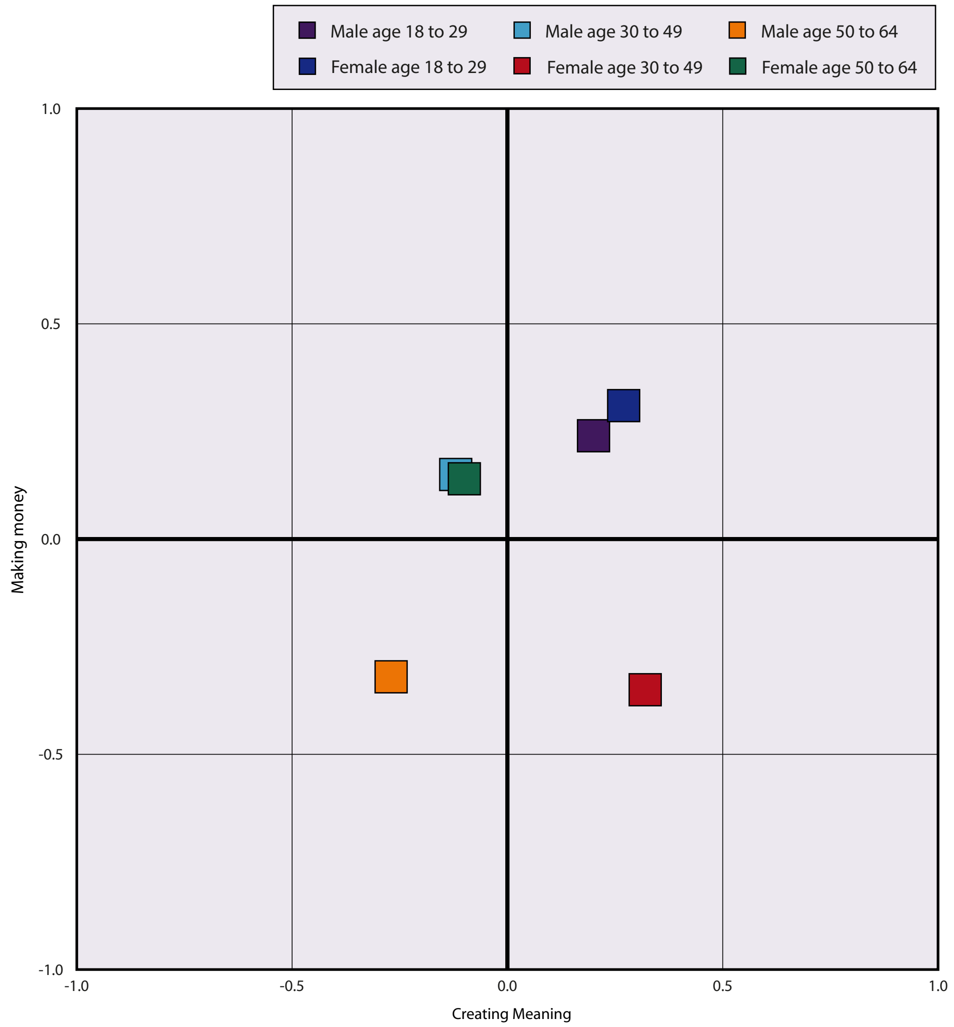


Figure 26: Mean standardised motivation scores for entry into early-stage entrepreneurship by age and gender
(Source: GEM UK APS 2017)

Figure 27 shows the mean scores for different combinations of ethnicity and migrant status correlated with the two motivations: "making meaning" against "making money". There are significant differences by ethnicity and migrant status. First, all categories of non-white migrants are motivated by both "making money" and "creating meaning". These include first generation immigrants, returning emigrants and regional migrants within the UK. Second, white immigrants are also motivated in a similar way to non-white immigrants.

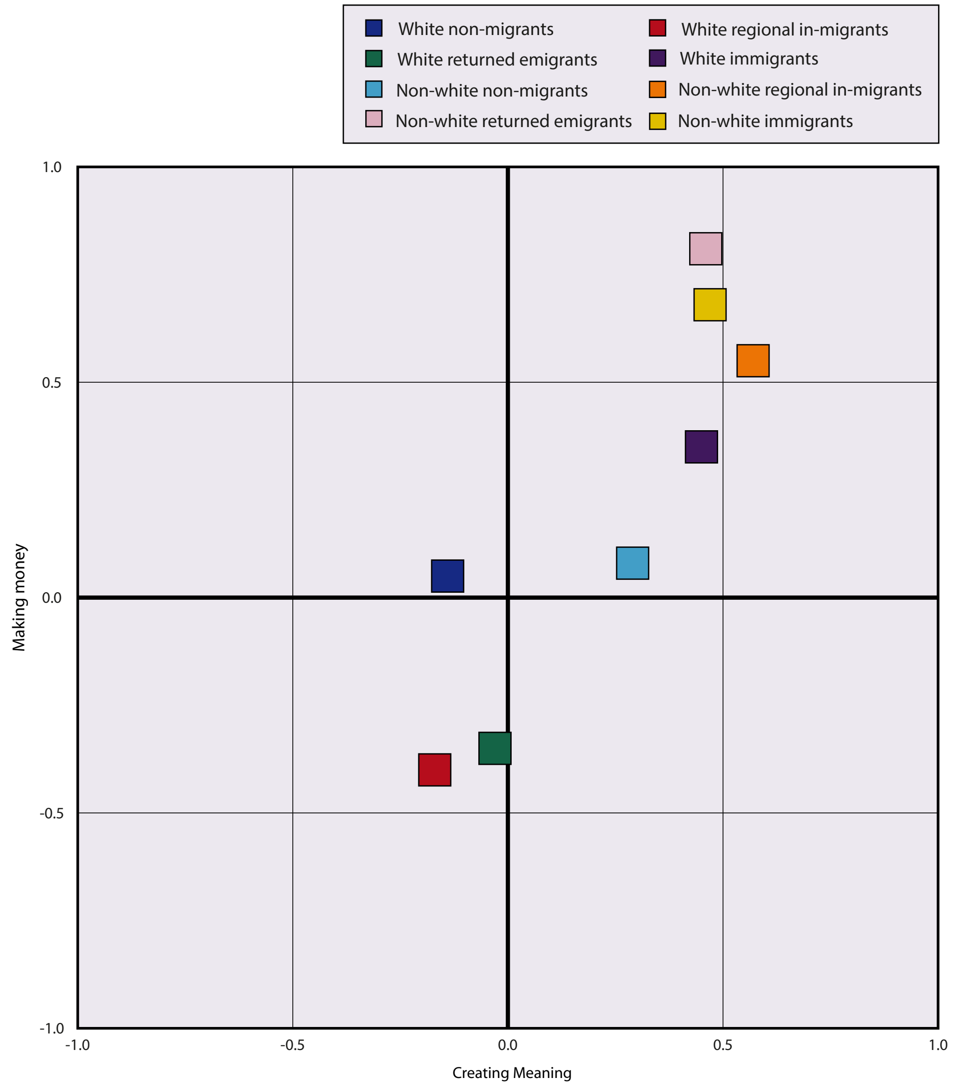


Figure 27: Mean standardised motivation scores for entry into early-stage entrepreneurship by ethnicity and migrant status
(Source: GEM UK APS 2017)

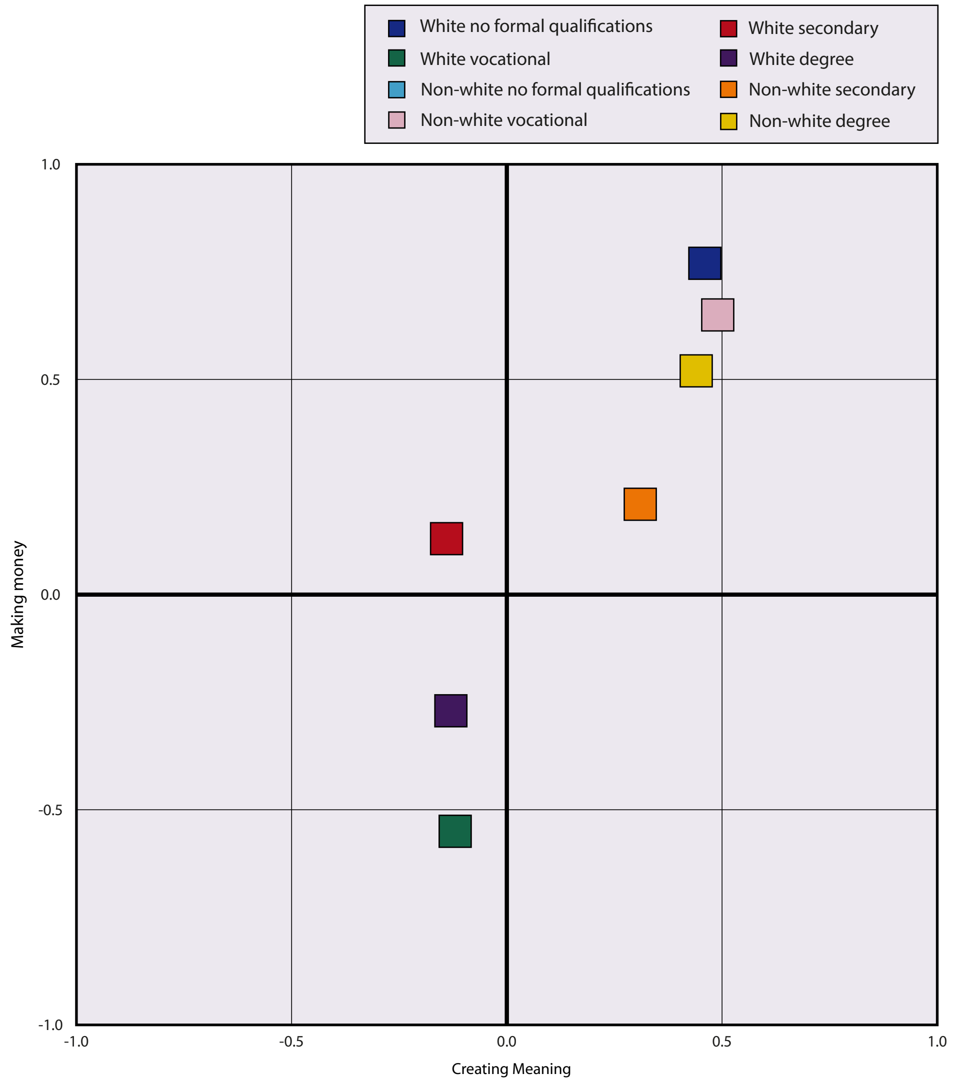


Figure 28 shows that ethnicity and education are also correlated to the motivations for starting a new business. Ethnic minorities are more likely to be motivated by both "creating meaning" and "making money", and the widest gap is between those with post-secondary education (both vocational and degrees).

Interestingly, those with no qualifications are also motivated by both "making money" and "Creating meaning" and, when we look a little closer, the item in this construct "to be free to make my own decisions" is correlated with level of education: the less educated the entrepreneur is, the more important this motivation is for them setting up their own business. One interpretation is that those with less education have, generally, less freedom to act as employees. Starting a business is, therefore, more of a psychological liberation for them and it may well have more significance to their lives.

Overall, therefore, ethnicity, mobility, education and age are the key factors in explaining the desire to set up a new business venture that both "makes money" **and** "creates meaning" for the individual entrepreneur as well as being seen as contributing to a wider set of social needs.

Figure 28: Mean standardised motivation scores for entry into early-stage entrepreneurship by ethnicity and education status
(Source: GEM UK APS 2017)

The potential of entrepreneurial activity to promote regeneration and growth will reflect the types of business being established. If an entrepreneur expects to create a large number of jobs, or if the product market is new, then his or her potential contribution to growth and regeneration through entrepreneurship may be greater. The complex nature of the contribution of firms of different age and size to job creation in the UK has been highlighted in recent research[13].

To identify individuals who expect to create a relatively high number of jobs, GEM created a variable which measures the percentage of all early-stage entrepreneurs who expect to create more than ten jobs and have 50% or more growth in jobs in the next five years[14].

The results are illustrated in Table 7 for early-stage entrepreneurs (i.e. nascent and new business owners - TEA) and established business owner-managers (EBO). The table also shows the proportion of early-stage entrepreneurs and established business owner-managers who state they operate in new product markets[15], operate in "high" or "medium" technology sectors (according to OECD definitions), and sell more than 25% of their revenue[16] outside the country.

The results show considerable variation in the entrepreneurial aspiration metrics across the selected countries, and between early stage and established business owners. Just 1 in 6 UK early-stage entrepreneurs had high job expectations which was lower than in

13 See, for example, Hart, M. and Anyadike-Danes, M. (2017) "High performing firms and job creation: a longitudinal analysis (1998-2013) ERC Insight Paper"; Enterprise Research Centre Insight Report, February.

14 The OECD defines HGFs as: 'enterprises with average annualised growth in employees or turnover greater than 20 per cent per annum, over a three year period, and with more than 10 employees in the beginning of the observation period'. By contrast, the GEM measure is a measure of expected, not realised, growth and of 50% over five years.

15 Where the product is new to all or most customers and where there is little or no competition.

16 Note that this marks a change from previous years whereby the measure reported on the percentage of customers outside the country.

Table 7: Measures of entrepreneurial aspiration in the UK, France, Germany and the US, 2017
(Source: GEM Global APS 2017)

	(% of TEA or EBO Entrepreneurs)							
	High Job Expectation: More than ten jobs and growth more than 50%		New Product Market		High or Medium tech sectors		Exporting: More than 25% of revenue outside the country	
	TEA	EBO	TEA	EBO	TEA	EBO	TEA	EBO
United Kingdom	**16.6**	**3.1**	**25.3**	**13.9**	**11.5**	**7.6**	**16.7**	**9.9**
France	26.7	2.2	48.6	22.8	11.5	12.8	23.9	8.7
Germany	19.3	2.3	23.7	9.9	8.1	9.0	18.7	10.6
United States	29.2	5.7	35.9	13.1	9.6	10.9	16.8	13.6

the US, at almost 1 in 3. In each country the high expectation rates of established business owners were significantly lower than for early stage entrepreneurs and there was much less variation in the rates across the countries. Again the US had the highest share at 6%. Compared to 2016 there were no significant differences in the high job expectation rate for either UK early-stage entrepreneurs or established business owners.

Around 1 in 4 early-stage entrepreneurs in the UK, and Germany were involved in new product markets; this compared to 1 in 3 in the US and 1 in 2 in France. The rates were again lower for established business owners and closer to around 1 in 10 for the UK, Germany and the US. France bucked the trend with around one quarter of established business owners involved in new product markets. In contrast to 2016 the UK and US had a similar share of established businesses in new product markets in 2017.

Around 10% or less of early-stage entrepreneurs in each country had businesses in the high or medium tech sectors. This was the only metric in which there was little difference in the rates between early stage and established business owners.

At 17% the UK had a similar share of early-stage entrepreneurs involved in exporting as Germany and the US. Again France had a higher share, at almost one quarter, however their share of established business owner exporters was in line with the other countries.

The trend in the relative frequency of high job expectation TEA entrepreneurs for the UK, France, Germany and the US, is shown in Figure 29. It uses a three-year rolling average presentation that smooths out fluctuations from year to year due to small sample sizes. It demonstrates that the relative frequency of high job expectation among early-stage entrepreneurs in the UK has settled at around 16% since the recession, down from the peak rates of over 20% in the first half of the last decade. In contrast, the US rate, which had also been relatively stable over the recession, has continued to increase since 2011. Germany experienced a lull in high expectation rates during the recession but has recently risen again to the rates observed at the start of the decade. In contrast France experienced a large upswing in the rate during the recession before stabilising at around 18%. The recent upswing is due primarily to the high rate observed during 2017 rather than over the whole three-year period. Despite recent trends, a prevailing gap remains between high expectation in the US and the UK.

The trend in relative frequency of high job expectation among established business owner-managers is shown in Figure 30 using the same method as for Figure 29. Note that the rate in the UK is around one third of that of early-stage entrepreneurs. The general trend in this measure had been downward until the recession, with a gradual increase thereafter, particularly, amongst established business owners in the UK, US

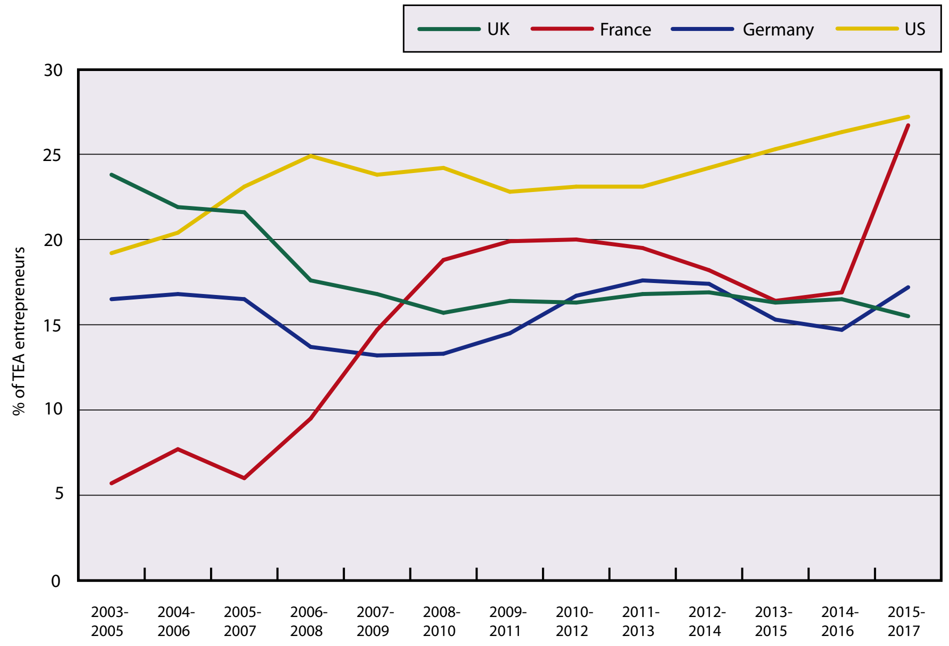
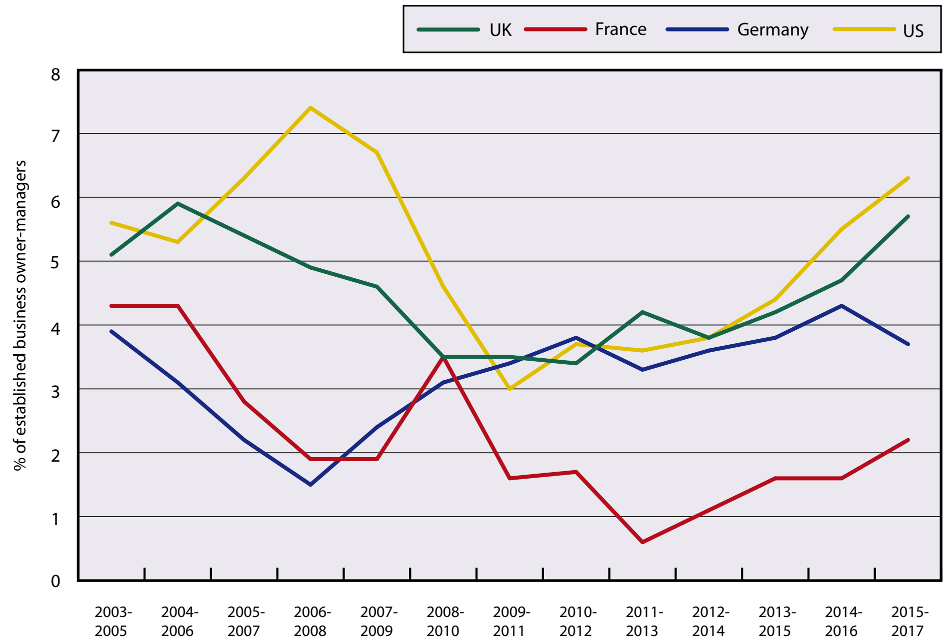


Figure 29: Relative frequency of high job expectation early-stage entrepreneurs in the UK, France, Germany and the US, three year rolling averages, 2003-2005 to 2015-2017
(Source: GEM Global APS 2003-2017)

Figure 30: Relative frequency of high job expectation among established business owner-managers in the UK, France, Germany and the US, three year rolling averages, 2003-2005 to 2015-2017
(Source: GEM Global APS 2003-2017)



17 See ERC Conference Video by Jonathan Levie (2015) - youtu.be/CJAu2fUWWnc

and Germany. The rate in France is around half that of the comparator countries however their expectation rates have continued to rise since 2011. Compared to early stage entrepreneurs, the rate of high job expectation is relatively similar in the UK and US.

Focusing specifically on 'high value activities' Table 8 reports the share of early-stage and established businesses owners in the UK that are engaged in various combinations of high job expectation, new product markets and exporting activities (using a three-year average).

Three-quarters of established business owners and around half of early-stage entrepreneurs are not engaged in any high value activities. Of those that are, the shares are higher for early-stage business owners than established. Around one-third of early-stage entrepreneurs undertake one of these activities compared to one-fifth of established business owners and at least four times the share are engaged in either two or three high value activities compared to established business owners. The results confirm the hypothesis that the owners of new, young firms are more ambitious and innovative than their incumbent counterparts.

It is noticeable that while the share (i.e. relative prevalence) of ambitious early-stage entrepreneurs has risen in the US since the early 2000's, it has declined in the UK and stayed at this lower level. This appears to be because of a growing proportion of solo self-employed in the early-stage entrepreneurial population in the UK and a decline in this group in the US[17]. By contrast, the share of ambitious established business owner-managers is similar in the UK and US, and ahead of France and Germany.

	High Value Activities	
(% of TEA or EBO entrepreneurs)	TEA	EBO
None of these activities	49.4	74.0
1 of these activities	34.5	22.2
2 of these activities	13.4	3.5
3 of these activities	2.8	0.4
Total	100.0	100.0

Table 8: Percentage of TEA and EBO entrepreneurs engaged in high value activities (high job expectation, new product markets, exporting), three year average 2015-17
(Source: GEM APS 2015-2017)

Figure 31 shows the mean scores of nascent entrepreneurs and new business owners (i.e., TEA entrepreneurs) for different combinations of future size expectation of their business compared for the two motivations: "creating meaning" against "making money". There is a clear association with future expected size with entrepreneurs who are motivated by both "making money" and "creating meaning" expecting to employ the most people.

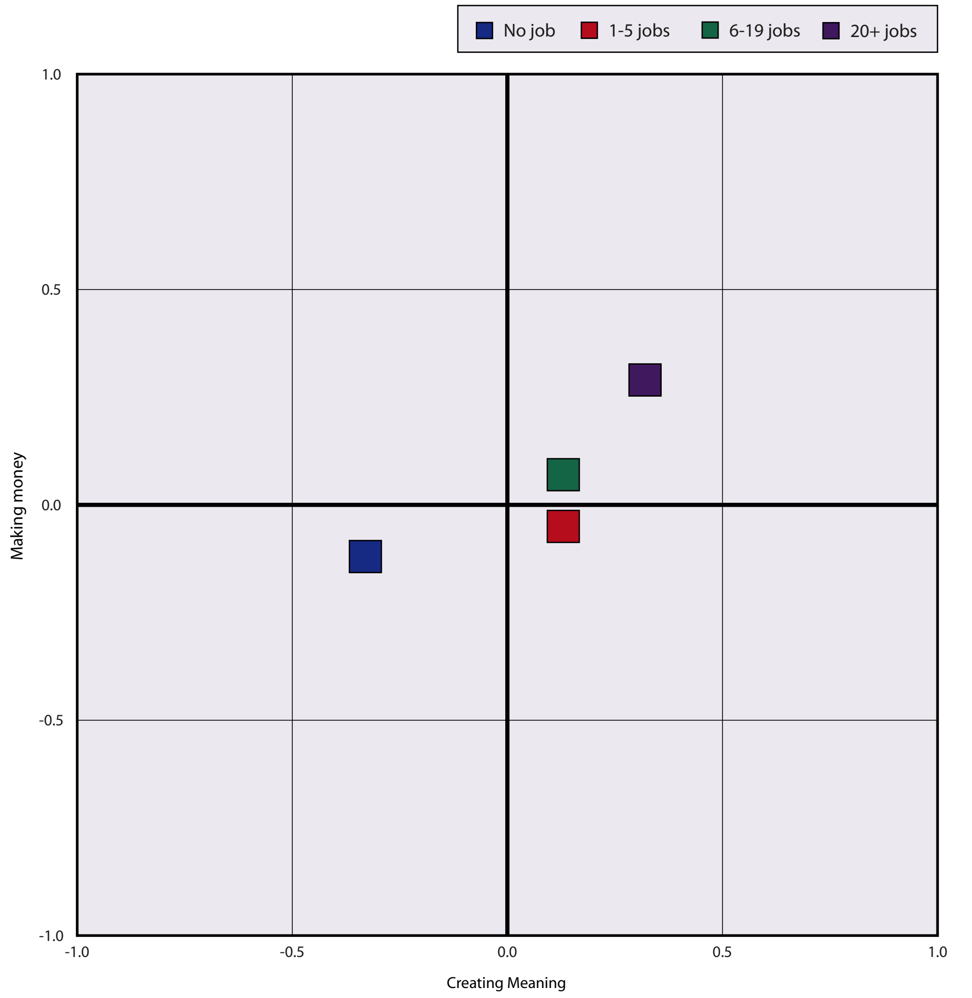


Figure 31: Mean standardised motivation scores for entry into early-stage entrepreneurship by future size expectation
(Source: GEM UK APS 2017)

5 ANTICIPATED VERSUS ACTUAL SOURCES OF FUNDING FOR START-UPS

Obtaining funding remains a major issue for many start-up businesses, with just over half of nascent entrepreneurs reporting that they require external funding. Since 2006, GEM has tracked the mix of funds that nascent entrepreneurs expect to use. Table 9 shows these expected funding sources over 2015-2017[18]. Overall, the results suggest that just over two fifths of all entrepreneurs expected to self-fund in 2017 whilst 7% report that no funding would be needed. This is broadly similar to the proportion (42%) of small businesses reporting that they do not intend to use external finance during 2017[19]. As with previous years, of those expecting funding from elsewhere, banks and government programmes are most favoured followed by close family members. The share expecting funding from private investors or venture capital fell from 18% to 15% over the year whilst the share expected from friends and neighbours more than halved. Around 6% expected to raise funds from online crowdfunding, similar to previous years.

These trends in finance expected from family, friends and neighbours coincide with recent changes in informal investment, or investment by individuals in other people's new businesses in the last three years, as shown in Table 10[20]. The informal investment rate in 2017 stood at 2.9%, similar to the rate last observed in 2010. Investment into companies owned by close family was the most common investment choice, at around 40%, although investment into friends or neighbours' companies fell considerably over the year with just over one quarter investing in such businesses compared to almost two fifths previously. The higher rate of investing in strangers' businesses, as observed since 2014, continued in 2017 at 16%. This may reflect recent increases in crowdfunding activity and angel investment in the UK. Some 15% of informal investors used an online platform to make their last investment in 2017.

18 Note that in 2015 there were changes to several of the categories for expectations in funding. As a result the data is not strictly comparable with previous years; Table 8 presents the data for 2015 and 2016, Table 8A in the Appendix presents the previous data from 2009-2014.

19 BRDC Continental - SME Finance Monitor Q2, 2017.

20 For a discussion of the growing business angel market place in the UK see Wright, M., Hart, M and Fu, K (2015) "A Nation of Angels: assessing the impact of angel investing across the UK", Enterprise Research Centre Research Report, January 2015.

	2015	2016	2017
Type of funding expected			
No funding needed	4.8	3.8	6.7
All funded by entrepreneur	52.5	44.6	44.0
None funded by entrepreneur	1.0	1.4	1.5
Close family member (spouse, parent, sibling)	18.5	21.5	15.5
Other relatives, kin or blood relations	7.1	7.5	5.7
Employer or work colleagues	5.8	6.2	2.4
Private investor or venture capital	13.9	18.4	14.6
Friends or neighbours	4.2	12.5	4.4
Banks or other financial institutions	23.3	24.0	23.4
Government programmes, donations or grants	22.1	24.4	20.6
Online crowdfunding	9.7	6.0	6.5
Any other source	6.0	8.4	9.8

Table 9: Percentage of nascent entrepreneurs expecting funding from different sources 2015-17
(Source: GEM UK APS 2015, 2016, 2017)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Informal investment rate									
% aged 18-64 who have invested in someone else's new business in the last 3 years	1.2	2.9	2.4	2.6	2.1	1.9	2.3	3.2	2.9
Relationship of latest investee (% of latest investments)									
Close family member (spouse, parent, sibling)	41.0	37.0	50.2	57.5	46.8	40.3	38.0	37.3	43.4
Other relative, kin or blood relations	4.5	7.5	6.2	2.2	6.6	11.1	0.4	2.1	1.4
Work colleague	8.3	2.2	7.4	8.9	3.9	5.1	0.5	4.0	6.7
Friend or neighbour	35.5	48.5	28.4	23.4	38.7	25.5	39.2	38.4	28.0
A stranger with a good business idea	8.6	4.5	7.9	4.1	4.0	17.9	16.3	15.8	15.6
Other	2.1	0.4	0.0	3.8	0.0	0.1	5.7	2.4	4.9

Table 10: Percentage of individuals aged 18-64 who have invested in someone else's new business in the last 3 years, and the distribution of relationships to the latest investee, 2009 to 2017
(Source: GEM APS 2009-2017)

6 CONCLUSION

Early-stage entrepreneurial activity in 2017 was largely unchanged on the previous year, and whilst annual trends have fluctuated recently the higher rate first observed in 2011 has prevailed. Indeed, the rate of 8.7% in 2017 maintains the step-up in early-stage entrepreneurial activity observed after the great recession from the previous long run stable rate of 6%. It is important to note, however, that this increase is largely in low job expectation entrepreneurial activity, with the relative prevalence of high expectation activity dropping by around one quarter since the early 2000s.

In 2017 one-fifth of working age individuals in the UK either intended to start a business within the next three years; were actively trying to start a business; or were running their own business. This proportion first increased to an equivalent rate of around 1 in 5 individuals in 2011 and again represents an increase on the previous long-run rate of 16%, or 1 in 6 working age individuals.

Attitudes of non-entrepreneurial individuals to entrepreneurship remained positive in 2017 with more than 1 in 4 reporting that they know someone that has started a business recently, and two fifths confident that they have the skills, knowledge and experience to start up. The higher prevalence of entrepreneurs both in the media and more widely in the economy may be influencing these strong attitudes in favour of entrepreneurship. Likewise, they may suggest that starting a business is now more desirable and achievable than it was in the previous decade resulting in the increased activity rates particularly amongst the younger generation.

With these higher long-run entrepreneurial rates in the UK, start-up funding becomes more important; and although two fifths of entrepreneurs expected to self-fund, equal proportions expect funding from banks, government and family to be important sources of income. Indeed the continued engagement with informal investment suggests that alternative sources including friends, angel investment and crowd-funding are becoming more commonplace in the face of more stringent formal channels.

This year, we introduced additional analysis on motivations of entrepreneurs. This showed the importance that many entrepreneurs place on "creating meaning". This contrasts with stereotypical perspectives of entrepreneurs as motivated by making money. While many entrepreneurs may be motivated by money, especially more marginalised individuals including young, ethnic minority, immigrant and less educated entrepreneurs these entrepreneurs are often equally motivated by creating meaning, such as making the world a better place. Those who are motivated by both money and meaning are also more likely to expect to create a significant organisation than just employ themselves.

Appendix 1

GEM UK Sampling and Weighting Methodology

GEM UK is one of the largest, longest-running national studies of entrepreneurial activity in the world, with over 200,000 individuals interviewed since monitoring began with a sample of 1,000 adults in 1998. In 2017, 12,646 adults aged 18-80 were interviewed. The distribution of respondents is not even across the UK. This is because the Hunter Centre for Entrepreneurship at the University of Strathclyde, Welsh Assembly Government, and Invest Northern Ireland chose to boost sampling in their region in order to have more detail about entrepreneurship in their area.

The raw sample of 12,646 was distributed across 12 geographic areas within which representative sub-samples of the population aged 18-80 were taken. These areas and the sample sizes are: South West: 890; South East: 513; East of England: 636; London: 790; West Midlands: 339; East Midlands: 555; Yorkshire & Humberside: 1,456; North East: 446; North West: 976; Wales: 3,008; Scotland: 2,025; Northern Ireland: 1,012.

According to OfCom[21], households in the UK which have access to a mobile phone but not to a fixed telephone landline increased from 14 in Q1 of 2016 to 18% in Q1 of 2017. In 2017, 19% of the unweighted GEM sample across the UK consisted of mobile-only households. Meanwhile the decline in the proportion of households with a fixed telephone line has stabilised at around 84% between 2010 and 2017. Eurobarometer estimates[22] suggest that in 2014, 17% of UK households were "mobile-only". Whatever the true figure, it is clear that fixed line surveys are not fully representative of UK households, that the distribution of mobile-only households is different to that of fixed line households, and that these differences are not fixed but change over time. In 2010, sampling methods for mobile only households had advanced to a stage where it was felt that inclusion of this group was not only desirable but feasible (though at greater cost).

Every attempt is made to ensure that the results reported are as reliable and robust as possible. To do this, four sets of weights were calculated for the UK data:

- Weights for the whole UK that take the UK area sub-samples and the age, gender and ethnic minority proportion of the population of the UK (aged 18-64) into account, based on the latest available area estimates from the UK Office of National Statistics, typically mid-year estimates for the previous year.
- Sub-sample area weights that take into account the population distributions within GEM UK sub-sample areas by age, gender and ethnicity. These are used when we report comparisons between GEM UK sub-sample areas.
- Government Official Region (GOR) weights that create representative samples at the GOR level from all sub-samples within the same GOR.
- In addition, separate weights were constructed for England, based on balanced GOR samples for each English region, to develop a final "home nations" weight.

21 Source: Ofcom Facts and Figures. Available at www.ofcom.org.uk/about-ofcom/latest/media/facts accessed 16/06/18

22 See Special Eurobarometer 414, available at www.ec.europa.eu/commfrontoffice/publicopinion/archives/ebs/ebs_414_en.pdf

Appendix 2

Additional Tables and Data for Figures

Table 1b: Attitudes towards entrepreneurship in the UK, France, Germany and the US in 2017 - percentage of working age population (including the entrepreneurially active) who expressed an opinion and agreed with the statement at the top of the column

(Source: GEM Global APS 2017. These estimates are comparable with measures used since the 2007 GEM UK report)

	I know someone who has started a business in the last 2 years	There are good start-up opportunities where I live in the next 6 months	I have the skills, knowledge and experience to start a business	Fear of failure would prevent me starting a business
United Kingdom	**33.0**	**43.1**	**48.0**	**37.4**
France	33.2	34.1	36.3	38.3
Germany	24.1	42.0	37.4	42.0
United States	32.8	63.6	54.3	34.4

Table 2b: Entrepreneurial attitudes in the UK in 2015, 2016 and 2017 (% respondents aged 18-64 expressing an opinion and agreeing with the statement)

(Source: GEM APS 2015-2017. These estimates are comparable with measures used since the 2007 GEM UK report)

	2015	2016	2017	2015	2015	2016	2016	2017	2017
	All	All	All	Male	Female	Male	Female	Male	Female
I personally know someone who has started a business in the last two years	29.7	33.5	33.0	33.2	26.2	36.8	30.2	35.4	30.7
There will be good start-up opportunities where I live in the next six months	41.8	42.1	43.1	46.8	36.8	47.2	36.8	46.4	39.7
I have the skills, knowledge and experience to start a business	43.7	48.0	48.0	52.1	35.3	56.7	39.3	57.6	38.5
Fear of failure would prevent me from starting a business (for those who agree there are good start-up opportunities)	37.3	36.3	37.4	31.1	39.2	31.2	40.8	30.0	41.0
Most people consider that starting a business is a good career choice	58.0	58.6	58.6	58.6	57.5	59.9	57.2	55.0	56.9
Those successful at starting a business have a high level of status and respect in society	79.4	77.4	77.4	78.6	80.2	76.8	77.9	76.1	76.0
You will often see stories about people starting successful new businesses in the media	61.7	61.3	61.3	64.3	59.0	61.6	61.0	60.9	58.0

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
I know someone who has started a business in the last 2 years	20.7	21.8	24.1	25.3	24.9	23.6	23.6	23.4	31.1	28.2	27.1	25.2	24.7	25.8	28.4	28.1
There are good start-up opportunities where I live in the next 6 months	25.8	31.6	33.2	35.4	33.8	36.1	26.9	23.0	26.8	27.9	30.5	33.2	36.8	37.6	37.9	38.6
I have the skills, knowledge and experience to start a business	40.9	43.3	46.4	46.4	45.1	44.0	44.4	44.4	47.2	36.7	38.7	37.0	38.4	37.5	41.1	40.6
Fear of failure would prevent me starting a business (for those who agree there are good start-up opportunities)	37.0	35.5	36.0	36.1	37.3	37.9	38.3	35.2	36.0	41.4	43.3	41.4	43.0	39.5	39.6	39.7
Most people consider that starting a business is a good career choice		52.8	54.7	54.6	54.7	54.9	52.1	47.9	52.6	50.4	49.9	54.5	57.3	57.5	58.2	55.4
Those successful at starting a business have a high level of status and respect in society		71.7	72.2	71.8	72.9	73.6	74.2	73.8	76.3	81.4	77.1	79.5	78.4	79.8	77.7	76.7
You will often see stories about people starting successful new businesses in the media		54.8	55.3	53.9	54.3	56.3	52.4	44.7	51.5	44.2	45.5	48.8	58.8	59.9	59.9	58.5

Figure 2: Entrepreneurial attitudes in the UK, 2002-2017 (% non-entrepreneurially active respondents aged 18-64 expressing an opinion and agreeing with the statement)

(Source: GEM APS 2002-2017)

Figure 2b: Entrepreneurial Attitudes in the UK, 2002- 2017 (percentage of working age population expressing an opinion and agreeing with the statement

(Source: GEM APS 2002 -2017)

Note: These figures are calculated on the same basis as the GEM UK Report prior to 2008 – that is, for the 18-64 year old sample overall and not solely the non-entrepreneurial adult population. However, due to revisions undertaken in the pooled UK GEM database there will be small differences between these figures and those published prior to 2008.

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
I know someone who has started a business in the last 2 years	23.9	24.6	26.6	27.7	27.3	25.7	25.8	26.5	33.6	32.4	32.7	29.2	29.9	29.7	33.5	33.0
There are good start-up opportunities where I live in the next 6 months	29.1	35.0	35.7	38.2	36.7	39.1	28.8	27.0	29.4	31.1	34.0	36.0	41.4	41.8	42.1	43.1
I have the skills, knowledge and experience to start a business	46.0	48.3	50.3	50.9	49.6	48.5	49.0	52.4	52.3	43.9	46.9	44.1	45.5	43.7	48.0	48.0
Fear of failure would prevent me starting a business	34.3	33.8	33.7	34.3	35.7	35.9	37.2	35.1	39.5	45.7	42.2	40.2	39.0	37.3	36.3	37.4
Most people consider that starting a business is a good career choice		51.7	54.3	54.3	54.4	54.7	51.7	48.1	52.1	49.8	49.9	54.6	58.0	58.0	58.6	55.9
Those successful at starting a business have a high level of status and respect in society		71.6	72.1	71.7	72.7	73.6	73.8	73.8	76.4	80.4	76.8	79.6	78.3	79.4	77.4	76.0
You will often see stories about people starting successful new businesses in the media		55.6	56.1	54.6	55.0	56.7	53.2	45.9	52.4	45.4	46.5	50.0	59.3	61.7	61.3	59.4

Table 3b: Entrepreneurial Attitudes in the UK Home Nations in 2017 (percentage of working age population expressing an opinion and agreeing with the statement)
(Source: GEM APS 2017)

	England	Wales	Scotland	Northern Ireland	United Kingdom
I know someone who has started a business in the last 2 years	33.4	33.7	29.5	30.8	**33.0**
There are good start-up opportunities where I live in the next 6 months	44.6	34.4	37.2	32.6	**43.1**
I have the skills, knowledge and experience to start a business	49.0	44.0	43.8	38.9	**48.0**
Fear of failure would prevent me from starting a business	37.2	39.3	37.2	42.6	**37.4**
Most people consider that starting a business is a good career choice	56.2	53.9	54.3	56.3	**55.9**
Those successful at starting a business have a high level of status and respect in society	75.8	75.2	77.5	80.2	**76.0**
You will often see stories about people starting successful new businesses in the media	59.5	57.5	59.0	61.8	**59.4**

Table 3c: Good Opportunities for Start-up in the local area in next 6 months - in the UK Home Nations from 2002 to 2017 - percentage of non-entrepreneurially active working age population expressing an opinion and agreeing with the statement
(Source: GEM APS 2002-2017)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	% change 2002-17	% change 2012-17
England	26.4	31.5	33.4	36.5	34.1	36.3	26.8	23.5	27.7	28.5	31.8	34.6	37.5	38.6	39.3	40.0	51.3	25.6
Wales	21.1	29.7	30.7	31.8	28.6	30.4	19.6	20.4	21.8	25.3	22.6	25.1	29.5	29.6	29.9	31.2	47.8	38.0
Scotland	23.3	34.1	33.4	28.6	33.6	36.1	33.1	21.2	25.4	28.2	26.6	29.1	38.1	34.6	32.5	34.2	46.7	28.5
N. Ireland	24.8	29.0	32.2	32.8	32.9	39.0	21.8	16.5	15.9	24.1	19.7	20.2	25.2	31.1	28.2	29.1	17.4	47.8
UK Average	**25.8**	**31.6**	**33.2**	**35.4**	**33.8**	**36.1**	**26.9**	**23.0**	**26.8**	**28.2**	**30.5**	**33.2**	**36.8**	**33.7**	**33.4**	**34.5**	**33.9**	**13.3**

		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Opportunity Perception	Male	29.2	34.6	36.8	40.2	37.6	40.8	30.9	25.0	29.3	29.7	34.6	37.6	40.4	42.4	41.9	40.8
	Female	22.8	29.0	29.7	31.0	30.1	31.6	23.0	20.9	24.7	26.4	26.8	29.0	33.4	33.2	34.2	36.6
Fear of Failure	Male	34.4	34.6	34.9	34.0	34.1	36.4	35.9	32.3	34.9	38.7	40.5	40.1	38.5	36.8	36.7	35.7
	Female	40.1	35.0	37.5	38.6	41.2	39.6	41.4	38.8	37.2	44.0	46.4	43.0	48.0	42.6	42.8	43.9

Figure 3: Male and female attitudes towards Good Opportunities and Fear of Failure (percentage non-entrepreneurially-active respondents aged 18-64 expressing an opinion and agreeing with the statements "There are good start-up opportunities where I live in the next 6 months"; "Fear of failure would prevent me from starting a business")
(Source: GEM UK APS 2002-2017)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Established business owner/manager	5.6	5.7	4.7	5.1	5.3	5.0	6.0	5.8	6.2	6.5	7.0	6.5	5.9	5.2	6.1	6.6
New business owner/manager	3.1	3.2	2.8	3.0	2.8	2.7	2.8	3.2	3.3	3.4	4.4	3.5	3.8	3.0	3.8	4.0
Nascent entrepreneur	2.1	3.0	2.9	2.7	2.7	2.7	2.6	2.5	2.9	4.1	5.3	3.5	4.6	3.8	4.7	3.8
Intend to start (within three years)	3.9	4.9	5.9	5.7	4.9	4.9	4.5	3.8	4.6	6.8	7.7	6.5	5.8	7.3	7.5	6.0
No activity or intention	85.3	83.2	83.7	83.4	84.3	84.7	84.1	84.7	83.0	79.2	75.7	80.0	79.9	80.7	77.8	79.6
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Figure 4: Participation in entrepreneurship in the UK by most established stage of entrepreneurial activity (percentage of working age population), 2002 to 2017
(Source: GEM UK APS 2002-2017)

Figure 4b: Participation in entrepreneurship in the UK by stage of entrepreneurial activity (percentage of working age population), 2002 to 2016
(Source: GEM UK APS 2002-2016 Note: individuals can be in more than one stage at a time; hence annual percentages do not total to 100)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Established business owner/manager	5.6	5.7	4.7	5.1	5.3	5.0	6.0	5.8	6.2	6.5	7.0	6.5	5.9	5.2	6.1	6.6
New business owner/manager	3.1	3.2	2.9	3.1	2.8	2.7	2.9	3.2	3.4	3.4	4.4	3.6	3.8	3.1	3.8	4.1
Nascent entrepreneur	2.5	3.5	3.2	3.2	3.2	3.0	2.8	2.7	3.2	4.2	5.7	3.8	4.9	4.0	5.1	4.8
Intend to start (within three years)	6.5	7.9	8.6	8.7	7.8	7.4	6.8	6.1	7.2	9.8	11.3	8.1	8.5	9.7	11.1	7.2
No activity or intention	85.3	83.2	83.7	83.4	84.3	84.7	84.1	84.7	83.0	79.2	75.7	80.0	79.9	80.7	77.8	79.6

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
United Kingdom	**5.4**	**6.4**	**5.8**	**6.0**	**5.8**	**5.6**	**5.5**	**5.8**	**6.5**	**7.6**	**9.8**	**7.3**	**8.6**	**7.1**	**8.8**	**8.7**
France	3.2	1.6	6.0	5.4	4.4	3.2	5.6	4.4	5.8	5.7	5.2	4.6	5.3		5.3	3.9
Germany	5.2	5.2	5.1	5.4	4.2		3.8	4.1	4.2	5.6	5.3	5.0	5.3	4.7	4.6	5.3
United States	10.5	11.9	11.3	12.4	10.0	9.6	10.8	8.0	7.6	12.3	12.8	12.7	13.8	11.9	12.6	13.6

Figure 5: Total early-stage Entrepreneurial Activity (TEA) in the UK, France, Germany and US (2002-2017)
(Source: GEM Global APS 2002-2017)

	18-24	25-34	35-44	45-54	55-64
United Kingdom	**7.2**	**11.7**	**8.7**	**9.8**	**5.0**
France	1.6	5.0	4.4	3.9	4.0
Germany	3.4	7.7	6.5	5.0	3.4
United States	11.4	17.4	16.4	14.1	7.6

Figure 6: Total early-stage Entrepreneurial Activity (TEA) in the UK, France, Germany and US by Age Group (2017)
(Source: GEM Global APS 2017)

	18-24	25-34	35-44	45-54	55-64	Total
2015	3.9	8.0	9.0	7.9	5.3	7.1
2016	8.0	9.9	10.0	8.0	8.0	8.8
2017	7.2	11.7	8.7	9.8	5.0	8.7

Figure 7: Total early-stage Entrepreneurial Activity (TEA) in the UK by Age Group (2015-2017)
(Source: GEM APS 2015-2017)

	Male TEA	Female TEA
United Kingdom	**11.9**	**5.6**
France	5.5	2.4
Germany	6.6	3.9
United States	16.7	10.7

Figure 8: Total early-stage entrepreneurial activity by gender in the UK, France Germany and US in 2017
(Source: GEM Global APS 2017)

	Male EBO	Female EBO
United Kingdom	**9.0**	**4.2**
France	5.6	1.6
Germany	8.0	4.0
United States	8.9	6.6

Figure 9: Established business ownership by gender in the UK, France, Germany and US, 2017
(Source: GEM Global APS 2017)

Figure 10: Female early-stage Entrepreneurial Activity in the UK, France, Germany and US, 2002-2017
(Source: GEM Global APS 2002-2017)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
United Kingdom	**3.2**	**3.9**	**3.8**	**3.7**	**3.7**	**3.6**	**3.6**	**3.7**	**4.0**	**5.0**	**7.1**	**5.8**	**5.7**	**4.7**	**5.7**	**5.6**
France	2.1	1.6	3.8	3.3	2.5	2.2	3.3	2.0	4.8	3.0	4.0	3.1	4.0		3.4	2.4
Germany	3.4	3.3	3.1	3.8	2.6		3.4	3.7	2.9	4.5	3.5	3.9	4.0	3.3	3.1	3.9
United States	8.2	8.2	10.7	9.7	7.4	7.3	8.8	5.8	7.0	10.4	10.5	10.4	11.2	9.2	10.5	10.7

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
England	5.6	6.4	6.0	6.2	6.1	5.7	5.7	6.0	6.7	7.7	10.3	7.5	9.1	7.2	9.2	9.1
Wales	4.2	6.6	5.2	5.2	5.5	5.3	5.3	6.0	5.8	8.1	7.0	5.4	7.1	6.8	7.6	6.3
Scotland	5.0	5.5	5.0	5.7	4.1	4.6	4.5	3.6	4.2	6.2	6.9	6.8	5.4	6.7	7.3	6.7
N. Ireland	3.7	5.2	5.3	4.8	3.7	4.9	4.8	5.2	6.4	7.1	7.1	5.1	6.7	5.4	6.3	6.5

Figure 11: Total early-stage Entrepreneurial Activity in the UK Home Nations, 2002-2017
(Source: GEM APS 2002-2017)

Figure 12: Total early-stage Entrepreneurial Activity in the UK Home Nations by Index of Multiple Deprivation 2017
(Source: GEM APS 2017)

	England	Wales	Scotland	N. Ireland
1st Quintile	12.6	4.6	5.7	6.1
2nd Quintile	8.6	7.9	10.1	5.1
3rd Quintile	7.0	5.4	6.2	10.0
4th Quintile	7.2	6.6	5.2	7.1
5th Quintile	10.7	6.5	5.6	4.2

Figure 13: Male and Female Total early-stage Entrepreneurial Activity in the UK Home Nations, 2017
(Source: GEM APS 2017)

	Male	Female	Ratio Female to Male TEA
England	12.6	5.7	45%
Wales	8.8	3.8	43%
Scotland	8.1	5.4	67%
N. Ireland	8.7	4.3	49%
United Kingdom	**11.9**	**5.6**	**47%**

	Female to male ratio
East	**73.5%**
Scotland	**64.8%**
West Midlands	**55.2%**
Wales	**54.6%**
East Midlands	**53.6%**
South East	**52.5%**
Yorkshire & Humber	**52.4%**
South West	**49.4%**
North East	**46.2%**
London	**45.4%**
N. Ireland	**43.8%**
North West	**38.8%**
UK	**51.3%**

Figure 14: Female to Male Entrepreneurship Ratio in the UK regions (combined over 2014-17)
(Source: GEM UK APS 2013-17)

Figure 15: Female Total early-stage Entrepreneurial Activity in the UK Home Nations, 2002-2017
(Source: GEM APS 2002-2017)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
England	3.2	4.0	3.8	3.8	3.9	3.8	3.8	3.8	4.1	5.0	7.7	6.1	6.0	4.6	5.8	5.7
Wales	3.0	4.1	4.2	3.6	3.7	3.4	4.0	4.4	3.6	6.1	4.0	4.2	4.9	4.6	5.8	3.8
Scotland	3.6	3.0	3.7	3.7	2.6	2.7	2.5	2.5	3.3	4.3	5.0	5.2	3.9	5.8	5.2	5.4
N. Ireland	1.7	3.5	2.4	2.6	2.4	2.2	2.3	2.4	3.3	3.9	3.6	2.2	4.4	3.4	4.9	4.3

	18-24	25-34	35-44	45-54	55-64
England	7.5	12.3	8.9	10.5	5.2
Wales	4.9	6.5	9.3	5.8	4.9
Scotland	6.4	9.2	7.2	7.0	3.6
N. Ireland	6.0	10.0	6.6	4.7	4.7
United Kingdom	**7.2**	**11.7**	**8.7**	**9.8**	**5.0**

Figure 16: Total early-stage Entrepreneurial Activity in the UK Home Nations by Age Group, 2017
(Source: GEM APS 2017)

	2002-04	2003-05	2004-06	2005-07	2006-08	2007-09	2008-10	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17
England	5.0	5.4	5.1	5.4	5.2	5.3	5.0	5.8	7.4	7.9	8.0	6.6	7.4	8.3
Wales	4.1	4.3	4.3	4.5	5.7	6.1	7.0	7.6	8.5	7.7	7.3	6.9	7.3	6.2
Scotland	4.8	5.4	4.6	4.2	4.0	3.5	3.6	4.6	5.7	6.4	5.5	6.2	6.7	7.4
N. Ireland	5.0	5.3	4.4	4.2	3.9	4.6	4.6	5.7	5.7	5.9	5.8	5.5	6.6	6.4

Figure 17: Trend in Total early-stage Entrepreneurial Activity in the UK Home Nations, for 18 to 29 year olds, 3-year rolling averages 2002-04 to 2015-17
(Source: GEM APS 2002-2017)

Figure 18: Total early-stage Entrepreneurial Activity Rate by White and Non-White Ethnic Status 2016 – 2017 (showing means and 95% confidence intervals)
(Source: GEM APS 2016, 2017)

	TEA rate			
	White		Non-White	
	2016	2017	2016	2017
High	8.50	8.53	17.83	17.91
Low	7.26	7.26	12.43	11.07
Mean	7.88	7.90	15.13	14.49

Figure 19: Total early-stage Entrepreneurial Activity Rate by Migrant Status 2016 – 2017 (showing means and 95% confidence intervals)
(Source: GEM APS 2016-2017)

	TEA rate					
	UK-born life-long resident		UK-born regional migrant		Immigrant	
	2016	2017	2016	2017	2016	2017
High	8.22	9.04	11.73	9.79	13.19	15.59
Low	6.75	7.44	9.27	7.40	8.56	9.38
Mean	7.48	8.24	10.50	8.60	10.88	12.49

	UK-born life-long residents	UK-born regional in-migrants has never lived abroad	UK-born but has lived abroad	Immigrants
High	9.0	9.8	12.1	15.6
Low	7.4	7.2	6.3	9.4
Mean	8.2	8.5	9.2	12.5

Figure 20: Total early-stage Entrepreneurial Activity Rate by Migrant and Resident Status 2017
(Source: GEM UK APS 2017)

	Necessity TEA	Opportunity TEA
UK-born life-long residents	1.0	7.0
UK-born regional in-migrants has never lived abroad	1.3	6.8
UK-born but has lived abroad	1.2	8.0
Immigrants	1.5	10.3

Figure 21: Necessity and Opportunity TEA by Migrant and Resident Status 2017
(Source: GEM UK APS 2017)

	2016	2017
United Kingdom	**5.5**	**6.8**
France	2.9	3.1
Germany	3.6	4.4
United States	5.4	6.3

Figure 22: Entrepreneurial Employee Activity (EEA) in the UK, France, Germany and the US 2016-2017
(Source: GEM Global APS 2016, 2017)

Figure 23: Total early-stage Entrepreneurial Activity (TEA) and Entrepreneurial Employee Activity (EEA) in the UK 2016-2017
(Source: GEM APS 2016, 2017)

	2016	2017
TEA rate	8.8	8.7
EEA rate	5.5	6.8

Figure 24: Necessity and opportunity TEA rates in the UK, France, Germany and US in 2017
(Source: GEM Global APS 2017)

	Opportunity TEA	Necessity TEA
United Kingdom	**7.3**	**1.1**
France	3.0	0.8
Germany	4.2	0.6
United States	11.8	1.4

Figure 25: Necessity and opportunity nascent and new business owner-manager TEA rates in the UK (showing means and 95% confidence intervals), 2015, 2016 and 2017
(Source: GEM APS 2015-17)

	Nascent entrepreneurship rate						New business owner-manager rate					
	Opportunity			Necessity			Opportunity			Necessity		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
High	3.62	4.73	4.57	0.92	0.82	0.68	2.39	3.54	3.69	1.12	0.71	0.83
Low	2.84	3.84	3.66	0.54	0.47	0.35	1.76	2.78	2.87	0.70	0.39	0.46
Mean	3.23	4.28	4.11	0.73	0.65	0.52	2.07	3.16	3.28	0.91	0.55	0.64

Figure 26: Mean standardised motivation scores for entry into early-stage entrepreneurship by age and gender
(Source: GEM UK APS 2017)

		Make meaning	Build wealth
Female	Age <30	0.27	0.31
	Age 30 to 49	0.32	-0.35
	Age 50 to 64	-0.10	0.14
Male	Age <30	0.20	0.24
	Age 30 to 49	-0.12	0.15
	Age 50 to 64	-0.27	-0.32

Figure 27: Mean standardised motivation scores for entry into early-stage entrepreneurship by ethnicity and migrant status
(Source: GEM UK APS 2017)

		Make meaning	Build wealth
White	UK born life-long residents	-0.14	0.05
	UK born regional in-migrants has never lived abroad	-0.17	-0.40
	UK born but has lived abroad	-0.03	-0.35
	Immigrants	0.45	0.35
Other	UK born life-long residents	0.29	0.08
	UK born regional in-migrants has never lived abroad	0.57	0.55
	UK born but has lived abroad	0.46	0.81
	Immigrants	0.47	0.68

Figure 28: Mean standardised motivation scores for entry into early-stage entrepreneurship by ethnicity and education status
(Source: GEM UK APS 2017)

		Make meaning	Build wealth
White	No formal qualifications	0.46	0.77
	Secondary education	-0.14	0.13
	Vocational education	-0.12	-0.55
	Degree	-0.13	-0.27
Other	No formal qualifications		
	Secondary education	0.31	0.21
	Vocational education	0.49	0.65
	Degree	0.44	0.52

Figure 29: Relative frequency of high job expectation early-stage entrepreneurs in the UK, France, Germany and the US, three year rolling averages, 2003-2005 to 2015-2017
(Source: GEM Global APS 2003-2017)

	2003-05	2004-06	2005-07	2006-08	2007-09	2008-10	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17
United Kingdom	**23.8**	**21.9**	**21.6**	**17.6**	**16.8**	**15.7**	**16.4**	**16.3**	**16.8**	**16.9**	**16.3**	**16.5**	**15.5**
France	5.7	7.7	6.0	9.5	14.7	18.8	19.9	20.0	19.5	18.2	16.4	16.9	26.7
Germany	16.5	16.8	16.5	13.7	13.2	13.3	14.5	16.7	17.6	17.4	15.3	14.7	17.2
United States	19.2	20.4	23.1	24.9	23.8	24.2	22.8	23.1	23.1	24.2	25.3	26.3	27.2

Figure 30: Relative frequency of high job expectation among established business owner-managers in the UK, France, Germany and the US, three year rolling averages, 2003-2005 to 2015-2017
(Source: GEM Global APS 2003-2017)

	2003-05	2004-06	2005-07	2006-08	2007-09	2008-10	2009-11	2010-12	2011-13	2012-14	2013-15	2014-16	2015-17
United Kingdom	**5.1**	**5.9**	**5.4**	**4.9**	**4.6**	**3.5**	**3.5**	**3.4**	**4.2**	**3.8**	**4.2**	**4.7**	**5.7**
France	4.3	4.3	2.8	1.9	1.9	3.5	1.6	1.7	0.6	1.1	1.6	1.6	2.2
Germany	3.9	3.1	2.2	1.5	2.4	3.1	3.4	3.8	3.3	3.6	3.8	4.3	3.7
United States	5.6	5.3	6.3	7.4	6.7	4.6	3.0	3.7	3.6	3.8	4.4	5.5	6.3

Figure 31: Mean standardised motivation scores for entry into early-stage entrepreneurship by future size expectation
(Source: GEM UK APS 2017)

	Make meaning	Build wealth
No job	-0.33	-0.12
1-5 jobs	0.13	-0.05
6-19 jobs	0.13	0.07
20+ jobs	0.32	0.29

Table 8a: Percentage of nascent entrepreneurs expecting funding from different sources 2009 to 2014
(Source: GEM UK APS 2009-2014)

Type of funding expected	2009	2010	2011	2012	2013	2014
No funding needed	5.0	10.3	6.2	4.4	6.0	7.3
All funded by entrepreneur	50.7	43.8	47.0	39.0	40.6	46.0
None funded by entrepreneur	3.9	8.5	4.9	6.7	1.1	1.6
Close family member (spouse, parent, sibling)	10.1	8.6	3.5	8.9	3.0	9.1
Other relatives, kin or blood relations	6.0	1.7	2.0	8.2	2.1	6.0
Work colleagues	6.8	5.0	10.1	8.3	5.8	5.7
A stranger	3.7	0.7	1.1	5.0	2.7	1.6
Friends or neighbours	4.5	6.9	2.5	5.6	6.1	4.9
Banks or other financial institutions	20.0	18.2	18.6	22.3	10.2	8.8
Government programmes	15.1	17.7	11.1	15.9	8.9	7.2
Any other source	8.8	5.0	7.2	13.2	8.2	8.2

Table 10: Total early-stage Entrepreneurial Activity by Age-band 2003-2017
(Source: GEM APS 2003-2017)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
18-29	5.9	4.8	5.5	4.8	5.4	5.0	5.0	4.9	7.4	9.4	6.4	7.3	6.0	8.7	9.4
30-49	7.8	7.2	7.6	7.3	6.8	7.0	7.1	8.8	9.2	12.9	8.1	10.8	8.3	9.3	10.0
50-64	4.2	4.4	3.9	4.2	3.8	3.7	4.4	4.5	5.6	5.5	6.5	7.1	6.0	8.1	6.6

Table 11: Total early-stage Entrepreneurial Activity amongst the 50-64 Age Group 2016-17
(Source: GEM APS 2016-2017)

	Male		Female	
	2016	2017	2016	2017
High	12.8	11.5	6.3	4.4
Low	9.5	8.3	4.0	2.5
Mean	11.1	9.9	5.2	3.5

Table 12: Necessity and Opportunity TEA amongst the 50-64 Age Group 2016-17
(Source: GEM APS 2016-2017)

	Opportunity TEA				Necessity TEA			
	Male		Female		Male		Female	
	2016	2017	2016	2017	2016	2017	2016	2017
High	10.24	9.39	5.21	4.09	2.91	2.66	0.65	0.55
Low	7.23	6.48	3.12	2.29	1.37	1.18	0.04	0.01
Mean	8.74	7.94	4.17	3.19	2.14	1.92	0.35	0.28

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