Global Entrepreneurship Monitor

United Kingdom 2012 Monitoring Report

Jonathan Levie
Mark Hart

University of Strathclyde Business School

Aston Business School

GEM

List of Figures and Tables

Acknowledgements

Page

GEM UK 2012 was made possible by funding from BIS Enterprise Directorate, Hunter Centre for Entrepreneurship at the University of Strathclyde, Welsh Government, Invest Northern Ireland and Defra. In addition, Liverpool Vision, PRIME and Young Enterprise sponsored specific questions on aspects of their service delivery in the UK.

The vendor for the Adult Population survey was IFF Research Ltd and we would like to thank Ben Davies and Lydia Fellows for their role in the timely execution of the survey and the creation of the UK dataset. Marla Nelson and Debra Blisson undertook the NES expert surveys and we would like to thank them for their efforts.

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.

For further information on the GEM UK project, contact

Professor Jonathan Levie
Hunter Centre for Entrepreneurship,
University of Strathclyde,
Sir William Duncan Building
30 Rottenrow, 7th Floor
Glasgow
G4 0GE
Email: j.levie@strath.ac.uk

Professor Mark Hart
Economics and Strategy Group
Aston Business School
Aston University
Aston Triangle
Birmingham
B4 7ET
Email: mark.hart@aston.ac.uk

Executive Summary

- In 2012, the Global Entrepreneurship Monitor (GEM) research consortium measured entrepreneurial activity of individuals in 69 economies, making it the world's most authoritative comparative study of entrepreneurial activity in the general adult population. In 2012, 11,191 adults aged 16 to 80 participated in the GEM UK survey.

- This monitoring report compares Global Entrepreneurship Monitor (GEM) measures of entrepreneurial attitudes, activity and aspirations in the UK, France, Germany and the United States, and the four home nations of the UK. It also examines business registration activity by business owner-managers, the anticipated and actual funding sources for individuals starting a business in the UK and the role of migration and parental business ownership in early-stage entrepreneurial activity.

- Attitudes of non-entrepreneurial individuals to entrepreneurship remained subdued in 2012, although opportunity perception among non-entrepreneurial men increased slightly.

- In the UK in 2012, for the first time since GEM records began, almost one quarter of working age individuals were engaged in entrepreneurial activity or intended to start a business within the next three years.

- In the UK, 11.3% of working age adults expected to start a business within the next 3 years in 2012, a significant increase on 2011, compared with 16.5% in the US.

- 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 2012 was 9.8%[1]. The rise in the UK TEA rate, while just not significantly different from the 2011 figure, is significantly higher than the historical trend (2002-2010) which was very stable at close to 6%.

- In contrast to the growth in TEA rates in the UK, TEA rates were close to 2011 levels in France (5.2%), Germany (5.3%) and the US (12.8%) and similar to their past peak levels in 2005.

- When surveyed in mid-2012, 5.7% of the adult population in the UK were actively trying to start a business (*nascent entrepreneurs*), compared with 8.9% in the US. Nascent entrepreneurship rates in the UK rose significantly in 2012. Specifically, necessity-driven nascent entrepreneurship in the UK rose significantly in 2012 from 0.6% to 1.2%.

- When surveyed in 2012, 4.3% of the UK working age adult population were owner-managers of a business that was 3 - 42 months old (*new business owner-managers*). This is not significantly different from the 2011 estimate of 3.4%, and it compares favourably with the estimate for France (1.5%) and Germany (2.1%) and the US (4.1%).

- In 2012, the proportion of the adult population who owned and managed a business older than 42 months (*established business owner-managers*) in the UK was 7.0%, similar to 2011 (6.5%). This was half way between the estimates for France (3.3%) and Germany (5.0%) and the US estimate of 8.6%. The estimated proportion of working age people in the UK who discontinued a business (whether through closure or sale) in the past 12 months was low at 1.0%, while they remained at 2.8% in the US. Discontinuations by entrepreneurs of businesses in France and Germany were close to levels in previous years (1.2%).

- As in 2011, the proportion of UK TEA entrepreneurs reporting new product/market combinations, export propensity and high or medium technology sectoral choices were just as high as in the US although fewer had high growth expectations.

- The relative frequency of high job expectation among early-stage entrepreneurs was relatively high in the UK in the early part of the last decade, but it steadily declined from around 25% to stabilise in recent years around 17%. In the US, it has increased slightly, in Germany it decreased slightly, and in France it doubled to reach 20%.

- In 2012, UK levels of female early-stage entrepreneurship (TEA rate of 7.1%) were 57% of male early-stage entrepreneurial activity – up from 49% in 2011, but still lower than in the US.

- The sub-national distribution of TEA rates in 2012 was England: 10.3% (up significantly from 7.7% and significantly higher than the other home nations), Wales: 7.0%, Scotland: 6.9%, and Northern Ireland: 7.1%.

- Some 22% of new business owner-managers with employees and 21% of established owner-managers with employees had not registered their business with HMRC as an employer or for Value-Added Tax. In the UK, businesses do not have to be registered with HMRC if they have no employees or if their sales fall below the VAT threshold.

- Trends in the sources of finance that nascent entrepreneurs report that they have ever used to fund a business show that most sources experienced a fall in use between 2009 and 2011, and a recovery, albeit partial, in 2012.

- Both first and second generation immigrants in the UK have significantly higher rates of early-stage entrepreneurial activity than others. This pattern is similar to France, but in the US, only first generation immigrants have higher rates.

1 This differs slightly from the 2012 GEM Global Report (9.8 versus 9.0) because the Global report did not weight for ethnicity.

GEM UK 2012 Monitoring Report

1 INTRODUCTION

1.1 SCOPE OF REPORT

This report compares Global Entrepreneurship Monitor (GEM) measures of entrepreneurial attitudes, activity and aspiration in the UK with 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 registration activity by business owner-managers, the effect of immigrant status and entrepreneurial parents on early-stage entrepreneurial activity rates, and on changes in business start-up funding expectations through the business cycle in the UK.

1.2 GEM: HISTORY, PURPOSE AND MEASURES

The Global Entrepreneurship Monitor (GEM) research consortium has been measuring entrepreneurial activity of working age adults across a wide range of countries in a comparable way since 1998. In 2012, the study conducted surveys in 69 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 2012 GEM global study was based on an analysis of adult population survey (APS) results from 69 economies and more than 198,000 adults across the world. The core of the APS is identical in each country and asks respondents about their *attitudes* towards entrepreneurship, if they are involved in some form of entrepreneurial *activity*, and if so what their *aspirations* for their business are. The global GEM Executive 2012 Report was published in January 2013[2] and can be downloaded from www.gemconsortium.org.

From the 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

2 Xavier, S.R., Kelley, D., Kew, J., Herrington, M., and Vorderwülbecke (2013) Global Entrepreneurship Monitor 2012 Global Report. London: Global Entrepreneurship Research Association.

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[3], 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, 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 2012 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. In 2012 the proportion of mobile-only households in the survey (16%) closely matched the OfCom latest estimates for the UK (15%). This change from a purely landline sampling methodology may be responsible for some of the apparent rise in the point estimates for many UK GEM measures since 2009. Once again in 2012, as in 2010 and 2011, 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.

3 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:

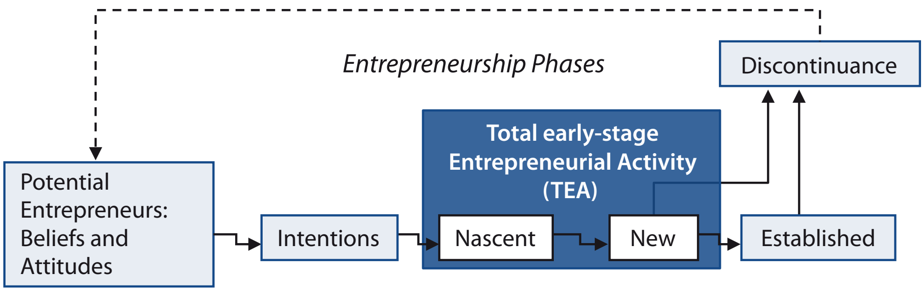
1) "are you, alone or with others, currently trying to start a new business independently of your work?",

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.

Figure 1: The Entrepreneurial Process and GEM Operational Definitions

(Source: Xavier et al., 2013, p.13)



2.1 ENTREPRENEURIAL ATTITUDES IN THE UK AND BENCHMARK COUNTRIES IN 2012

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 GEM attitudinal data is best treated at the group rather than individual level, because individuals who are already entrepreneurs may feel compelled to provide positive answers in the APS. Table 1 compares attitudes 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 for participating G7 countries for 2012[4].

Points of note include the following:

- Rates of awareness of a recent start-up entrepreneur have dropped in France to just above the UK rate, where awareness remains higher than in Germany or the US.
- At 30.5%, the proportion of the UK non-entrepreneurial working age population who perceived that there were good opportunities in the next 6 months is slightly lower than in its benchmark nations.
- The UK start-up skills perception rate of 38.7% was higher than the skills perception rates of France and Germany but lower than the US by almost 10 percentage points.
- Fear of failure among those who perceived opportunities in the UK was slightly lower than in France and Germany but higher than the US.

4 In Appendix 2, the data on entrepreneurial attitudes and perceptions for all adults aged 18-64, compatible with those in the GEM Global 2012 Report, are presented in Table 1a. Note however that the UK attitudinal data in this table differs slightly from that published in the GEM Global Report for 2012 as that was based on an interim sample of 2,000 submitted in July 2012.

Table 1: Attitudes towards entrepreneurship in participating G7 countries in 2012 - percentage of working age population who are neither nascent entrepreneurs nor existing business owner/managers, who expressed an opinion and agreed with the statement at the top of the column (Source: GEM APS 2012).

Note: The UK attitudinal data in this table differs slightly from that published in the GEM Global Report for 2012 as that was based on an interim sample of 2,000 submitted in July 2012 and was based on all respondents, not just those who were not entrepreneurially active.

	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)
UK	**27.1**	**30.5**	**38.7**	**43.3**
France	31.5	36.2	32.4	46.3
Germany	21.1	33.4	31.8	47.9
US	22.3	39.8	47.1	35.8

2.2 ENTREPRENEURIAL ATTITUDES IN THE UK IN 2010, 2011 AND 2012

Table 2 shows estimates of changes in attitudes towards entrepreneurship in the UK among the non-entrepreneurially active working age population by gender between 2010 and 2012, and Figure 2 shows the trend from 2002 to 2012. Because the 2010 and subsequent samples included mobile-only households, we show the break in the series between 2009 and 2010. Two points can be noted here. The first is that the steep decline of around ten percentage points in skills perception observed since between 2009/10 and 2011 has been halted and there was a marginal increase in 2012.

Secondly, there is still a wide divergence between the proportion of the non-entrepreneurial population in the UK who think that successful business founders have a high status in society (77%), and the proportion who think that most people would agree that starting a business is a good career choice (50%). The UK is not unique in this respect and a similar gap is observed in Germany, Austria, Finland and Ireland. However, these countries contrast with France, Spain and the Netherlands where the proportions 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[5].

One possible implication is that some people in the UK do not see successful entrepreneurs portrayed in the media as role models that might spur them to try setting up their own business or indeed of encouraging their children to do so.

5 Global Entrepreneurship Monitor (GEM): 2012 Global Report. www.gemconsortium.org

Table 2: Entrepreneurial attitudes in the UK among households in 2010, 2011 and 2012 (% non-entrepreneurially active respondents aged 18-64 expressing an opinion and agreeing with the statement) (Source: GEM UK APS, 2010, 2011, 2012).

Note: The UK attitudinal data in this table differs from that published in the GEM Global Report for 2012 as that was based on an interim sample of 2,000 submitted in July 2012 and was based on all respondents, not just those who were not entrepreneurially active.

	2010	2011	2012	2010	2010	2011	2011	2012	2012
	All	All	All	Male	Female	Male	Female	Male	Female
I personally know someone who has started a business in the last two years	31.1	28.2	27.1	34.7	27.9	30.1	26.5	29.3	25.1
There will be good start-up opportunities where I live in the next six months	26.8	27.9	30.5	29.3	24.7	29.7	26.4	34.6	26.8
I have the skills, knowledge and experience to start a business	47.2	36.7	38.7	55.8	39.3	45.0	29.3	47.3	31.2
Fear of failure would prevent me from starting a business (for those who agree there are good start-up opportunities)	36.0	41.4	43.3	34.9	37.2	38.7	44.0	40.5	46.4
Most people consider that starting a business is a good career choice	52.6	50.4	49.9	53.1	52.2	50.6	50.2	51.7	48.3
Those successful at starting a business have a high level of status and respect in society	76.3	81.4	77.1	76.5	76.0	82.2	80.7	76.2	78.1
You will often see stories about people starting successful new businesses in the media	51.5	44.2	45.5	51.7	51.4	45.5	42.9	48.6	42.6

Table 2 shows that in 2012 men still tend to have more positive entrepreneurial attitudes than women. The gap is particularly marked in skills self-perception, which was still evident even after the steep decline for both males and females in 2011. In 2012 there was a marginal though statistically insignificant increase in self-perception of the skills, knowledge and experience to start a business. The gap in fear of failure between women and men, and the apparent rise since 2010, are not statistically significant. Interestingly, opportunity perception (among non-entrepreneurs) rose among men but not among women between 2011 and 2012. Taken together, these trends over time support the view that when it comes to entrepreneurship, women may be more risk-aware than men.

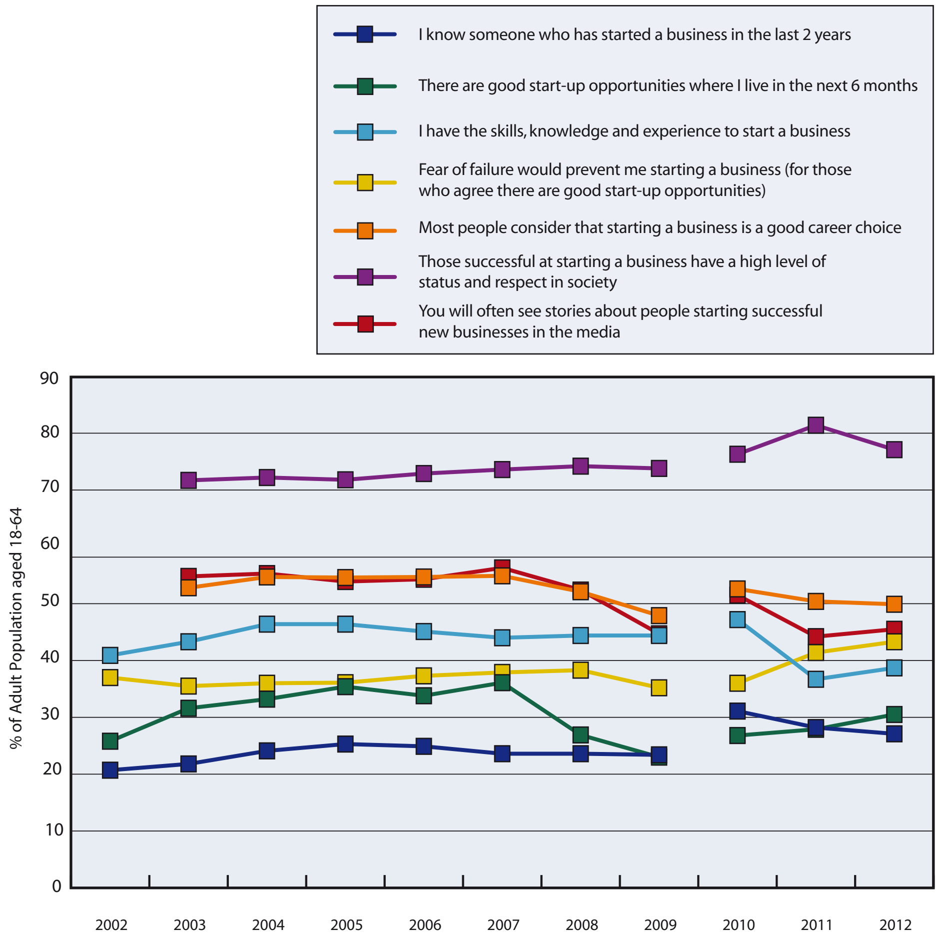


Figure 2: Entrepreneurial attitudes in the UK, 2002-2012: (% non-entrepreneurially-active respondents aged 18-64 expressing an opinion and agreeing with the statement)

(Source: GEM UK APS, 2002-2012)

Note: the gap between 2009 and 2010 is a reminder that from 2010, mobile-only households were included in the sample as well as households with landlines.

2.3 ATTITUDES TOWARDS ENTREPRENEURSHIP IN THE UK HOME NATIONS

The self-reported attitudes of the non-entrepreneurially active working age population towards entrepreneurship in the four UK home nations in 2012 are presented in Table 3. The key findings 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 a nation. In 2012 there were no significant differences in the proportions across the four UK nations.
- A significantly lower proportion of the non-entrepreneurially active population reported that there were good start-up opportunities in their local area in the next 6 months in Wales (23%) and Northern Ireland (20%) than in England (32%).[6]
- The proportion of non-entrepreneurially active respondents who thought they had the skills to start a business was not significantly different between home nations.
- Fear of failure is typically higher in Northern Ireland than the other UK home nations, and although the point estimate for Northern Ireland is almost 10 percentage points higher than in the other three UK nations in 2012 this difference was not statistically significant.
- The proportion of non-entrepreneurial individuals who agreed that you will often see stories about people starting successful new businesses in the media was significantly lower in Wales (41%) than in England and Northern Ireland (45% and 48% respectively). The proportion of non-entrepreneurial individuals in the home nations who agreed that those successful at starting a business have a high level of status and respect in society was broadly similar in 2012. There were also no significant differences in the proportion of non-entrepreneurial individuals in the home nations who agreed that most people consider that starting a business is a good career choice.

	England	Wales	Scotland	Northern Ireland	United Kingdom
I know someone who has started a business in the last 2 years	27.3	27.0	26.3	24.1	**27.1**
There are good start-up opportunities where I live in the next 6 months	31.8	22.6	26.6	19.7	**30.5**
I have the skills, knowledge and experience to start a business	38.9	41.0	36.8	35.0	**38.7**
Fear of failure would prevent me from starting a business (for those who agree there are good start-up opportunities)	43.0	43.8	42.6	52.2	**43.3**
Most people consider that starting a business is a good career choice	50.2	48.5	49.8	45.2	**49.9**
Those successful at starting a business have a high level of status and respect in society	76.8	76.8	79.3	79.5	**77.1**
You will often see stories about people starting successful new businesses in the media	45.7	41.2	44.3	48.1	**45.5**

Table 3: Perceptions of entrepreneurship among non-entrepreneurially active individuals in the UK Home Nations, 2012
(Source: GEM UK APS 2012)

6 The 2002-2012 home nation data for the 'Good Opportunities' attitude variable in the GEM UK pooled dataset is included in the Appendix (Table 3b)

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 3 illustrates the proportion of respondents by stage of entrepreneurial activity in the UK over the period 2002 to 2012. 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 3a in Appendix for gross rates for each stage).

In the UK in 2012, for the first time since GEM records began, almost one quarter of working age individuals were engaged in entrepreneurial activity or intended to start a business within the next three years. Significant increases from 2011 to 2012 were recorded in the start-up intention rate and the nascent entrepreneurship rate. A record 7.7% (6.8% in 2011) expected to start a business in the next three years, but were not actively trying to start a business or running an existing business. An additional 5.3% (4.1% in 2011) were nascent entrepreneurs and 4.4% (3.4% in 2011) were new business owner/managers. Finally, 7.0% (6.5% in 2011) were established business owner/managers.

Total early-stage Entrepreneurial Activity (TEA) is the sum of the nascent entrepreneurship rate and the new business owner/manager rate. Figure 4 shows trends in TEA rates of the UK, France, Germany and the US between 2002 and 2012. Between 2011 and 2012, no significant changes in the TEA rate were recorded in the UK, France, Germany or the US. The TEA rates in the France, Germany and the US are close to levels recorded in the previous peak in 2005. However, the significant rise in the UK TEA rate over the past three years to 9.8% appears to bring it beyond the historical trend which was very stable at close to 6% until 2009.

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

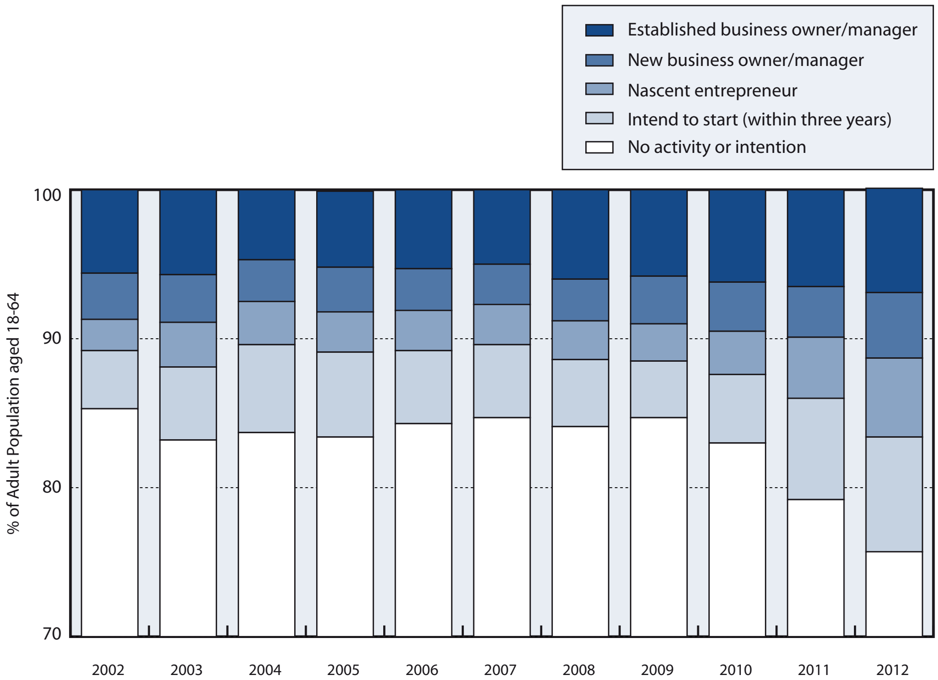


Figure 3: Participation in Entrepreneurship in the UK by most established stage of entrepreneurial activity, 2002 to 2012
(Source: GEMUK APS 2002 to 2012)

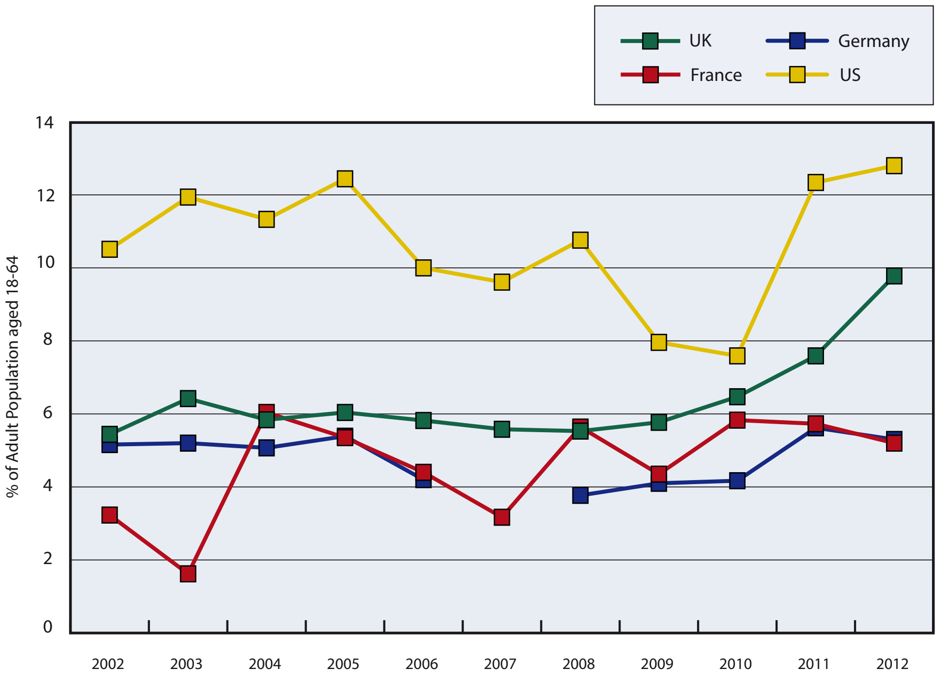


Figure 4: Total early-stage Entrepreneurial Activity (TEA) in UK, France, Germany and US (2002-2012)
(Source: GEM Global Adult Population Survey (APS) 2002-2012)

The ratio of established business ownership to early-stage entrepreneurship gives a proxy measure of transition rates from early stage entrepreneurship to established business ownership[7]. This 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 2012 results for the UK, France, Germany and the US are given in Table 5.

GEM is a survey of individuals and not a survey of registered businesses. Therefore, the figures reported for business ownership will not necessarily tally with official statistics on the size of the registered business stock in GEM participant countries. However, we do now ask a question in the GEM UK survey about business registration and it is interesting to be able to respond to the question - who registers their business in the UK? Table 4 shows the proportion of owner-managers of new and established businesses in the UK who said their business was registered with HMRC (Her Majesty's Revenue and Customs) as an employer (i.e., PAYE) or registered for Value Added Tax (VAT).

Not surprisingly, because the businesses of nascent entrepreneurs were not up and running yet, only 62% of them had registered their business. Perhaps more surprisingly, 30% of both new and established business owner-managers with between one and five employees, representing around 10% of all business owner-managers had not registered their business. Many of these businesses may

7 This measure assumes that early-stage entrepreneurship and established business ownership does not fluctuate over time.

Table 4: Proportion of UK business owner-managers who stated their business was registered with HMRC (Her Majesty's Revenue and Customs) as an employer or registered for Value Added Tax, 2012.

	New	Established
No jobs	63.8%	59.2%
1-5 jobs	70.3%	70.0%
6-19 jobs	100.0%	94.7%
20+ jobs	100.0%	99.1%
All	71.0%	70.5%

be trading below the VAT threshold and/or their employees may be self-employed (exclusive) contractors. Almost all business owners with more than 5 employees had registered their business. Overall, however, 22% of new business owner-managers with employees and 21% of established owner-managers with employees had not registered their business.

New business owner-managers who were immigrants were significantly more likely to have stated their business was registered than non-immigrants, even if they had no employees. Ethnic minority new and established owner-managers were also significantly more likely to state their business was registered. There were no differences by gender.

The 2012 TEA estimates show increases in most measures for the UK, slight increases in the US and marginal declines in France and Germany. Other points of note include:

- On almost all these measures and ratios, rates for the UK fall between France and Germany on the one hand and the US on the other. An exception is business intention rates, which are highest in France.

- France has relatively high business start-up intention rates, low established business owner rates, low survival rates and relatively high business churn rates.

Table 5: Measures of entrepreneurial activity in the UK, France, Germany and the US, 2012

(Source: GEM APS 2012)

	I expect to start a business in the next 3 years (FUT)	Nascent Entrepreneurial Activity rate (paying wages for 3 months or less) (NEA)	New Business Owner-manager rate (4-42 months) (NBO)	Nascent + New business owner-manager rate (TEA)	Established Business Owners (>42 months) (EBO)	Business closure rate (Business closed in the last 12 months that has not continued) (BC)	Proxy early-stage business survival rate (EBO/TEA)	Proxy business churn rate BC/(NBO+EBO)
	(FUT)	(NEA)	(NBO)	(TEA)	(EBO)	(BC)	(EBO/TEA)	BC/(NBO+EBO)
UK	**11.3**	**5.7**	**4.3**	**9.8**	**7.0**	**1.0**	**0.7**	**0.1**
France	18.9	3.7	1.5	5.2	3.2	1.2	**0.6**	**0.3**
Germany	8.9	3.5	2.1	5.3	5.0	1.2	**0.9**	**0.2**
US	16.5	8.9	4.1	12.8	8.6	2.8	**0.7**	**0.2**

Figure 5 compares the TEA rate by age group of the UK, France, Germany and the US in 2012. TEA rates are highest in the middle years. The UK profile is midway between the US and France and Germany.

Figure 6 shows the trend in TEA rates in the UK by age group over the three years 2010 to 2012. It shows a significant rise in TEA rates in the youngest and middle age groups, but not among the oldest age group. Germany and the US also saw increased rates amongst these age groups, however they also had an increase in the rate amongst the 55-64 age group, and for the US alone the 45-54 age group.

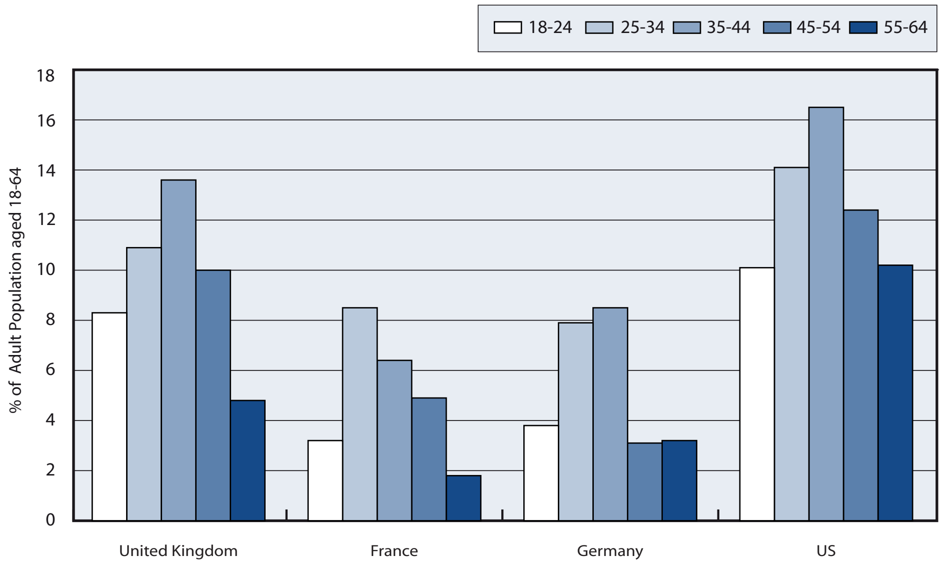


Figure 5: Total early-stage Entrepreneurial Activity (TEA) in the UK, France, Germany and the US by Age Group (2012)

(Source: GEM Global Adult Population Survey (APS) 2012)

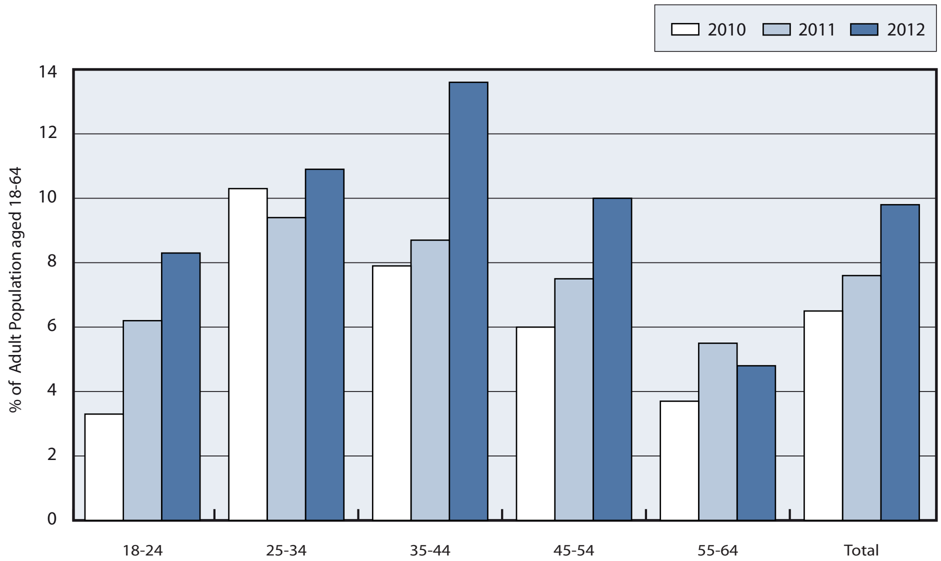


Figure 6: Total early-stage Entrepreneurial Activity (TEA) in the UK by Age Group (2010 to 2012)

(Source: UK Adult Population Survey (APS) 2010, 2011, 2012)

3.2 OPPORTUNITY AND NECESSITY-BASED 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, i.e. 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.

Opportunity-motivated early-stage entrepreneurship rates (Opportunity TEA) and Necessity-driven early-stage entrepreneurship rates (Necessity TEA) for the UK, France, Germany and US in

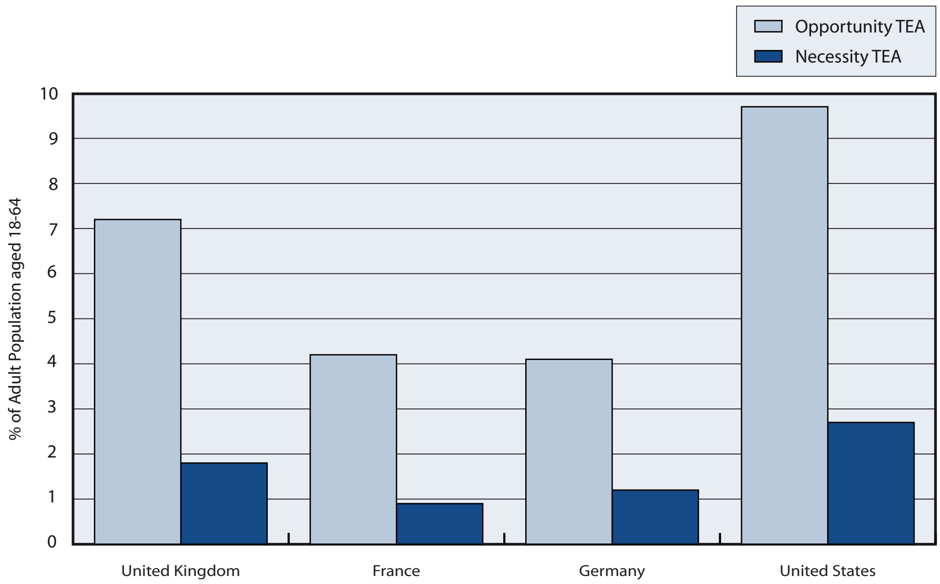


Figure 7: Necessity and opportunity TEA rates in the UK, France, Germany and the US in 2012

(Source: GEM APS 2012)

2012 are presented in Figure 6. In all four countries, levels of necessity TEA in 2012 were lower than levels of opportunity TEA. In the UK, 6.0% of the working age adult population were opportunity-motivated early-stage entrepreneurs, compared with 5.1% in 2010, and 1.8% were identified as necessity-driven early-stage entrepreneurs, up significantly from 0.7% in 2010.

Both the UK necessity and UK opportunity-driven TEA rates lie midway between France and Germany on the one hand and the US on the other, as shown in Figure 7. Figure 8 shows that there was a significant rise in both necessity and opportunity-based nascent entrepreneurial activity in the UK between 2010 and 2011, and also in the necessity-driven nascent entrepreneurial activity rate in 2012.

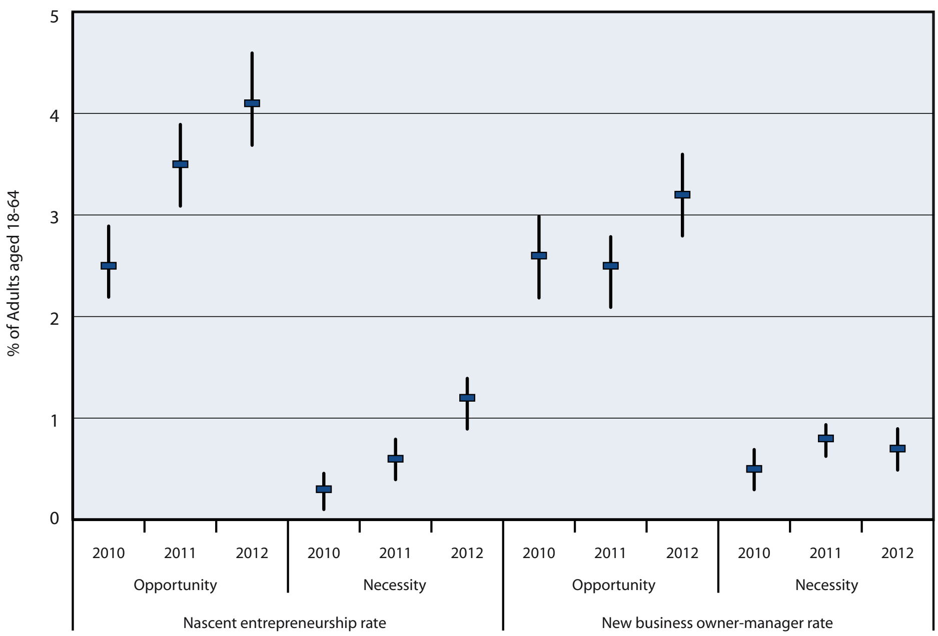


Figure 8: Necessity and opportunity nascent and new business owner-manager rates in the UK showing 95% confidence intervals, 2010, 2011 and 2012

(Source: GEM APS 2010, 2011 and 2012)

3.3 MALE AND FEMALE ENTREPRENEURIAL ACTIVITY COMPARED

Figure 9 presents a summary of Total early-stage Entrepreneurial Activity (TEA) rates for the UK, France, Germany and the US by gender. In most high income countries, men are around twice as likely to be entrepreneurially active as women. But in the US and France in 2012, female TEA rates were around two-thirds of the male TEA rate. In the UK the level of female TEA was 57% that of males, up from 49% in 2011 and 44% in 2010: 7.1% compared to 12.4% for men.

In the US the ratio of female to male TEA in 2012 was 69% compared with 73% in 2011 and 85% in 2010. The gap between UK and US female early-stage entrepreneurial activity narrowed in 2012 as the UK female TEA rate increased significantly from 5.0% to 7.1% but the US female TEA rate remained static at 10.5% (10.4% in 2011). The US male TEA rate also rose marginally from 14.3% to 15.2%, while the male TEA rate rose significantly from 10.2% to 12.4%.

Comparing Figures 9 and 10, the difference in participation rates between men and women is higher among established business owner-managers (EBO) than among early-stage entrepreneurs (TEA) in the UK, France, and the US in 2012. For example, the UK female early stage entrepreneurial activity was 57% of male activity, while female established business ownership at 4.4% was 46% that of males (9.6%). The equivalent ratios for the US are 69% and 64% respectively, but for Germany they are 50% and 68%. France stands out as having low rates of both male and female EBO.

Figure 11 shows that female TEA rates in the UK, like male TEA rates, rose above the long run average in 2012, while rates were more stable in the US, France and Germany.

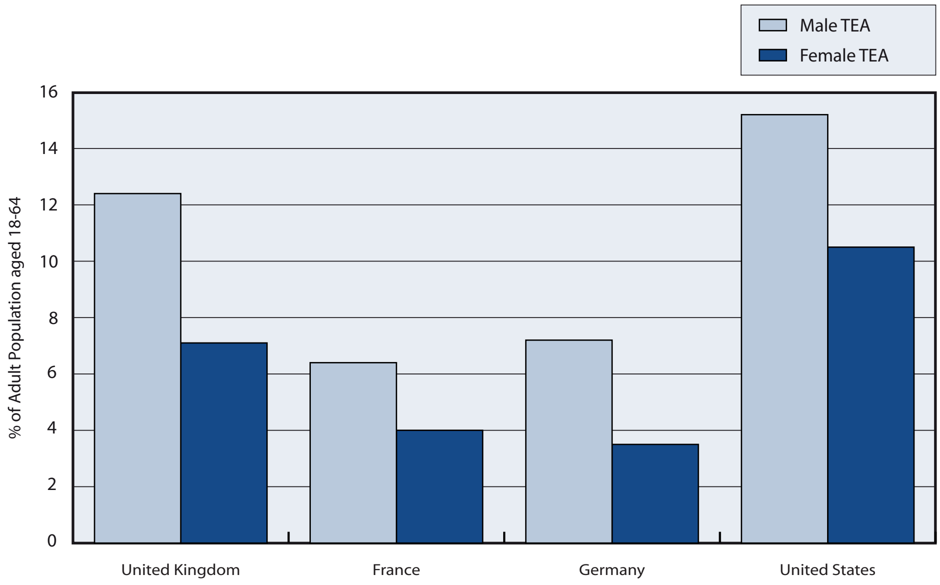


Figure 9: Total early-stage entrepreneurial activity by gender in the UK, France, Germany and the US in 2012

(Source: GEM APS 2012)

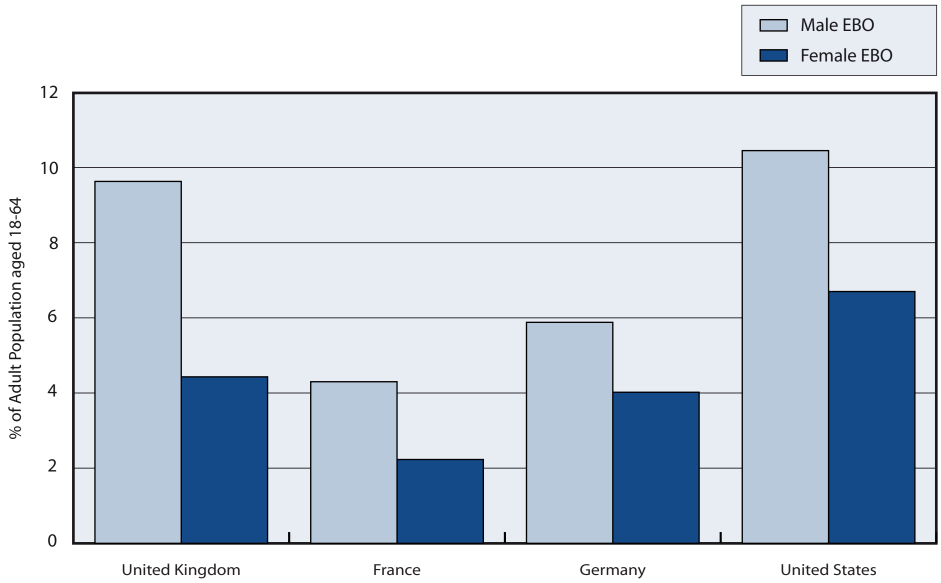


Figure 10: Established business ownership by gender in the UK, France, Germany and the US, 2012
(Source: GEM APS, 2012)

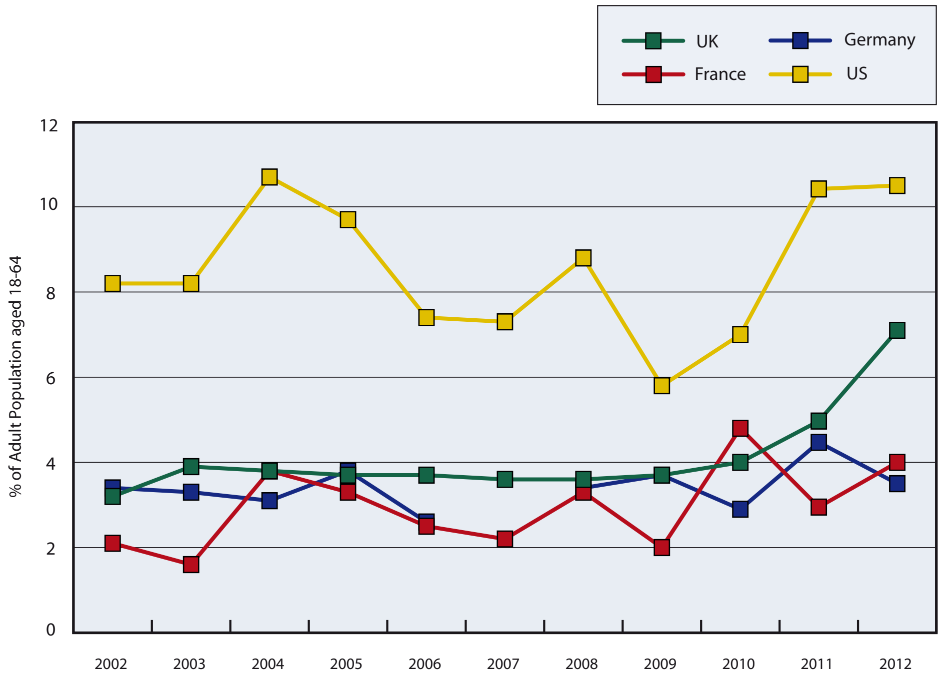


Figure 11: Female early-stage entrepreneurial activity in the UK, France, Germany and the US, 2002-2012
(Source: GEM APS, 2002-2012)

3.4 ENTREPRENEURIAL ACTIVITY IN THE UK HOME NATIONS

Table 6 displays different measures of entrepreneurial activity in the four home nations of the UK for 2012. Together, these measures allow us to assess the degree of dynamism and stability across different parts of the UK.

The proportion of people who expected to start a business in the next three years (intention rate) did not rise significantly in any home nation in 2012, and both the intention rate and nascent entrepreneurship rate was significantly lower in Wales and Scotland than in England. The TEA rate in England rose significantly in 2012 from 7.7% to 10.3% and was also significantly higher than in the other home nations. There was no significant difference between home nations in the new or established business owner-manager rate.

Female early-stage entrepreneurial activity in the UK in 2012 was 5%. Across the home nations, the English female TEA rate was significantly higher than the female TEA rates in Wales and Northern Ireland, while the male English TEA rate was significantly higher than the Scottish male TEA rate. While females had significantly lower TEA rates than males in all home nations, the ratio of female to male early-stage entrepreneurial activity varies markedly across them, as Figure 12 shows. Northern Ireland, as in previous years, has the lowest ratio of female to male TEA rate (33%) which was 24 percentage points lower than in the UK as a whole. England had the highest ratio at 59%, while the ratio for Wales dropped from 60% in 2011 to 39% in 2012[8].

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

Table 6: Measures of entrepreneurial activity in the UK Home Nations, 2012

(Source: GEM APS 2012)

	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	11.9	6.0	4.6	10.3	7.3	1.0	0.7	0.1
Wales	8.8	3.9	3.2	7.0	6.3	1.3	0.9	0.1
Scotland	8.5	3.6	3.5	6.9	5.2	1.2	0.8	0.1
Northern Ireland	9.1	4.3	2.8	7.1	7.1	1.2	1.0	0.1
UK	**11.3**	**5.7**	**4.3**	**9.8**	**7.0**	**1.0**	**0.7**	**0.1**

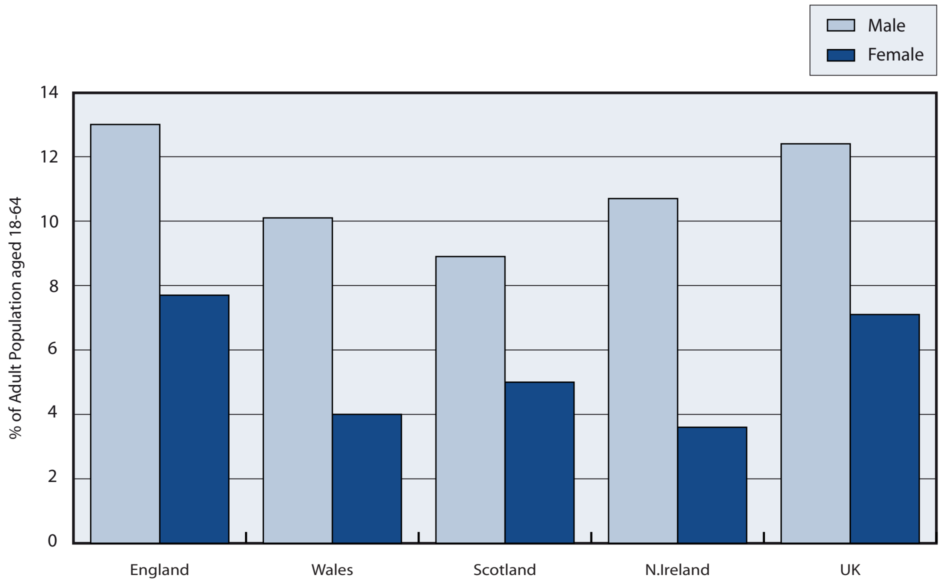


Figure 12: Male and Female Total early-stage Entrepreneurial Activity in the UK Home Nations, 2012
(Source: GEM APS, 2012)

Overall, it is clear that the growth in TEA in the UK between 2011 and 2012 has been mainly in England.

Figure 13 shows that individuals aged between 25-34 years displayed the highest rate of early-stage entrepreneurial activity in England and Northern Ireland in 2012, but in Wales the highest rate was among 18-24 year olds and in Scotland it was 25-34 year olds. The TEA rate in the 25-34 age group was also relatively strong in Wales. The pattern in Wales of a decreasing TEA rate with age is unusual among developed economies, but the TEA rate/age profile in Wales has been gradually moving in this direction for several years.

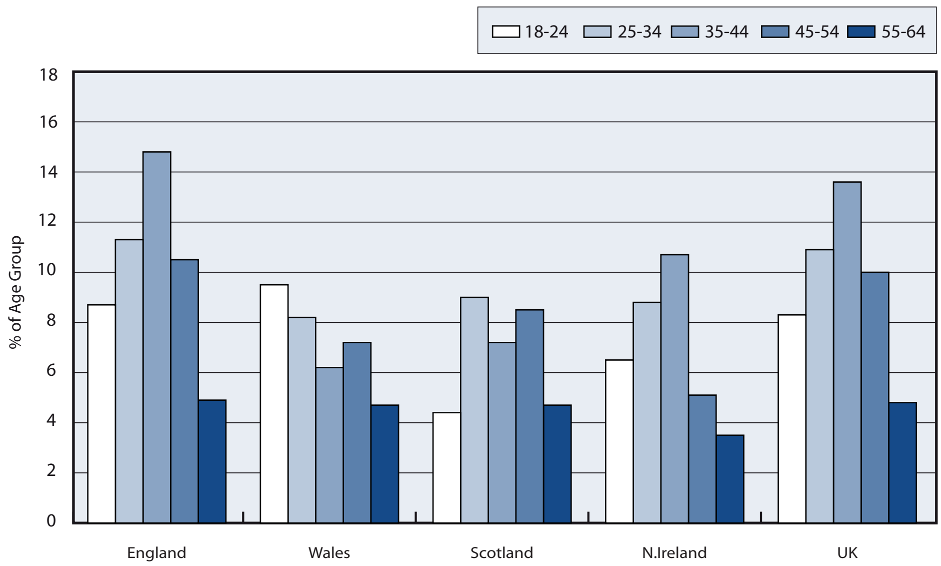


Figure 13: Total early-stage Entrepreneurial Activity in the UK Home Nations by Age Group, 2012
(Source: GEM APS, 2012)

The TEA rate in England for 35-44 year olds was significantly higher in England than it was in either Scotland or Wales, while the only statistically significant difference within a home nation was between 35-44 year olds on the one hand and both 18-24 year olds and 55-64 year olds in England. However, when we group 18 to 29 year olds together, a clear increase in activity is apparent in Wales and more recently in England since the beginning of the financial crisis (Figure 14).

There was little variation across the home nations in the TEA rate among 55 to 64 year olds, with England displaying the highest rate (4.9%) and Scotland (3.5%) the lowest.

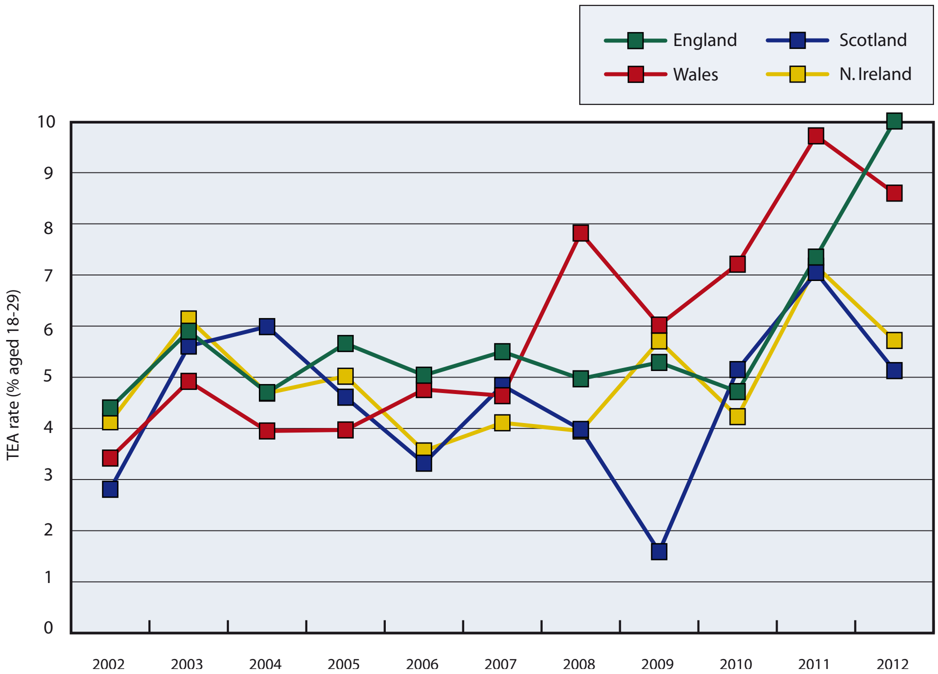


Figure 14: Trend in Total early-stage Entrepreneurial Activity in the UK Home Nations for 18 to 29 year olds, 2002 to 2012

(Source: GEM APS, 2012)

4 ENTREPRENEURIAL ASPIRATION

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 link between entrepreneurial ambition and growth of firms has been highlighted by recent research[9].

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 have created more than ten jobs and who expect more than 50% growth in jobs in the next five years[10]. The results are illustrated in Table 7 for early-stage entrepreneurs (nascent and new business owners) and established business owner-managers. Table 7 also shows the proportion of early-stage entrepreneurs and established business owner-managers who state they operate in new product markets[11], operate in "high" or "medium" technology sectors (according to OECD definitions), and have more than 25% of their customers from outside the country, for the UK, France, Germany and the US.

9 See for example Levie, J. and Autio, E. (2013). Growth and growth intentions- a meta-analysis of existing evidence. Enterprise Research Centre White Paper, April.

10 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.

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

Table 7: Measures of entrepreneurial aspiration in the UK, France, Germany and US, 2012

(Source: GEM APS 2012)

	(% 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 customers outside the country	
	TEA	EBO	TEA	EBO	TEA	EBO	TEA	EBO
UK	**17.1**	**4.7**	**32.1**	**10.7**	**8.1**	**7.2**	**14.9**	**9.5**
France	21.9	0.1	44.9	13.4	10.9	8.8	20.7	8.1
Germany	21.7	4.2	31.8	9.6	8.2	10.1	7.1	9.0
US	21.1	5.1	34.1	18.0	9.0	8.6	8.2	3.3

Seventeen per cent of UK early stage entrepreneurs had high job expectations in 2011; this proportion has changed little since 2007. Figure 15 shows the trend in the relative frequency of high job expectation TEA, i.e. the percentage of TEA entrepreneurs who had high job expectations for the UK, France, Germany and the US, using a three year rolling average presentation that smooths out random fluctuations from year to year due to small sample sizes. It demonstrates that the relative frequency of high job expectation among early-stage entrepreneurs was relatively high in the UK in the early part of the last decade at around 25%, but it steadily declined to stabilise in recent years around 17%. In the US, it has increased slightlyin the past decade. while in Germany it decreased slightly, and in France it doubled to reach 20%.

Figure 16 shows the trend in relative frequency of high job expectation among established business owner-managers, using the same presentation as for Figure 15. Note that the relative frequency of high job expectation among established business owner-managers is around one quarter that of early-stage entrepreneurs. The long term trend is down for the UK and US, towards German levels.

Table 7 shows that in the UK in 2012, 32% of early-stage entrepreneurs reported new product-market creation, around the same as in Germany and the US. In contrast, only 11% of established business owners in the UK reported new product-market creation: around the same as in France and Germany.

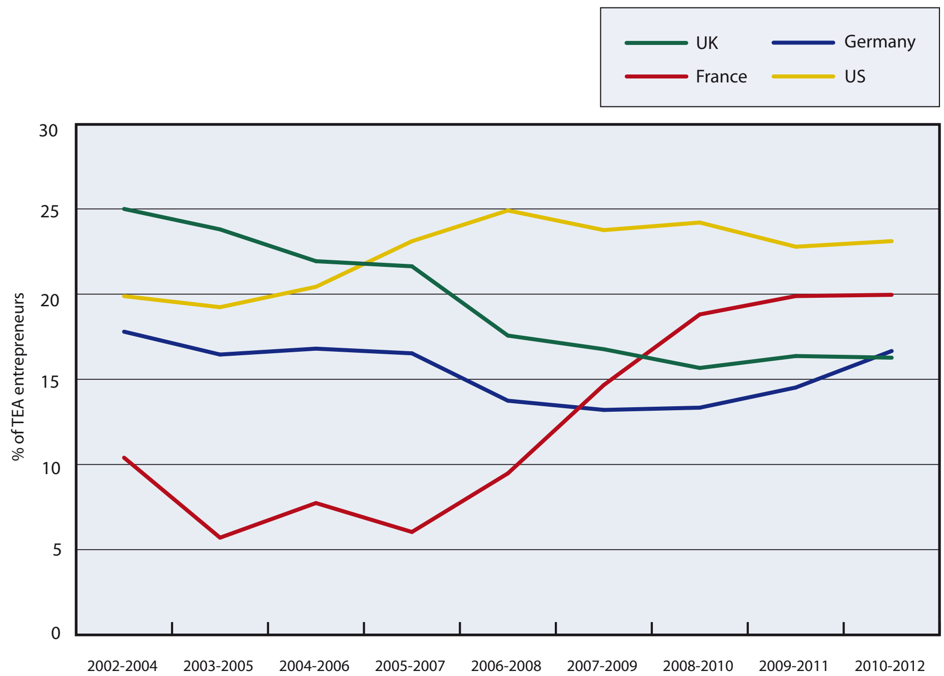


Figure 15: Relative frequency of high job expectation early-stage entrepreneurs in the UK, France, Germany and the US, three year rolling averages, 2002-2005 to 2010-2012

(Source: GEM APS, 2002-2012)

The third variable in Table 7 illustrates the percentage of early-stage entrepreneurs and established business owner-managers who were active in high or medium tech sectors according to OECD definitions[12]. In 2012 the UK had a similar proportion of early-stage entrepreneurs and established business owner-managers in high or medium tech sectors to its benchmark countries: 8% and 7% respectively.

The final variable in Table 7 shows the proportion of early-stage entrepreneurs and established business owners who have (or expect to have, in the case of nascent entrepreneurs) over one in four customers from outside the country. At 15% and 10% respectively, the UK is not out of line with its benchmark nations.

12 GEM collects data for high, medium and low technology sectors according to OECD definitions and also asks if their technology was available one year ago, 2-5 years ago or longer than that. The latter set of variables have been reported in the past but these only give an indication of the newness of the technology in the perception of the respondent. The measure in Table 6 uses OECD definitions of technology.

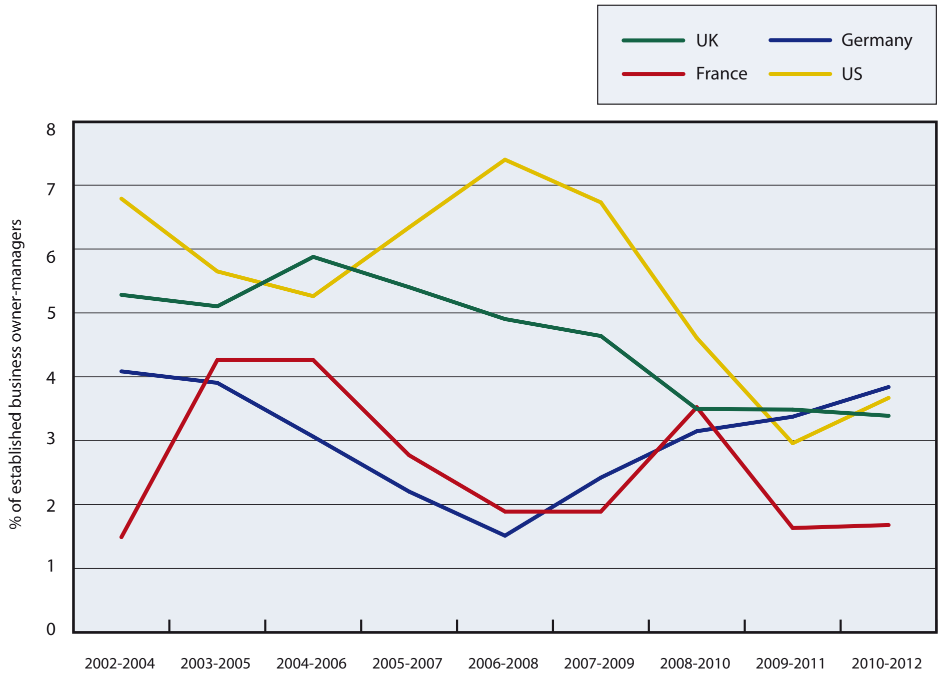


Figure 16: Relative frequency of high job expectation among established business owner-managers in the UK, France, Germany and the US, three year rolling averages, 2002-2005 to 2010-2012
(Source: GEM APS, 2002-2012)

5 ANTICIPATED VERSUS ACTUAL SOURCES OF FUNDING FOR START-UPS

Obtaining funding remains a major issue for many start-up businesses, with over half of nascent entrepreneurs reporting they require external funding. Since 2006, GEM has tracked the mix of funds that nascent entrepreneurs expect to use; sources of funds that they state they have actually used; and, finally those sources which they tried but failed to access.

Table 8 shows trends in expected funding sources for start-ups for the 2006 to 2012 period. Expectation of funding from banks has remained remarkably stable at around one fifth of start-up entrepreneurs. Expectations of funding from individual investors and government programmes appear to have recovered in 2012.

It is instructive to compare the funding expectations of nascent entrepreneurs

	2006	2007	2008	2009	2010	2011	2012
Type of funding expected							
No funding needed	5.0	5.1	5.1	5.0	10.3	6.2	4.4
All funded by entrepreneur	45.8	54.7	51.2	50.7	43.8	47.0	39.0
None funded by entrepreneur	3.5	2.8	2.2	3.9	8.5	4.9	6.7
Close family member (spouse, parent, sibling)	8.0	8.8	12.1	10.1	8.6	3.5	8.9
Other relatives, kin or blood relations	3.7	4.3	8.0	6.0	1.7	2.0	8.2
Work colleagues	7.5	6.1	9.9	6.8	5.0	10.1	8.3
A stranger	4.3	2.2	3.6	3.7	0.7	1.1	5.0
Friends or neighbours	4.7	3.2	6.1	4.5	6.9	2.5	5.6
Banks or other financial institutions	23.5	19.3	18.6	20.0	18.2	18.6	22.3
Government programmes	15.0	12.1	17.2	15.1	17.7	11.1	15.9
Any other source	7.0	6.4	5.9	8.8	5.0	7.2	13.2

Table 8: Percentage of nascent entrepreneurs expecting funding from different sources, 2006 to 2012
(Source: GEM UK APS, 2006 to 2012)

with their experience. Figure 17 shows trends in the sources of finance that nascent entrepreneurs report that they have ever used to fund a business. Changes over the 2006 to 2012 period may reflect changes in funding preferences and in perceived as well as actual availability of funding. Most sources experienced a fall in use between 2009 and 2011, and a recovery, albeit partial, in 2012. This fits the trend in Table 8.

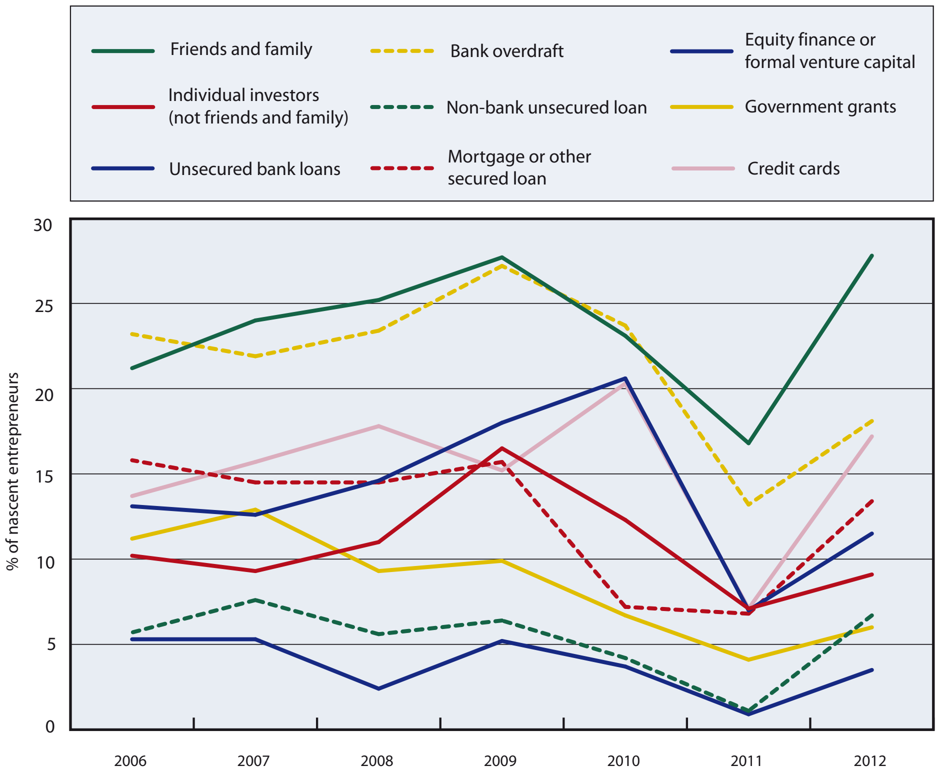


Figure 17: Percentage of UK nascent entrepreneurs who have reported ever using a type of funding for a business, 2006 to 2012

(Source: GEM APS, 2006 to 2012)

Finally, we consider the types of funding that nascent entrepreneurs report they sought *and failed to secure*. Table 9 shows an apparent return to a more "normal" profile in 2011 and 2012 after jumps in refusal rates in 2009 for family and 2010 for unsecured bank loans and overdrafts.

Type of funding sought and refused	2006	2007	2008	2009	2010	2011	2012
Friends and family	4.7	3.0	4.8	10.8	3.1	6.5	6.2
Individual investors (not friends and family)	5.7	2.6	4.5	10.1	3.1	3.6	7.5
Unsecured bank loans	6.8	4.4	6.1	9.5	17.0	4.2	6.9
Bank overdraft	7.8	5.1	5.6	9.4	12.3	4.5	8.0
Non-bank unsecured loan	2.7	1.9	2.7	4.2	3.1	3.5	3.3
Mortgage or other secured loan	4.2	5.5	4.7	4.0	3.1	2.5	4.9
Equity finance or formal venture capital	2.5	2.3	2.1	2.4	1.3	3.0	1.7
Government grants	6.1	8.1	6.1	7.8	7.0	5.7	6.3
Credit cards	4.4	4.6	4.7	4.9	8.4	2.0	6.6
Grants from local authorities or local enterprise organisations	n.a	n.a.	n.a.	n.a.	n.a.	6.1	5.0

Table 9: Percentage of UK nascent entrepreneurs who have reported being refused funding, by type of funding refused, 2006 to 2012
(Source: GEM APS, 2006 to 2012)

These trends fit with recent changes in informal investment, or investment by individuals in other people's new businesses in the last three years shown in Table 10. The informal investment rate fell significantly from 1.6% in 2006 to 1.2% in 2009, but rose to almost 3% in 2010 and remained at 2.6% in 2012, with investment focused more on close family members than friends. This rate is less than half the average rate (6.1%) across 67 participating economies in 2012.

	2006	2007	2008	2009	2010	2011	2012
Informal investment rate							
% aged 18-64 who have invested in someone else's new business in the last 3 years	1.6	1.3	1.4	1.2	2.9	2.4	2.6
Relationship of latest investee (% of latest investments)							
Close family member (spouse, parent, sibling)	48.0	45.9	39.8	41.0	37.0	50.2	57.5
Other relative, kin or blood relations	2.0	5.5	4.5	4.5	7.5	6.2	2.2
Work colleague	9.3	8.9	15.7	8.3	2.2	7.4	8.9
Friend or neighbour	33.7	34.3	32.3	35.5	48.5	28.4	23.4
A stranger with a good business idea	7.0	3.8	7.1	8.6	4.5	7.9	4.1
Other	0.0	1.7	0.6	2.1	0.4	0.0	3.8

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, 2006 to 2012

(Source: GEMUK APS 2006 to 2012)

The contribution of immigrants to the entrepreneurial activity of the UK is significant. Of all innovation-driven economies surveyed by GEM in 2012, the UK had the greatest positive difference between TEA rates of immigrants and TEA rates of those born in their current country of residence[13]. Figure 18 shows that in some countries, notably the US, the immigrant effect is a first generation effect, while in others, for example Germany, the second generation effect may be stronger than the first generation effect. In the UK, TEA rates of first generation immigrants are as high as they are in the US, and the second generation effect seems to be almost as strong as the first generation effect.

TEA rates of first generation immigrants have been higher than of those born in the UK throughout the GEM study, but they have risen faster most recently, as Figure 19 shows.

Further analysis of the UK data revealed two more subtle effects of migrant status. The first is that UK-born individuals who move from one region of the UK to another have significantly higher rates of TEA than UK-born individuals who stay in the same region of the UK all their lives (life-long residents), while immigrants tend to have intermediate TEA rates. This is shown in Figure 20. This finding is robust after controlling for a wide range of demographic variables including ethnic status and it is true for both nascent and new entrepreneurs[14].

13 The effect in Japan was even higher, but this may have been based on a very small sample of immigrants and so we exclude Japan here.

14 Levie, J. and Hart, M. (2011) "The contribution of migrants and ethnic minorities to entrepreneurship in the UK". In: The Dynamics of Entrepreneurial Activity, edited by Maria Minniti. Chapter 3. pp.101-124. UK: Oxford University Press.

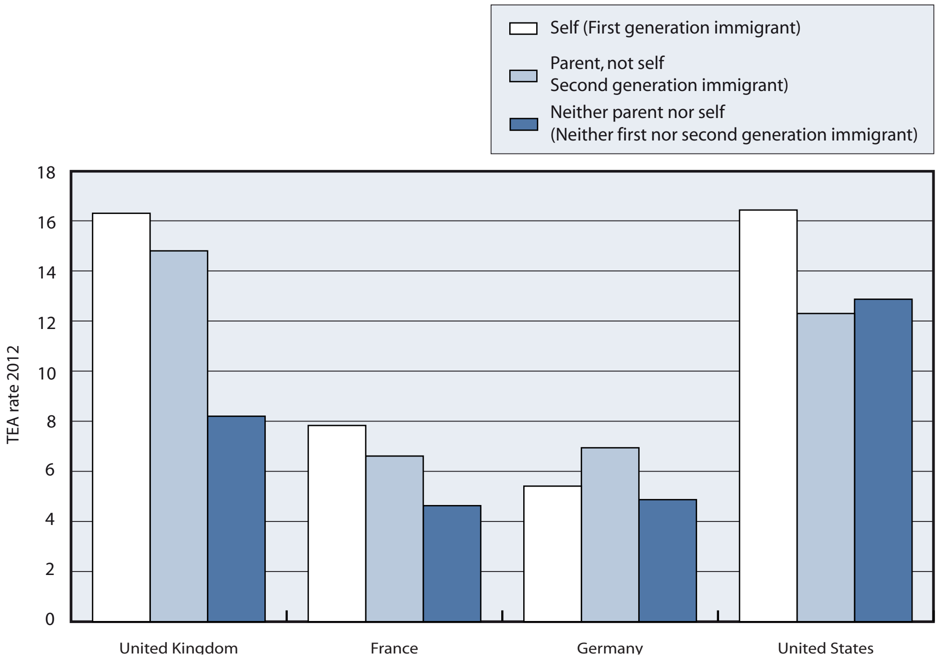


Figure 18: TEA rates among first generation (self) immigrants and second generation (parents, not self) immigrants, first or second generation immigrants, and non-immigrants (neither parent nor self) in G7 countries, 2012

(Source: GEM APS, 2012)

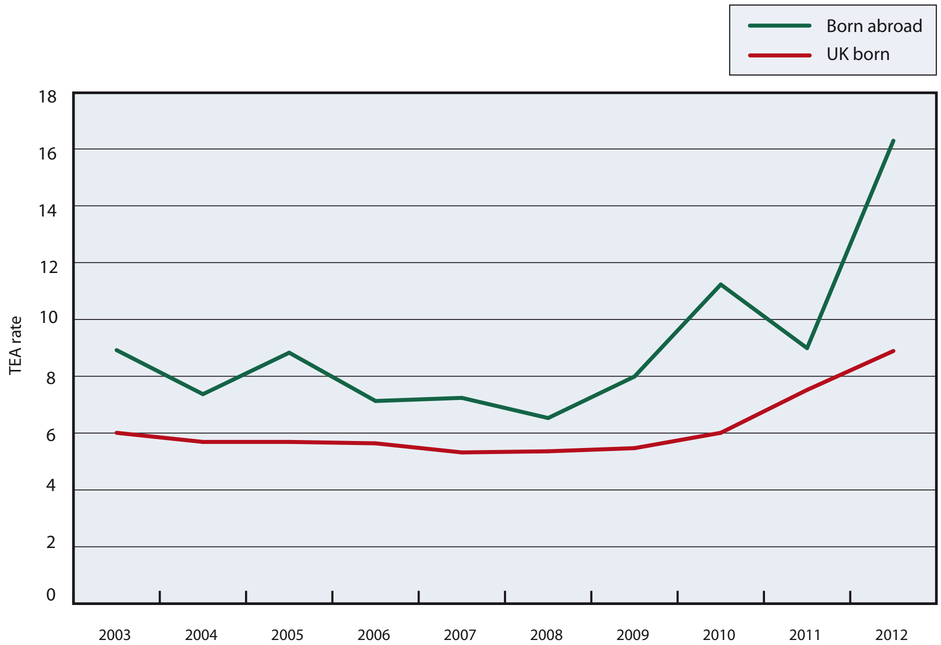


Figure 19: TEA rates among those born abroad (first generation immigrants) and those born in the UK, 2003 to 2012
(Source: GEM UK APS, 2003-2012)

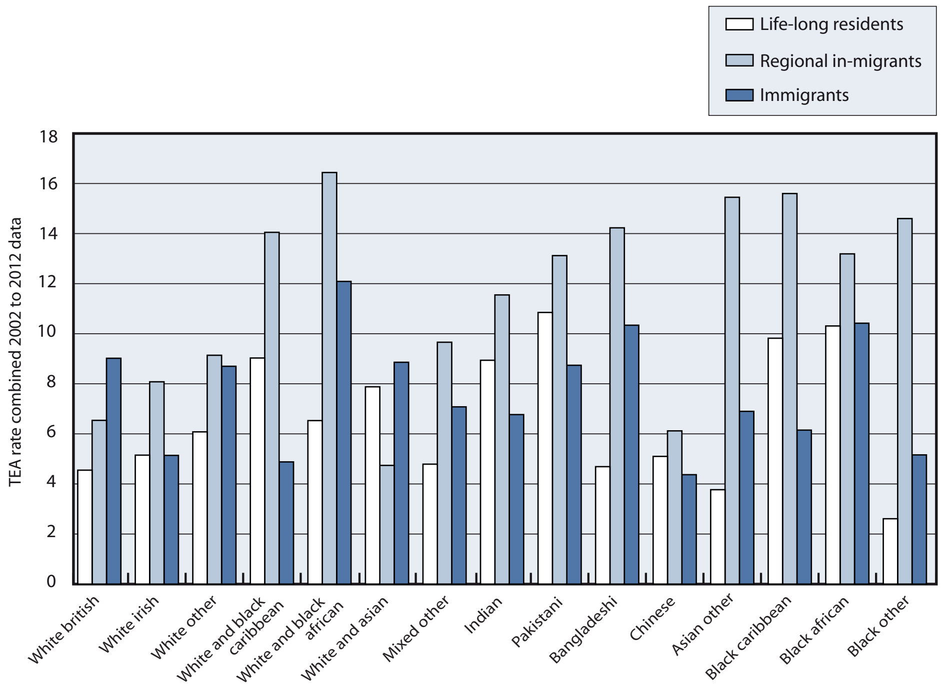


Figure 20: Estimated UK TEA rates by migrant status and ethnicity, combined 2002 to 2012 file
(Source: GEM UK APS, 2002-2012)

The second effect is that the combination of having a parent who was an immigrant and a parent who ran their own business is a powerful predictor of an individual's early-stage entrepreneurial activity. Those with two immigrant parents who were not business owners, or a (non-immigrant) parent who was a business owner had TEA rates that were lower than the immigrant business owner parents group but higher than the group with no parents in business and no more than one immigrant parent. This is shown in Figure 21.

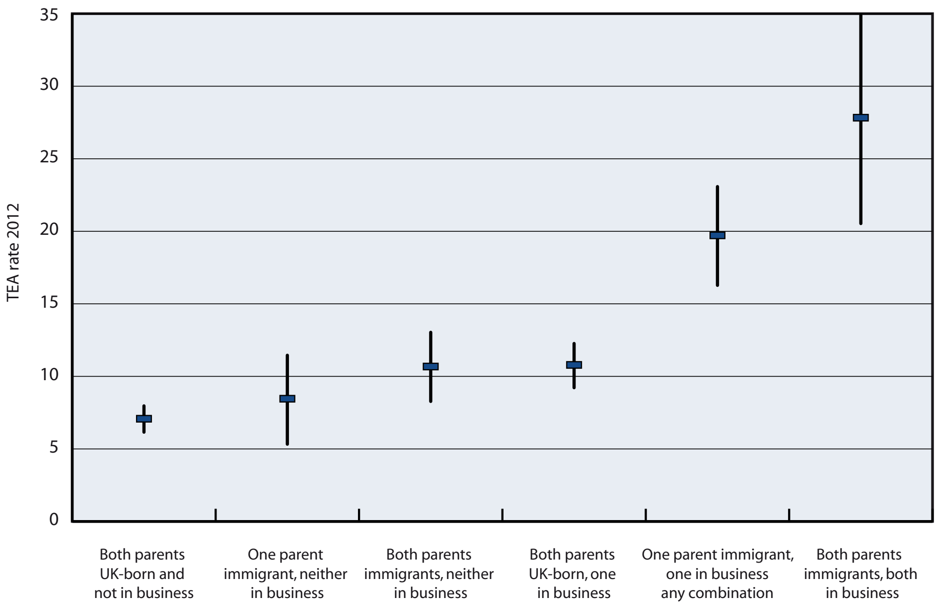


Figure 21: Effect of parent's immigrant status and business ownership on early-stage entrepreneurial activity in UK, 2012 (mean estimates and 95% confidence intervals)

(Source: GEM UK APS, 2012)

These groups also differ in terms of aspirations. Figure 22 shows significant differences between the proportion of individuals in these three groups who are early-stage entrepreneurs and who expect to employ at least 20 people in five years. Expressed another way, five per cent of early-stage entrepreneurs with no immigrant or business parents expect to employ at least 20 people in five years, compared with 12 per cent of early-stage entrepreneurs both of whose parents are immigrants or one of whose parents were business owner managers, and 20 per cent of early-stage entrepreneurs with at least one immigrant parent and at least one who was a business owner-manager.

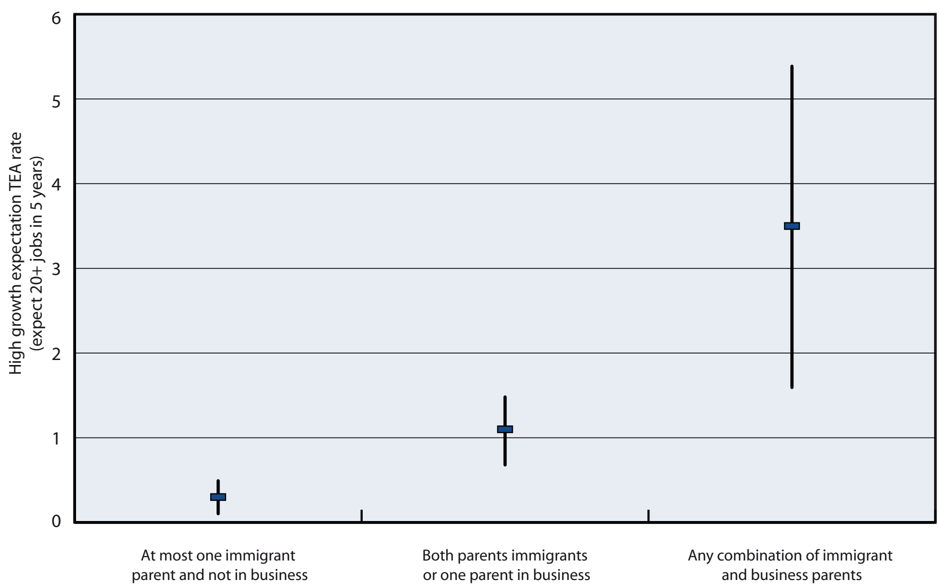


Figure 22: High expectation TEA rate (expect 20+ jobs in 5 years) in UK by parents' immigrant and business ownership status, 2012 (mean estimates and 95% confidence intervals)
(Source: GEM UK APS, 2012)

Conclusion

We suggested last year that 2011 may turn out to be a "break-out" year in terms of early-stage entrepreneurial activity in the UK: the year in which the TEA rate moved above its long run stable rate of around 6% to 7.6%. The increase in the TEA rate in 2012 to 9.8% would seem to have confirmed that break in the long-term trend in early-stage entrepreneurial activity.

For the first time since GEM records began, almost one quarter of working age individuals either intended to start a business within the next three years, were actively trying to start a business, or running their own business. The biggest rises were seen early in the entrepreneurial process, in intention and nascent entrepreneurship. In addition, the long run decline in high job expectation TEA in the UK appears to have been arrested and nascent entrepreneurs' expectations and experiences of funding patterns seem to have recovered substantially.

Attitudes of non-entrepreneurial individuals to entrepreneurship, however, remained wary with fear of failure at historically high levels, and skills perception remaining lower than before the financial crisis. Opportunity perception has risen slightly among non-entrepreneurial men.

As the UK economy continues to recover, it remains to be seen if this historically high level of early-stage entrepreneurial activity will be maintained or if it will mark the high point of a cyclical surge in start-up activity, once larger businesses begin to recruit again and the labour market tightens.

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 2012, 11,191 adults aged 16-80 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, Invest Northern Ireland and Liverpool Vision chose to boost sampling in their region in order to have more detail about entrepreneurship in their region.

The raw sample of 11,191 was distributed across 13 geographic areas within which representative sub-samples of the population aged 16-80 were taken. These areas and the sample sizes are: South West: 302; South East: 487; East of England: 317; West Midlands: 306; East Midlands: 266; Yorkshire & Humberside: 315; North East: 173; Liverpool: 1047; Other North West: 334; Wales: 3008; Scotland: 2150; London: 479; Northern Ireland: 1007. The Scottish sample was paid for by the Hunter Centre for Entrepreneurship from its endowment income.

According to OfCom[15], households in the UK which have access to a mobile phone but not to a fixed telephone landline have grown steadily from 5% in 2000 to 15% in Q1 of 2011, remaining at 15% in Q1 of 2012. To mirror this increase, in 2012, 16% of the unweighted GEM sample across the UK consisted of mobile-only households, compared with 13% in 2011, 10% in 2010 and none in previous years. Meanwhile the decline in the proportion of households with a fixed telephone line has been stable at 84% to 85% from 2010 to 2012. Eurobarometer estimates[16] suggest that in 2009, 20% 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). Increases in entrepreneurial activity again in 2012 are unlikely to be solely due to the slightly higher mobile-only household proportion in the 2012 sample.

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 (e.g. Liverpool).

Government Official Region (GOR) weights that create representative samples at the GOR level from all sub-samples within the same GOR. Eleven out of twelve GORs were not sub-sampled in 2012; North West had one over-sample (Liverpool)[17].

In addition, separate weights were constructed for England, based on balanced GOR samples for each English region, to develop a final "home nations" weight.

15 Source: Ofcom (July 2012) The Communications Market in 2012, Figure 1.41. Available at www.ofcom.org.uk

16 See Special Eurobarometer 335, available at http://ec.europa.eu/public_opinion/archives/ebs/ebs_335_en.pdf

17 In order to minimise the effect of over-samples in sub-regions within North West, a random sample was created from the Liverpool sample to produce a representative sample for North West.

Appendix 2

Additional Tables and Data for Figures

Table 1a: Attitudes towards entrepreneurship in participating G7 countries in 2012 - percentage of total working age population (including the entrepreneurially active) who expressed an opinion and agreed with the statement at the top of the column

(Source: GEM APS 2012. These estimates are comparable with measures used in 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
UK	**32.7**	**34.0**	**46.9**	**42.2**
France	33.8	37.5	35.7	46.7
Germany	24.3	36.2	37.1	49.0
US	28.9	43.4	55.9	37.8

Table 2b: Entrepreneurial attitudes in the UK in 2010, 2011 and 2012 (% respondents aged 18-64 expressing an opinion and agreeing with the statement)

(Source: GEM UK APS, 2010, 2011, 2012. These estimates are comparable with measures used in the 2007 GEM UK report)

	2010	2011	2012	2010	2010	2011	2011	2012	2012
	All	All	All	Male	Female	Male	Female	Male	Female
I personally know someone who has started a business in the last two years	33.6	32.4	32.7	38.3	28.9	35.7	29.0	36.5	28.9
There will be good start-up opportunities where I live in the next six months	29.4	31.1	34.0	32.5	26.5	34.2	28.0	38.6	29.3
I have the skills, knowledge and experience to start a business	52.3	43.9	46.9	61.8	42.8	53.8	34.0	56.7	37.1
Fear of failure would prevent me from starting a business (for those who agree there are good start-up opportunities)	39.5	36.4	42.2	35.8	43.2	32.6	41.0	39.3	45.1
Most people consider that starting a business is a good career choice	52.1	49.8	49.9	52.5	51.7	50.0	49.6	51.6	48.0
Those successful at starting a business have a high level of status and respect in society	76.4	80.4	76.8	77.0	75.8	80.2	80.6	75.8	77.8
You will often see stories about people starting successful new businesses in the media	52.4	45.4	46.5	53.0	51.8	46.7	44.1	49.3	43.7

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
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
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
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
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
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
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
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

Figure 2: Entrepreneurial attitudes and perceptions in the UK, 2002-2012 (% non-entrepreneurial respondents aged 18-64 expressing an opinion and agreeing with the statement)

(Source: GEM UK APS, 2002-2012)

Figure 2a: Attitudes towards entrepreneurship in UK from 2002 to 2012 - percentage of total working age population who expressed an opinion and agreed with the statement at the left of the row

(Source: GEM APS 2002 -2012)

Note: These figures are calculated on the same basis as in GEM UK Report prior to 2008 – that is, for the 18-64 year 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
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
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
I have the skills, knowledge and experience to start a business	46	48.3	50.3	50.9	49.6	48.5	49.0	52.4	52.3	43.9	46.9
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
Most people consider that starting a business is a good career choice	n.a.	51.7	54.3	54.3	54.4	54.7	51.7	48.1	52.1	49.8	49.9
Those successful at starting a business have a high level of status and respect in society	n.a.	71.6	72.1	71.7	72.7	73.6	73.8	73.8	76.4	80.4	76.8
You will often see stories about people starting successful new businesses in the media	n.a.	55.6	56.1	54.6	55.0	56.7	53.2	45.9	52.4	45.4	46.5

Table 3a: Attitudes towards entrepreneurship in UK regions in 2012 - percentage of total working age population who expressed an opinion and agreed with the statement at the top of the column

(Source: GEM APS 2012)

	England	Wales	Scotland	Northern Ireland	United Kingdom
I know someone who has started a business in the last 2 years	33.2	30.5	30.5	27.5	32.7
There are good start-up opportunities where I live in the next 6 months	35.5	24.4	29.7	22.0	34.0
I have the skills, knowledge and experience to start a business	47.5	46.7	42.7	42.0	46.9
Fear of failure would prevent me from starting a business	41.5	44.2	44.3	53.1	42.2
Most people consider that starting a business is a good career choice	50.0	48.5	50.2	45.4	49.9
Those successful at starting a business have a high level of status and respect in society	76.3	77.3	79.9	78.2	76.8
You will often see stories about people starting successful new businesses in the media	46.7	42.7	46.0	48.4	46.5

Table 3b: Good Opportunities for Start-up in the local area in next 6 months - in UK from 2002 to 2012 - percentage of non-entrepreneurially active working age population who expressed an opinion and agreed with the statement

(Source: GEM APS 2002 -2012)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	% change 2002-12	% change 2010-12
England	26.4	31.5	33.4	36.5	34.1	36.3	26.8	23.5	27.7	28.5	31.8	20	12
Wales	21.1	29.7	30.7	31.8	28.6	30.4	19.6	20.4	21.8	25.3	22.6	7	-11
Scotland	23.3	34.1	33.4	28.6	33.6	36.1	33.1	21.2	25.4	28.2	26.6	14	-6
N. Ireland	24.8	29.0	32.2	32.8	32.9	39.0	21.8	16.5	15.9	24.1	19.7	-21	-18
UK average	25.8	31.6	33.2	35.4	33.8	36.1	26.9	23.0	26.8	28.2	30.5	18	8

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
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
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
Nascent entrepreneur	2.1	3.0	2.9	2.7	2.7	2.7	2.6	2.5	2.9	4.1	5.3
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
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
Total	100	100	100	100	100	100	100	100	100	100	100

Figure 3: Participation in entrepreneurship in the UK by most established stage of entrepreneurial activity, 2002 to 2012
(Source: GEMUK APS 2002 to 2012)

Figure 3a: Participation in entrepreneurship in the UK by stage of entrepreneurial activity (percentage of working age population), 2002 to 2012
(Source: GEMUK APS 2002 to 2012)

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
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
New business owner/manager	3.1	3.2	2.9	3.1	2.8	2.7	2.9	3.2	3.4	3.4	4.3
Nascent entrepreneur	2.5	3.5	3.2	3.2	3.2	3.0	2.8	2.7	3.2	4.2	5.7
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
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

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
UK	5.44	6.42	5.84	6.04	5.82	5.58	5.53	5.77	6.47	7.59	9.78
France	3.23	1.62	6.04	5.35	4.40	3.17	5.64	4.35	5.83	5.73	5.2
Germany	5.16	5.2	5.07	5.39	4.20		3.77	4.10	4.17	5.62	5.3
US	10.51	11.94	11.33	12.44	10.00	9.61	10.76	7.96	7.59	12.34	12.8

Figure 4: Total early-stage Entrepreneurial Activity (TEA) in the UK, France, Germany and US (2002-2012)
(Source: GEM Global Adult Population Survey (APS) 2002-2012)

	Age group				
	18-24	25-34	35-44	45-54	55-64
United Kingdom	8.3	10.9	13.6	10.0	4.8
France	3.2	8.5	6.4	4.9	1.8
Germany	3.8	7.9	8.5	3.1	3.2
US	10.1	14.1	16.5	12.4	10.2

Figure 5: Total early-stage Entrepreneurial Activity (TEA) in the UK, France, Germany and US by Age Group (2012)
(Source: GEM Global Adult Population Survey (APS) 2012)

	18-24	25-34	35-44	45-54	55-64	Total
2010	3.3%	10.3%	7.9%	6.0%	3.7%	6.5%
2011	6.2%	9.4%	8.7%	7.5%	5.5%	7.6%
2012	8.3%	10.9%	13.6%	10.0%	4.8%	9.8%

Figure 6: Total early-stage Entrepreneurial Activity (TEA) in the UK by Age Group, 2010 to 2012
(Source: GEM Global Adult Population Survey (APS) 2010, 2011, 2012)

	Opportunity TEA	Necessity TEA
United Kingdom	7.2	1.8
France	4.2	0.9
Germany	4.1	1.2
US	9.7	2.7

Figure 7: Necessity and opportunity entrepreneurship the UK, France, Germany and US in 2012
(Source: GEM APS 2012)

Figure 8: Necessity and opportunity nascent and new business owner-manager rates in the UK showing 95% confidence intervals, 2010, 2011 and 2012
(Source: GEM APS 2010, 2011 and 2012)

	Nascent entrepreneurship rate						New business owner-manager rate					
	Opportunity			Necessity			Opportunity			Necessity		
	2010	2011	2012	2010	2011	2012	2010	2011	2012	2010	2011	2012
High	2.9	3.9	4.6	0.4	0.8	1.4	3.0	2.8	3.6	0.7	0.9	0.9
Low	2.2	3.1	3.7	0.1	0.4	0.9	2.2	2.1	2.8	0.3	0.6	0.5
Mean	2.5	3.5	4.1	0.3	0.6	1.2	2.6	2.5	3.2	0.5	0.8	0.7

Figure 9: Early stage entrepreneurial activity by gender in the UK, France, Germany and US in 2012
(Source: GEM APS 2012)

	Male TEA	Female TEA
United Kingdom	12.4	7.1
France	6.4	4.0
Germany	7.2	3.5
US	15.2	10.5

Figure 10: Established business ownership by gender in the UK, France, Germany and US, 2012
(Source: GEM APS 2012)

	Male EBO	Female EBO
United Kingdom	9.63	4.43
France	4.3	2.23
Germany	5.88	4.02
US	10.45	6.7

Figure 11: Female entrepreneurial activity in the UK, France, Germany and US, 2002-2012
(Source: GEM APS, 2002-2012)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
UK	3.2	3.9	3.8	3.7	3.7	3.6	3.6	3.7	4.0	5.0	7.1
France	2.1	1.6	3.8	3.3	2.5	2.2	3.3	2.0	4.8	3.0	4.0
Germany	3.4	3.3	3.1	3.8	2.6		3.4	3.7	2.9	4.5	3.5
US	8.2	8.2	10.7	9.7	7.4	7.3	8.8	5.8	7.0	10.4	10.5

	Male TEA	Female TEA	Ratio Female to Male TEA
England	13.0	7.7	59%
Wales	10.1	4.0	39%
Scotland	8.9	5.0	56%
N. Ireland	10.7	3.6	33%
UK	12.4	7.1	57%

Figure 12: Male and Female Total early-stage Entrepreneurial Activity in the UK Home Nations, 2012
(Source: GEM APS 2012)

	18-24	25-34	35-44	45-54	55-64
England	8.7	11.3	14.8	10.5	4.9
Wales	9.5	8.2	6.2	7.2	4.7
Scotland	4.4	9.0	7.2	8.5	4.7
N. Ireland	6.5	8.8	10.7	5.1	3.5
UK	8.3	10.9	13.6	10.0	4.8

Figure 13: Total early-stage Entrepreneurial Activity in the UK Home Nations by Age Group, 2012
(Source: GEM APS 2012)

Figure 14: Total early-stage Entrepreneurial Activity in the UK Home Nations, for 18 to 29 year olds, 2002 to 2012
(Source: GEM APS, 2002-2012)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
England	4.4	5.9	4.7	5.7	5.0	5.5	5.0	5.3	4.7	7.4	10.0
Wales	3.4	4.9	4.0	4.0	4.8	4.6	7.8	6.0	7.2	9.7	8.6
Scotland	2.8	5.6	6.0	4.6	3.3	4.8	4.0	1.6	5.1	7.0	5.1
N. Ireland	4.1	6.1	4.7	5.0	3.6	4.1	3.9	5.7	4.2	7.2	5.7

	3 Year Rolling Average								
	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012
UK	25.0%	23.8%	21.9%	21.6%	17.6%	16.8%	15.7%	16.4%	16.3%
France	10.4%	5.7%	7.7%	6.0%	9.5%	14.7%	18.8%	19.9%	20.0%
Germany	17.8%	16.5%	16.8%	16.5%	13.7%	13.2%	13.3%	14.5%	16.7%
US	19.9%	19.2%	20.4%	23.1%	24.9%	23.8%	24.2%	22.8%	23.1%

Figure 15: Relative frequency of high job expectation early-stage entrepreneurs in the UK, France, Germany and the US, three year rolling averages, 2002-2005 to 2009-2012.
(Source: GEM APS, 2002-2012)

Figure 16: Relative frequency of high job expectation among established business owner-managers in the UK, France, Germany and the US, three year rolling averages, 2002-2005 to 2009-2012.
(Source: GEM APS, 2002-2012)

	3 Year Rolling Average								
	2002-2004	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012
UK	5.3%	5.1%	5.9%	5.4%	4.9%	4.6%	3.5%	3.5%	3.4%
France	1.5%	4.3%	4.3%	2.8%	1.9%	1.9%	3.5%	1.6%	1.7%
Germany	4.1%	3.9%	3.1%	2.2%	1.5%	2.4%	3.1%	3.4%	3.8%
US	6.8%	5.6%	5.3%	6.3%	7.4%	6.7%	4.6%	3.0%	3.7%

	Type of funding ever sought						
	2006	2007	2008	2009	2010	2011	2012
Friends and family	21.2	24.0	25.2	27.7	23.1	16.8	27.8
Individual investors (not friends and family)	10.2	9.3	11.0	16.5	12.3	7.1	9.1
Unsecured bank loans	13.1	12.6	14.6	18.0	20.6	7.0	11.5
Bank overdraft	23.2	21.9	23.4	27.2	23.7	13.2	18.1
Non-bank unsecured loan	5.7	7.6	5.6	6.4	4.2	1.1	6.7
Mortgage or other secured loan	15.8	14.5	14.5	15.7	7.2	6.8	13.4
Equity finance or formal venture capital	5.3	5.3	2.4	5.2	3.7	0.9	3.5
Government grants	11.2	12.9	9.3	9.9	6.7	4.1	6
Credit cards	13.7	15.7	17.8	15.2	20.3	7.1	17.2

Figure 17: Percentage of UK nascent entrepreneurs who have reported ever using a type of funding for a business, 2006 to 2012

(Source: GEM APS, 2006 to 2012)

Figure 18: TEA rates among first generation (self) immigrants and second generation (parents, not self) immigrants, first or second generation immigrants, and non-immigrants (neither parent nor self) in G7 countries, 2012

(Source: GEM APS, 2012)

	Self (First generation immigrant)	Parent, not self (Second generation immigrant)	Neither parent nor self (Neither first nor second generation immigrant)
United Kingdom	16.3	14.8	8.2
France	7.8	6.6	4.6
Germany	5.4	6.9	4.9
United States	16.4	12.3	12.9

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Born abroad	8.9	7.4	8.8	7.1	7.2	6.5	8.0	11.2	9.0	16.3
UK born	6.0	5.7	5.7	5.6	5.3	5.4	5.5	6.0	7.5	8.9

Figure 19: TEA rates among those born abroad (first generation immigrants) and those born in the UK, 2003 to 2012

(Source: GEM UK APS, 2003-2012)

	Life-long residents	Regional in-migrants	Immigrants
White British	4.6	6.5	9.0
White Irish	5.2	8.1	5.1
White other	6.1	9.1	8.7
White and black Caribbean	9.0	14.0	4.9
White and black African	6.5	16.4	12.1
White and Asian	7.9	4.7	8.9
Mixed other	4.8	9.7	7.1
Indian	8.9	11.5	6.8
Pakistani	10.8	13.1	8.7
Bangladeshi	4.7	14.2	10.3
Chinese	5.1	6.1	4.4
Asian other	3.8	15.5	6.9
Black Caribbean	9.8	15.6	6.1
Black African	10.3	13.2	10.4
Black other	2.6	14.6	5.2

Figure 20: Estimated UK TEA rates by migrant status and ethnicity, combined 2002 to 2012 file

(Source: GEM UK APS, 2002-2012)

	Both parents UK-born and not in business	One parent immigrant, neither in business	Both parents immigrants, neither in business	Both parents UK-born, one in business	One parent immigrant, one in business any combination	Both parents immigrants, both in business
High	7.9	11.5	13.1	12.3	23.1	35.0
Low	6.2	5.4	8.3	9.3	16.3	20.7
Mean	7.1	8.5	10.7	10.8	19.7	27.8

Figure 21: Effect of parent's immigrant status and business ownership on early-stage entrepreneurial activity in UK, 2012 (mean estimates and 95% confidence intervals)

(Source: GEM UK APS, 2012)

	At most one immigrant parent and not in business	Both parents immigrants or one parent in business	Any combination of immigrant and business parents
High	0.5	1.5	5.4
Low	0.1	0.7	1.6
mean	0.3	1.1	3.5

Figure 22: High expectation TEA rate (expect 20+ jobs in 5 years) in UK by parents' immigrant and business ownership status, 2012 (mean estimates and 95% confidence intervals)

(Source: GEM UK APS, 2012)

University of Strathclyde Business School

Aston Business School

GEM