



Global Entrepreneurship Monitor

Scotland **2007/8**





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Whilst this work is based on data collected by the GEM consortium, responsibility for analysis and interpretation of those data is the sole responsibility of the authors.



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Foreword

GEM Scotland marks an important point in Scotland's future as we face the results of an unprecedented global economic meltdown.

At this point the pendulum of financial support for entrepreneurs and businesses has not yet stopped its swing. The fear for all of us building businesses is that it goes too far and viable businesses and ideas are stopped before they are started.

Given the UK Government owns a substantial portion of our major banks it is important a reasonable balance of lending is provided to viable business proposals as they grow in difficult circumstances.

At its heart economic recovery will be delivered by business and small businesses and their growth has never been so important to Scotland's economic wellbeing. For that reason, local authorities, now responsible for enterprise service delivery, need to step up to supporting those business in their area – we're watching.

GEM Scotland delivers a critique of our entrepreneurial culture, we need to keep pushing out the boundaries and extending the reach of enterprise education as we have said too many times before.

Culturally as failure has prevailed around the globe, the last thing Scotland needs is to take a retrograde step back towards a fear of failure.

With the exception of a few, we have all suffered in the past couple of years – the only way we will move forward is with a positive outlook, hard graft and the willingness to learn from our collective mistakes. Together we can and we will build a strong and vibrant Scottish economy, where opportunity prevails for all.

Yours Aye

Tom

Sir Tom Hunter

Introduction

What's new in GEM Scotland

2007/08?

- GEM Scotland 2007/08 has nine years of data to draw on, with around 2000 individuals aged between 16 and 80 interviewed each year. In the UK in 2007, only those aged 16 to 64 were sampled and the total size of the 2007 GEM UK sample was 42,713. In 2008, 32,007 individuals aged between 16 and 80 were interviewed.
- In early 2009 a harmonization of the complete UK database from 2002 to 2008 was undertaken, enabling pooling of data and the creation of maps of entrepreneurial activity in Scotland at NUTS2 and NUTS3 (local authority) level.
- New questions in the 2007 and 2008 surveys enable identification of home-based businesses.
- Training in starting a business was taken as the first annual special topic in GEM in 2008. Together with slightly different questions asked on this topic in 2007, this data provides a broad picture of the extent and impact of training in entrepreneurship in the UK and Scotland.

In 2008, the Global Entrepreneurship Monitor (GEM) cross-national assessment of entrepreneurial activity completed its tenth cycle. GEM is a major research project aimed at describing and analysing entrepreneurial processes within a wide range of countries. In particular, GEM focuses on three main objectives:

- To measure differences in entrepreneurial attitudes, activity and aspiration between countries
- To uncover factors which underpin these differences
- To identify policies that may enhance entrepreneurial activity.

To this end, the project has from the start been designed as a multinational research programme providing annual assessments of the entrepreneurial sector for a range of countries.

GEM's contribution to the knowledge and understanding of the entrepreneurial process is unique since, to date, no other data set exists that can provide consistent cross-country information and measurements of entrepreneurial activity in a global context. Information about GEM and all GEM documents can be found at www.gemconsortium.org¹.

GEM started in 1999 with ten participating countries and the project has expanded to include 42 countries in 2007 and 43 countries in 2008. In 2008, the GEM model was refreshed (see Appendix 1) and the importance of a country's level of economic development was recognised, using the World Economic Forum categorization of factor-driven, efficiency-driven and innovation-driven economies.

Factor-driven Economies²

Angola, Bolivia, Bosnia and Herzegovina, Colombia, Ecuador, Egypt, India, Iran.

Efficiency-driven Economies

Argentina, Brazil, Chile, Croatia, Dominican Republic, Hungary, Jamaica, Latvia, Macedonia, Mexico, Peru, Romania, Russia, Serbia, South Africa, Turkey, Uruguay.

Innovation-driven Economies

Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Republic of Korea, Netherlands, Norway, Slovenia, Spain, United Kingdom, United States.

The Entrepreneurial Process

GEM views entrepreneurship as a process rather than as an event. An important manifestation of entrepreneurship (though not the only one) is new business activity. GEM collects data on the proportion of individuals in a country that are expecting to start a business, are actively trying to start a business, are running their own young business, are running their own established business, and who have recently closed a business.

Nascent entrepreneurs are those individuals, between the ages of 18 and 64 years, who have taken some action towards creating a new business in the past year. In order to qualify in this category, these individuals must also expect to own a share of the business they are starting and the business must not have paid any wages or salaries for more than three months.



New business owners are individuals who are active as owner-managers of a new business that has paid wages or salaries for more than three months, but less than 42 months.

In addition to those individuals who are currently involved in the early stages of a business, there are also many individuals who have owned and managed a business for a longer time. These individuals are included in GEM's estimates of the number of established business owners.

These two measurements are both very important, as they convey different information about the entrepreneurial landscape of a country. Early-stage entrepreneurship indicates the dynamic entrepreneurial propensity of a country. In other words, it shows the percentage of the population willing and able to undertake an entrepreneurial venture. Established business ownership, instead, indicates the percentage of the population actively involved in running businesses that proved to be sustainable.

Key Findings of GEM2008 Global report

Entrepreneurial Attitudes

- An overall decline in the proportion of people perceiving good opportunities to start a business in their local area was observed in 2008 compared with 2007, which had had the highest level of opportunity perception since 2001. The average decline was stronger in efficiency-driven economies than in innovation-driven economies.

- Fear of failure rose in 2008 in efficiency-driven and innovation-driven countries, mirroring the decline in opportunity perception.

- There was no significant change in skills perception either in efficiency-driven or innovation-driven economies in 2008 on 2007.

Entrepreneurial Activity

- In most factor-driven economies, high rates of necessity entrepreneurship boost overall early-stage entrepreneurial activity and established business activity rates. Angola, currently in recovery from civil war, has a low established business activity rate and high business discontinuation rate.

- Among efficiency-driven countries, a clear distinction can be made between Latin American countries with relatively high early-stage entrepreneurial activity and Eastern European countries with relatively low rates.

- Among innovation-driven economies, the US continues to have higher rates of early-stage entrepreneurial activity than EU countries or Japan. The Japanese rate has gradually increased in recent years and in 2008 was around the EU average. Some EU countries, most notably Belgium, France and Germany, consistently have the lowest rates of entrepreneurial activity levels.

Entrepreneurial Aspirations

- High-growth expectation entrepreneurial activity varies widely between countries, as



does the relative prevalence of this activity within early-stage entrepreneurial activity as a whole. The United States, New Zealand, Iceland and Canada have the highest levels of high-growth expectation entrepreneurial activity in innovation-driven economies. The lowest levels are in Belgium, France, Spain, Japan, Finland and Greece.

Entrepreneurship, Institutions and Development

- Following a detailed examination in the 2007 report of global economic institutions that affect entrepreneurial activity, the 2008 report introduced a newly constructed index of entrepreneurship that combines GEM measures on attitudes, activity and aspirations with other economic indicators that concentrate more on institutional differences between countries. The index correlates strongly with the per capita wealth of countries, indicating that a combination of certain types of entrepreneurial activity and certain types of context is associated with certain levels of economic development.
- Around one-fifth of respondents had received training in starting a business on average, but this proportion varied widely by country. In innovation-driven countries, it varied from 48% in Finland to 13% in Israel.
- Almost 10% of respondents on average had engaged in self-directed learning, such as reading or observing or working in other people's businesses, but this also varied widely by country.
- Rates of early-stage entrepreneurial activity among those who had received compulsory training were around three-quarters of the rate of those who received voluntary training.
- The "yield" to training varied from 1.5 times the untrained rate for compulsory training in factor-driven countries to 2.5 times the untrained rate for voluntary training in innovation-driven countries.

GEM Special Topic 2008: Education and Training

- The 2008 GEM Executive report contained the first of an annual series of special topic chapters. This year the topic was entrepreneurship education and training.
- The relationship between training in starting a business and entrepreneurial attitudes, activity and aspirations is generally positive, but varies by phase of economic development.

1 GEM's research methodology and procedures are described in Reynolds, P.D., N. Bosma, E. Autio, S. Hunt, N. DeBono, I. Servais, P. Lopez-Garcia and N. Chin (2005), "Global Entrepreneurship Monitor: Data Collection Design and Implementation 1998–2003", *Small Business Economics* 24: 205–231. Most of the information in this chapter is taken from the 2008 GEM Executive Report available from www.gemconsortium.org.

2 Phases of economic development are decided on the level of GDP per capita and the extent to which countries are factor-driven in terms of the shares of exports of primary goods in total exports. See Porter, M.E. and Schwab, K. (2008), *The Global Competitiveness Report 2008-2009*, Geneva, Switzerland: World Economic Forum.

Summary Highlights for GEM Scotland 2007 and 2008

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- Scotland's Total Early-Stage Entrepreneurial Activity (TEA) rate in 2008 was 4.4%, very close to the 2007 estimate of 4.6% and the second-lowest rate of any UK region in both years. This compares with UK rates of 5.6% in 2008 and 5.5% in 2007. The rate of female to male TEA, at 39%, was the second lowest of any UK region, higher only than Northern Ireland (31%).
- Opportunity perception in Scotland in 2008 among those not engaged in entrepreneurial activity was not significantly different from 2007. In every other UK region, declines of between 5% and 17% were recorded in opportunity, and across the world there were similar general declines in opportunity perception.
- Scotland had the lowest percentage of adults who knew someone who had started a business in the last two years of any UK region, with a rate of 22%, compared with a UK average of 26% and a high of 30% in London. In international terms, the Scottish figure rate of interaction with entrepreneurs remains very low.
- 58% of all nascent and new businesses in Scotland and in the UK operate or expect to operate from home. Home-based businesses are smaller on average than office-based businesses, less productive in terms of sales per employee, and start with less capital. However, they are just as likely to export as office-based businesses. They are more likely to be sole traders than companies, are over-represented in construction and under-represented in consumer services. Home-based entrepreneurs work less hours and are more likely to manage the business on their own.
- Entrepreneurial attitudes, activity and aspirations vary widely across Scotland. Activity is highest in remote rural regions and the capital city, Edinburgh. Regions around Glasgow and Edinburgh tend to have the lowest levels of entrepreneurial attitudes, activity and aspirations. This coincides with stocks of existing business owner-managers across Scotland, and with the proportion of in-migrants and immigrants in a region.
- Both general training in business or enterprise and specific training in starting a business had no detectable effect among GEM survey respondents on start-up propensity if they took place in school but did have a positive effect if they took place after school, such as in college or university. Placements in small or medium-sized businesses while at school or college had moderate but significant positive effects on opportunity recognition and start-up skills perception, while general "business or enterprise" training at college or university had a stronger positive effect on start-up skills self-perception.
- In September 2007, the Scottish Government announced that responsibility for local enterprise programme delivery to all except the highest potential new businesses would be transferred from Scottish Enterprise to local authorities, who would have responsibility for delivering on the Government's targets for increasing the business start-up rate. 2008 was focused on implementing this major change in delivery.
- This year's GEM report raises several issues for enterprise education policy. Enterprise education is now embedded through primary and secondary schools in Scotland. Yet UK-wide GEM data suggests that, for today's generation of working age adults, both general enterprise training and specific start-up training while at school, whether voluntary or compulsory, has had no significant independent effect on start-up propensity, once other factors such as individual characteristics and previous business experience are controlled for. Conversely, both voluntary and compulsory training after school, either in general enterprise or business skills or specifically to start a business, more than double the odds that an individual will be starting or running a new business.
- Most businesses start and operate from the entrepreneur's home. Yet model tenancy agreements for social housing in Scotland contain conditions that prohibit tenants from starting a business from home without written permission – and reserve the right to raise the rent if permission is granted. Given that local authorities now have responsibility for delivering growth in business start-ups, this disincentive seems anomalous.

Entrepreneurial Business Attitudes, Activity and Aspirations in Scotland: 2007/08 Update

This chapter follows the refreshed GEM model, as discussed in Chapter 1 and outlined in Appendix 1, in reporting measures of entrepreneurial attitudes, activity and aspirations in Scotland in 2007 and 2008. Where relevant, comparisons are made with the UK, Arc of Prosperity countries, and other nations, and with measures in previous years.

Entrepreneurial Attitudes

In 2007, the GEM Executive Report began to report attitudes to entrepreneurship among the non-entrepreneurially-active population – those who were not nascent, new or established business owner-managers. The reason for this is that it could be argued that the views of entrepreneurs might mask the views of those who were potential entrepreneurs.

Table 3.1 displays historical trends of entrepreneurial attitudes following this new protocol. It shows that opportunity perception fell between 2007 and 2008 in the UK and Arc of Prosperity countries (Iceland, Denmark, Finland, Ireland, and Norway)¹, but not in Scotland, and for the first time since GEM began opportunity

perception rates were higher in Scotland than in the UK. In every other UK region, declines of between 5% and 17% were recorded in opportunity, and across the world there were similar general declines in opportunity perception. At the time the data was collected, the South East of England was beginning to anticipate the credit crunch. Scotland was slower to anticipate and feel the effects of the impending recession.

Table 3.1 shows that skills perception tends to be higher among non-entrepreneurs in Scotland than in Arc of Prosperity countries, but considerably fewer non-entrepreneurially active Scots know an entrepreneur or perceive good opportunities to start a business than their peers in Arc of Prosperity countries. Scotland had the lowest percentage of adults who knew someone who had started a business in the last two years of any UK region in both 2007 and 2008². London had the highest rate: 30%, but this is still significantly lower than the typical rate in Arc of Prosperity countries. Fear of failure rates are similar in Scotland, the UK and Arc of Prosperity countries.

Table 3.1: Entrepreneurial attitudes among non-entrepreneurial individuals in the Scottish, UK and Arc of Prosperity adult population samples, 2002 to 2008 (% agree with statement)

Source: GEM Scotland and UK Surveys

Item	Know someone who started a business in past 2 years			Good opportunities for starting a business in the next 6 months			Fear of failure would prevent me starting a business (among those who see opportunities)			Have knowledge, skills to start a business		
	Scot	UK	AOP	Scot	UK	AOP	Scot	UK	AOP	Scot	UK	AOP
2002	19	21	46	23	26	44	40	37	33	38	41	31
2003	23	22	50	34	32	41	37	36	38	41	43	31
2004	26	24	43	33	33	43	36	36	36	47	46	36
2005	25	25	44	29	35	52	33	36	36	42	46	36
2006	25	25	44	34	34	52	33	37	39	45	45	36
2007	22	22	44	33	35	55	31	38	34	40	45	35
2008	20	24	43	33	27	41	34	38	35	41	44	36



Entrepreneurial Activity

In 2007 and 2008, representative samples of the working age population (aged 18-64) were surveyed in 43 countries. Figures 3.1 and 3.2 show the estimates of Total early-stage Entrepreneurial Activity (TEA) in each of the nations participating in GEM2007 and GEM 2008, including Scotland. TEA measures the proportion of nascent and new business owner/managers in the population of working age adults. In Figure 3.1, the countries are ordered first by income, then for middle and low income countries by world region, then in order of TEA rate. In Figure 3.2, the countries are ordered first by income level within the three bands recognised by the World Economic Forum (WEF: see Chapter 1), then by TEA rate, following the adoption of the WEF categories by the GEM 2008 Executive Report. In "innovation-driven" nations such as Scotland, stimulating innovation and entrepreneurship should be a focus of government attention, according to the World Economic Forum's 2008/09 Global Competitiveness Report³.

If the vertical bars on either side of the point estimates for TEA for any two countries do not overlap, they have statistically different TEA rates⁴. Figure 3.1 shows how TEA rates tend to be highest in Latin America and Asia and low in Europe. Figure 3.2 shows how TEA rates tend to decline as income per capita rises, but vary considerably between nations with similar levels of wealth. As wealth increases in a country, the absolute and relative proportion of necessity-based entrepreneurship declines, but

Figure 3.1: National 2007 TEA rates for 43 sovereign nations and Scotland

Source: GEM Scotland and UK Surveys

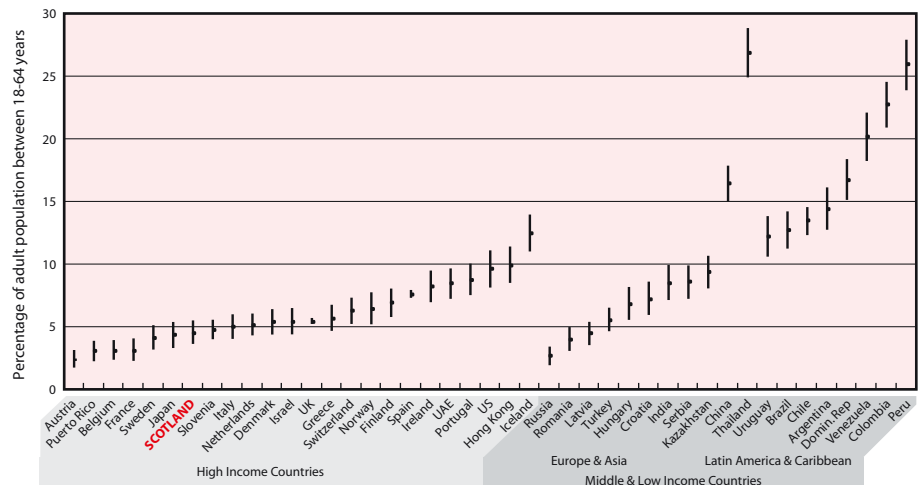
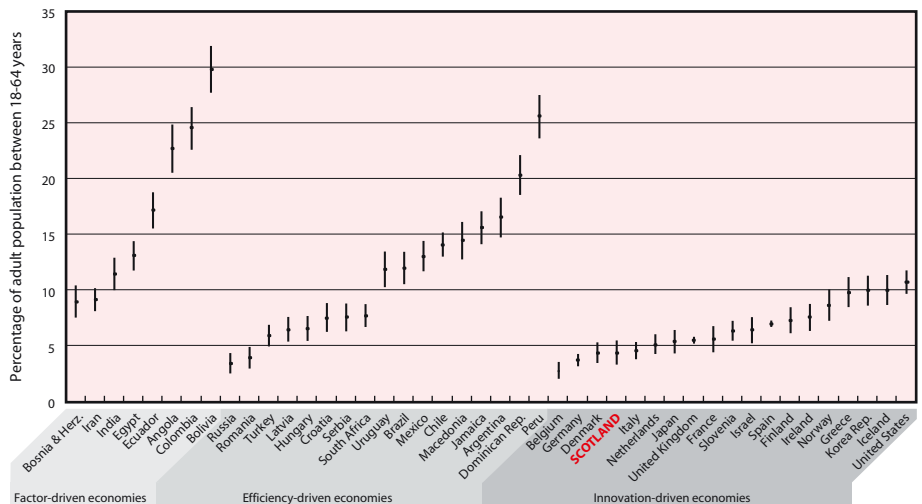


Figure 3.2: National 2008 TEA rates for 43 sovereign nations and Scotland

Source: GEM Scotland and UK Surveys



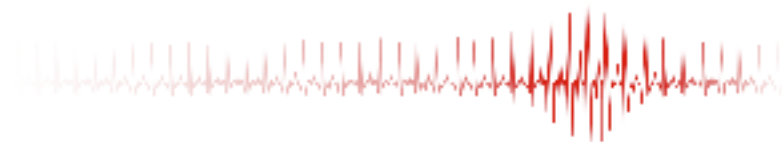


Table 3.2: Scottish and benchmark TEA rates, 2007 and 2008

Source: GEM Scotland and UK Surveys

	TEA		% change	Scottish TEA as a % of other TEA rates	
	2007	2008		2007	2008
Scotland	4.6	4.4	-4%	n/a	n/a
UK	5.5	5.6	2%	84%	79%
High income/innovation-driven nations	6.2	6.7	9%	74%	66%
Small high income nations	7.9	7.6	-3%	58%	58%

the economic importance of opportunity-based entrepreneurship increases.

Scotland ranked in the third quartile of high income countries in 2007 and the fourth quartile of innovation-driven countries in 2008. Only one high income nation (Austria) had TEA rates significantly below that of Scotland statistically in 2007; no innovation-driven nation had a significantly lower TEA rate than Scotland in 2008.

Table 3.2 benchmarks the TEA rate for Scotland for 2007 and 2008 against the UK, participating "Arc of Prosperity" nations and all 16 high income/innovation-driven nations participating in both GEM 2007 and 2008⁵. The Scottish TEA rate estimate remained the same between 2007 (4.6%) and 2008 (4.4%), slightly but not significantly higher than the 2006 estimate of 4.2% in 2006. Because of the size of the Scottish sample, these annual estimates are not significantly different from the UK TEA rate estimates of 5.5% for 2007 and 5.6% in 2008. However, as Figure 3.3 shows, since 2002 the Scottish rate has remained around 80 to 85% of the UK rate, except for 2006 when it was significantly lower at 72% of the UK rate. It has also remained around 60% the average rate of Arc of Prosperity nations.

Figure 3.3: TEA rates for Scotland and the UK, 2002 to 2008, showing 95% confidence intervals and sample sizes

Source: GEM Scotland and UK Surveys

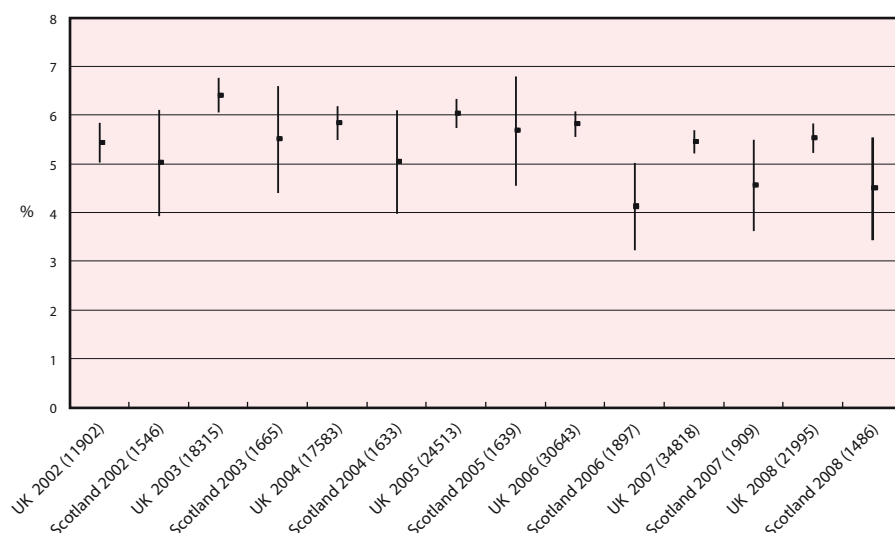


Table 3.3 shows four types of entrepreneurial activity rates for Scotland, the UK and Arc of Prosperity countries from 2002 to 2008. No significant time trend is evident except that the churn rate (the ratio of the business closure rate to the TEA rate) appears to have risen in 2008

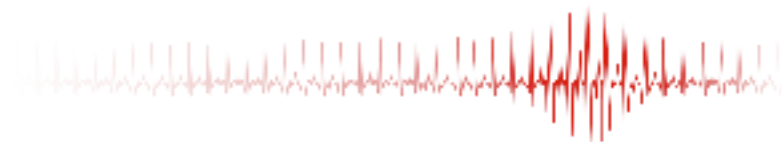


Table 3.3: Entrepreneurial activity in the Scottish and UK adult population samples, 2002 to 2008 (% agree with statement)

Source: GEM Scotland and UK Surveys

Item	I expect to start a business in the next 3 years (%)			Total early-stage Entrepreneurial Activity (TEA) rate (%)			Established Business Owner-manager (EBO) rate (%)			I have shut down a business in the last 12 months (%)		
	Scot	UK	AOP	Scot	UK	AOP	Scot	UK	AOP	Scot	UK	AOP
2002	5.9	6.7	11.9	5.0	5.4	8.0	4.4	5.6	7.7	1.3	1.7	2.2
2003	6.8	8.0	10.9	5.5	6.4	7.9	5.3	5.7	7.4	1.4	2.0	2.3
2004	6.5	8.6	11.4	5.0	5.8	7.6	4.8	4.7	6.5	1.6	1.8	2.1
2005	6.2	8.7	11.7	5.7	6.0	7.9	4.1	5.1	7.1	1.6	1.9	2.3
2006	5.8	7.9	11.1	4.1	5.8	7.6	4.2	5.3	6.9	1.6	2.0	2.2
2007	5.2	6.8	11.5	4.6	5.5	7.9	4.6	5.8	7.5	1.3	2.1	2.4
2008	5.1	6.8	10.6	4.5	5.5	7.6	5.5	6.0	7.2	1.2	2.1	2.9

Note: Numbers in bold denote significant differences between Scottish and UK samples in the same year

in Arc of Prosperity countries and over the 2005 to 2008 period in the UK.

Start-up intention and early-stage entrepreneurial activity in Scotland fluctuated from around 70% to around 90% of the UK rate between 2002 and 2008, with an average intention rate of 78% the UK rate and a TEA rate of 85% the UK TEA rate. The average established business owner-manager rate ratio was 85%, but the closure rate ratio was lower at 74% the UK rate. Activity rates in Scotland tend to be around one half (for the intention rate) to two thirds (TEA, EBO and business closure rate) the rate of Arc of Prosperity countries. These ratios all point to a less dynamic population of entrepreneurs in Scotland than in the UK and Arc of Prosperity countries. This is consistent with the differences in attitudes described above.

Entrepreneurial Aspirations

Table 3.4 shows estimates of how aspirational Scots early-stage entrepreneurs are compared with their peers in the UK and Arc of Prosperity

countries. Equivalent data for three measures of entrepreneurial aspiration are available for three years. On organizational growth aspiration, around one quarter fewer Scots appear to aspire to grow their businesses than their peers in the UK or Arc of Prosperity countries. The difference is smaller when aspiration is measured as the proportion of entrepreneurs whose product or service is new to all or most customers and where there is little or no competition. There is no difference in the proportion of entrepreneurs in

Table 3.4: Entrepreneurial aspirations in the Scottish, UK and Arc of Prosperity nations adult population samples, 2002 to 2008 (% agree with statement)

Source: GEM Scotland and UK Surveys

Item	High Job Expectation (% of TEA entrepreneurs expect greater than ten jobs and growth > 50% in five years)			New Product Market (% of all TEA entrepreneurs)			High or Medium technology sectors (% of all TEA entrepreneurs)		
	Scotland	UK	AOP	Scotland	UK	AOP	Scotland	UK	AOP
2006	9.1	19.8	16.2	18.0	22.0	23.8	7.4	9.3	9.5
2007	18.0	16.5	16.2	22.9	19.7	24.2	5.3	9.4	9.3
2008	11.2	15.2	19.8	20.0	22.0	25.0	13.7	12.0	10.1
Average	12.8	17.2	17.4	20.3	21.2	24.3	8.8	10.2	9.6

Note: Numbers in bold denote significant differences between Scottish and UK samples in the same year



Figure 3.4: Scottish Male and Female TEA rates 2002 – 2008

Source: GEM Scotland and UK Surveys

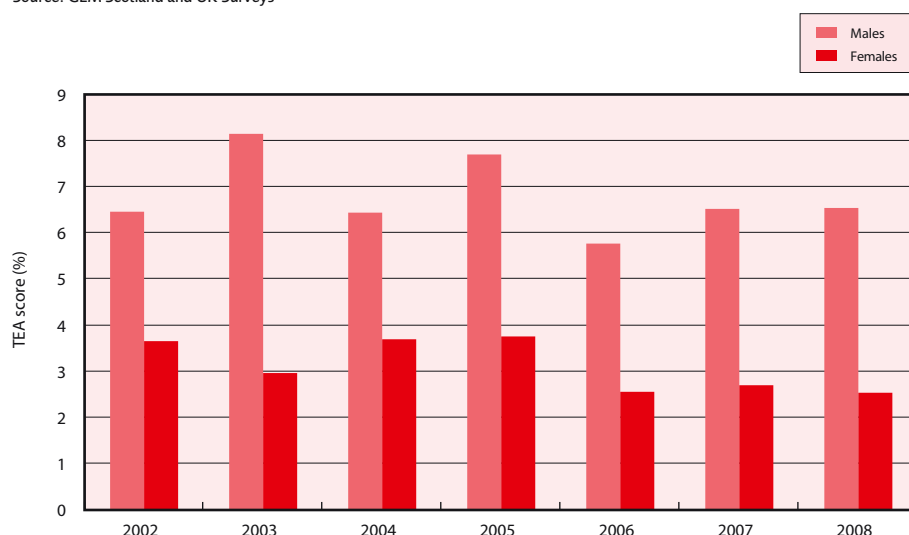
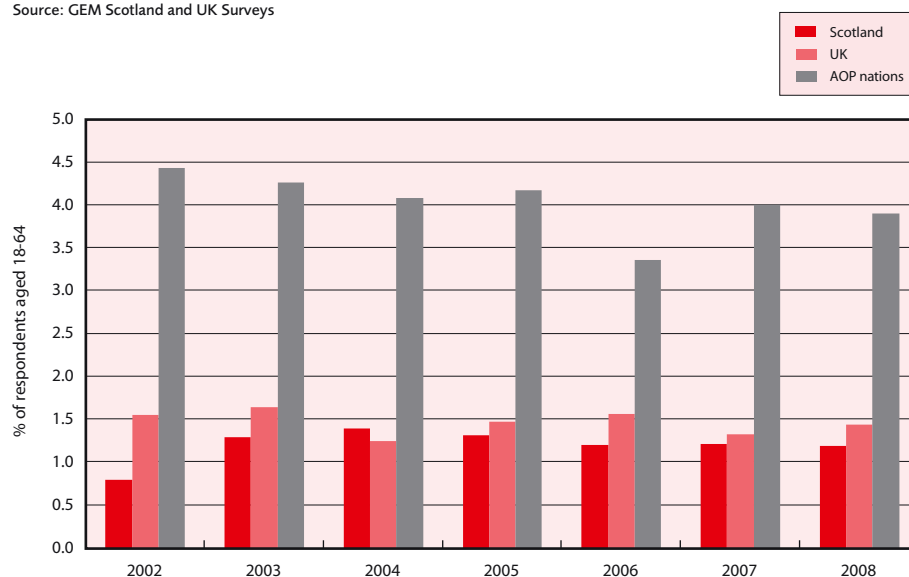


Figure 3.5: Informal Investment rate in Scotland, UK and Arc of Prosperity nations, 2002-2008 (% of respondents aged 18-64 who invested in someone else's new business in the last three years)

Source: GEM Scotland and UK Surveys



Scotland, the UK and Arc of Prosperity countries who are in medium or high technology sectors.

Social Entrepreneurial Activity

GEM UK has been testing measures of Social Entrepreneurial Activity, or SEA for several years. SEA is defined as the proportion of people aged 18-64 who are actively trying to start a social enterprise or running a social enterprise that has been operating a service or receiving funding for less than 42 months. Social entrepreneurial activity is defined as any kind of social, community or voluntary venture, activity or initiative. This might include providing subsidised or free training, advice or support to individuals or organisations, profit-making activity, but where profits are used for socially-oriented purpose, or self-help groups for community action. The SEA rate for Scotland in 2008 was 1.2%, around half that estimated in previous GEM reports. However, it is more comparable to the way TEA is measured; SEA rates for previous years may have been over-estimated. The equivalent SEA rate for the UK on 2008 was 1.7%. The male and female SEA rates were not significantly different at 1.1% and 1.3% respectively. The UK SEA male and female SEA rates were also similar at 1.8% and 1.6%.

Distribution of entrepreneurial activity by gender

Figure 3.4 shows the trend in Scottish TEA rates between male and females for 2002 to 2008. Male TEA rates were significantly higher than female rates in every year except 2002 and 2004 during this period. The point estimate of TEA for females in 2008 at 2.5 is the lowest since recording began in 2000.



Informal Investment in Scottish new business

Figure 3.5 shows that investment by working age adults in other people's start-up businesses is around three times more frequent in Arc of Prosperity countries than in the UK or Scotland. Scottish informal investment rates are about 30%, and UK rates are about 37%, the rate of Arc of Prosperity countries. This is a much greater difference than the difference in TEA rates, and greater than the difference in social connections with entrepreneurs in the UK and particularly in Scotland shown in Table 3.1. This difference appears to be very stable across the period.

Conclusion

Entrepreneurial activity has remained at a relatively low level in 2007 and 2008, although opportunity perception in Scotland did not drop in 2008, contrary to trends in other parts of the UK and in Arc of Prosperity countries. Scotland's exposure to the global financial crisis only became clear after the GEM survey was completed in the summer of 2008. Recession has opposing effects on entrepreneurship. First, general opportunity perception may decline as economic sentiment declines. Then, human and physical resources become more freely available and well-educated, experienced people who have been made redundant discover they have a chance to create their own innovative business in an environment where large competitors are focused on their own survival. If they seize the chance, new startups can help drive a recovery in employment and economic activity.

1 "Arc of Prosperity" is a term used by the Scottish Government to describe small, high income, independent nations that surround Scotland in an arc from Ireland to the west, Iceland to the North, and Norway, Sweden, Finland and Denmark to the east. There is a modest and highly significant correlation between population size and necessity entrepreneurship ($R=0.50$, $p<0.01$, 37 nations, GEM2002 data) but not with opportunity entrepreneurship. High income nations have different entrepreneurial activity to middle or low income nations (see the 2004 GEM Global Report). Thus by comparing Scotland with these nations, we avoid the population and income effect, and we can learn from policy measures implemented on a similar scale to Scotland. As Sweden did not participate in GEM in 2008, it is not included here.

2 For further comparisons of Scotland and other regions of the UK, see the GEM United Kingdom 2008 Report, available at www.gemconsortium.org

3 Porter, M.E. and Schwab, K. (2008), The Global Competitiveness Report 2008-2009, Geneva, Switzerland: World Economic Forum.

4 "Statistical significance" refers to a calculation of where the range within which the average value of 95 out of 100 replications of the survey would be expected to lie. This range is shown in Figures 3.1 and 3.2 by vertical bars on either side of each data point. If the 'confidence intervals' (denoted by the vertical bars) of two national TEA rates do not overlap, the difference between the TEA rates is not statistically significant at the 0.05 level. Reference in this report to significant differences implies statistically significant difference at the 0.05 level.

5 Belgium, Denmark, Finland, France, Greece, Iceland, Ireland, Israel, Italy, Japan, Netherlands, Norway, Slovenia, Spain, United Kingdom, United States.

Home-based businesses

Table 4.1: Distribution of early-stage entrepreneurs and established business owner-managers in Scotland and the UK, by business location (% , combined 2007 and 2008 GEM sample)

Source: GEM UK 2007 and 2008 adult population survey

	Early-stage		Established	
	Scotland	UK	Scotland	UK
% Home based	58	58	60	59
% Separate premises	36	33	35	35
% Mobile service	6	9	5	7
Total	100	100	100	100
No. entrepreneurs in sample	153	3039	167	3232

One of the most significant features of the present post-industrial era is the breakdown of the sharp distinction between spaces of work and home. The home is increasingly becoming a place of work rather than a respite from it. This trend is clearly reflected in the entrepreneurial economy, with more businesses started in the home than from separate premises. Indeed, it has never been easier to start a business from home. Information and communication technology are becoming ever more powerful, access to open source software is increasing, the internet enables e-commerce and collaborations between individuals who are geographically separate, and virtually every business function can now be outsourced. Even more significantly, the home is not simply a temporary location. The majority of home based businesses continue to operate from home as they mature. Hence, any discussion of

entrepreneurial activity has to recognise that the home is, and will continue to be, the most popular business start-up location.

Numerical significance and sector distribution

In Scotland, 58% of early-stage entrepreneurs (nascent entrepreneurs and new business owner managers) in 2007 and 2008 based their business in their own home. This is the same proportion as for the UK as a whole. One third of these early-stage entrepreneurs operated from separate business premises and 9% were mobile services (and so presumably operating *from* their home). The proportions for established business owners are almost identical: see Table 4.1.

Because office-based businesses tend to have more owner-managers than home-based

businesses, the proportion of home-based businesses is slightly larger than the proportion of home-based entrepreneurs.

In comparison to businesses with separate premises, home based early-stage businesses are more common in transforming industries, and specifically in construction rather than manufacturing, and business services and considerably less common in consumer services, than office-based businesses. For both home and office-based businesses, extractive businesses, such as farming and fishing, are less common in early-stage businesses than in established businesses, while consumer-oriented businesses are more common as Table 4.2 shows. Because of the small size of the Scottish sample, not too much should be read into small differences in industry sector proportions between Scotland and the UK.

Table 4.2: Industry sector distribution across early-stage and established owner-managed businesses in Scotland and the UK, by business location (%)

Source: GEM UK 2007 and 2008 adult population survey

	Early-stage						Established					
	Scotland			UK			Scotland			UK		
	Your home	A separate premises	It is a mobile service	Your home	A separate premises	It is a mobile service	Your home	A separate premises	It is a mobile service	Your home	A separate premises	It is a mobile service
Extractive	5	2	11	5	1	4	12	1	0	9	2	4
Transforming	30	12	16	23	13	28	34	34	35	41	30	30
Business serv	38	19	42	35	25	31	32	17	41	30	26	28
Consumer oriented	27	67	32	37	61	38	22	48	24	20	41	38
Total	100	100	100	100	100	100	100	100	100	100	100	100
Original sample size (number of entrepreneurs)	132			2645			157			3045		

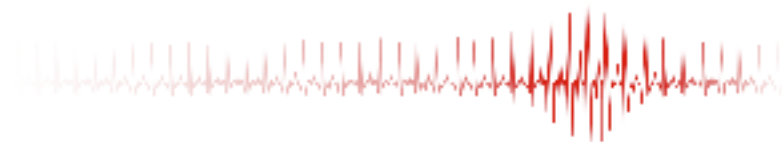


Table 4.3: Distribution of early-stage entrepreneurs by location and age group

Source: GEM UK 2007 and 2008 adult population survey

Age group	Early-stage entrepreneurs						Established business owner/managers					
	Scotland			UK			Scotland			UK		
	home	premises	mobile	home	premises	mobile	home	premises	mobile	home	premises	mobile
% 18-24	1	18	0	6	8	12	0	9	0	0.4	2	0
% 25-34	32	22	22	25	20	30	8	5	0	8	6	10
% 35-44	26	18	33	29	35	32	25	19	33	24	32	36
% 45-54	25	35	33	25	27	17	33	42	44	31	33	34
% 55-64	17	7	11	15	10	9	34	25	22	36	27	20
Total % 18-64	100	100	100	100	100	100	100	100	100	100	100	100
No. of entrepreneurs in sample	89	55	9	1770	999	268	100	57	9	1894	1126	211

Characteristics of home based business entrepreneurs

Contrary to the popular stereotype of home based entrepreneurs being mainly 'mompreneurs', the Scottish reality is that 69% of home based early-stage entrepreneurs are male (versus 66% for the UK as a whole) and 74% of home based established business owner/managers are male (75% in the UK). There is no significant difference between the proportion of home-based and office-based early-stage entrepreneurs who were women (31% versus 26%) in Scotland in the pooled 2007 and 2008 GEM sample. Even in the much larger UK sample, the proportions of women starting or running new businesses from home and office were identical (34% versus 33%).

Another popular stereotype is that home based entrepreneurs tend to be older. Here again, this does not hold, with home based early-stage entrepreneurs and established business owner/managers distributed across the age spectrum except in the youngest age group (18-24 years). There is little difference

in age profile between home based and office based entrepreneurs, with the exception of the youngest entrepreneurs, who appear to prefer separate premises; see Table 4.3.

Scottish home based early-stage entrepreneurs are just as well educated as those operating from separate premises, with 13% having a higher degree (Masters, PhD), 28% having a university degree and 18% with A-levels, Highers or equivalent.

It has been suggested that operating a business from home may be a way of accommodating personal and economic needs, achieving a work-life balance, and working where one would wish to live rather than the other way round. If this were true, we might expect to observe a high proportion of home based business owners in Scotland who are migrants from elsewhere in the UK, on account of its scenic attractions. In the GEM sample, however, there is no evidence of this, either for Scotland or for other scenically attractive regions such as Cumbria or the South West.

Across the UK, only 41% of home based early-stage entrepreneurs are life-long residents of the region in which they now reside, but this is the same as the proportion of those operating from separate premises (45%). Although fewer home based early-stage entrepreneurs in the Scottish GEM sample were born in Scotland than those operating in separate premises (73% versus 84%), and more were born abroad (10% versus 4%), these differences are not statistically significant. Similarly, while 53% of Scottish home based early-stage entrepreneurs regard themselves as life-long residents of the region where they live, compared with 62% of those operating from separate premises, this difference is not statistically significant. What we can say is that Scottish home-based entrepreneurs are significantly *more* likely to be life-long residents than home-based entrepreneurs in the rest of the UK¹.

Home based early-stage entrepreneurs appear to have similar general motivations for starting as office-based early-stage entrepreneurs. 'To exploit a business opportunity' was the reason

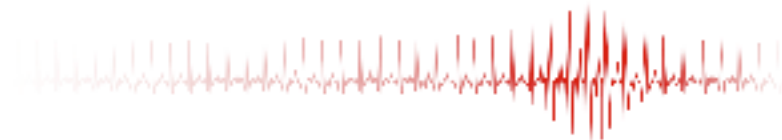


Table 4.4: Working hours per week of UK early-stage entrepreneurs on their businesses, 2007 and 2008, in quartiles

Source: GEM UK 2007 and 2008 adult population survey

	Scotland			UK		
	home	premises	mobile	home	premises	mobile
up to 9 hours	23%	20%	56%	25%	23%	27%
10 to 25 hours	25%	20%	22%	28%	25%	24%
26 to 45 hours	32%	29%	22%	26%	25%	30%
46 to 168 hours	20%	31%	0%	21%	27%	19%
No. entrepreneurs in sample	87	55	9	1723	974	256

given by 47% of all home based early-stage entrepreneurs, 'no better choice for work' by 18%, and a further 20% gave a combination of these two reasons. While slightly more early-stage entrepreneurs planning to locate their business in separate premises cite opportunity as a motivation for starting (56%, 15% and 24%), this difference is not statistically significant. In the UK, with a much larger sample, the difference is statistically significant, but still quite small (52%, 14%, 16% versus 61%, 10%, 18%).

Economic significance: characteristics of home based businesses

Our earlier evidence has shown the numerical significance of home based entrepreneurs. But what is their economic significance? We can examine the inputs – the effort going into value creation – and the outputs – what entrepreneurs actually achieve in sales and jobs.

One input indicator is how many effort hours are put in by home-based versus office-based

entrepreneurs. On average, Scottish home-based early-stage entrepreneurs put in almost as many hours as their office-based peers; 29 hours a week versus 32 hours (compared with 28 versus 30 in the UK). However, while most Scottish home based early-stage entrepreneurs are or are expected to be working full-time on their business (76%), almost one-quarter operate on a part-time basis, i.e. less than 30 hours a week. Equivalent proportions for the UK are identical (74% and 23% respectively). In contrast, just 8% of office-based early-stage entrepreneurs work part-time on their businesses. Mobile businesses are the most likely to be run on a part-time basis. Table 4.4 compares the working hours of these three groups of early-stage entrepreneurs, split into quartiles for the Scottish and UK sample. It shows that home based early-stage entrepreneurs are more likely to work less than 25 hours a week and less likely to work more than 45 hours a week than office based early-stage entrepreneurs. While this difference in distribution of working hours is not significant for the smaller Scottish sample, it is for the UK sample².

Another key consideration is start-up costs, with a home-based start being a classic means of bootstrapping a new business. Almost half (47%) of Scottish home based nascent entrepreneurs expected to start with £4,000 or less in capital (37% for the UK as a whole) with a further 28% requiring not more than £10,000 (28% for the UK). At the other end of the spectrum, 17% needed more than £50,000 or more to start (11% for the UK). In contrast, 8% of nascent entrepreneurs (14% in the UK) planning to operate from separate



Table 4.5: Percentage contributed by UK nascent entrepreneurs to start-up costs by location and start-up cost category, 2007 and 2008

Source: GEM UK 2007 and 2008 adult population survey

	UK	
	home	premises
up to £4k	91	85
over £4k, up to £10k	89	77
over 10k, up to £50k	82	69
over £50k	57	51
No. entrepreneurs in sample	702	383

premises expected to start with under £4,000, a further 4% needed up to £10,000 (13% in the UK) and 36% needed £50,000 or more to start (44% in the UK).

Table 4.5 shows the average percentage investment by nascent entrepreneurs in their start-ups, categorized by location and cost of start-up in the UK. (The Scottish sample is too small for this kind of analysis.) The start-up cost categories roughly correspond to quartiles for the total UK sample. It can be seen that home based nascent entrepreneurs are less likely to seek external funding than office based nascent entrepreneurs, the higher the start-up cost. This trend is statistically significant³.

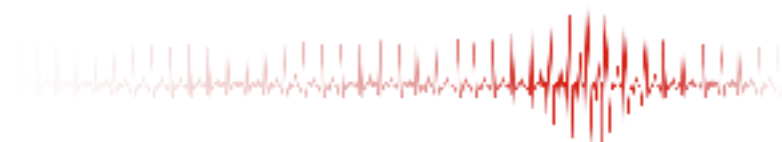
The size of the founding team is an indicator of the collective intellectual effort going into a new venture. Home-based and mobile early-stage businesses tend to have more single owner-managers than office-based early-stage businesses and fewer teams of 3 or more owner/managers. 86% of home-based early-stage owner-managed businesses in

Scotland had single owners, compared with 77% of office-based early-stage businesses. However, only 1% of home-based early-stage businesses had 3 or more owners, compared with 9% of office-based businesses (equivalent percentages for the UK were 2% and 10%). Twice as many Scottish early-stage entrepreneurs were sole owner-managers of home-based businesses as were sole owner/managers of office-based businesses (43% versus 21% of all Scottish early-stage entrepreneurs). At the other end of the scale, Scottish early-stage entrepreneurs were four times as likely to be members of an owner-manager team of 3 or more people if they were office-based than if they were home-based. Specifically, only 2% of early-stage Scottish entrepreneurs were home-based and shared an owner-manager team with 2 or more others, but 9% were office-based and had 2 or more team members.

Another indication of expected economic significance is if the entrepreneur is prepared to take on all the liabilities associated with the business. Sole traders and partners tend to be smaller in size; entrepreneurs running or expecting to run larger and more complex businesses tend to shelter behind a limited liability company. Scottish Clearing Bank statistics suggest that the limited liability company is gaining favour as a legal form over sole trader status⁴. This is reflected in the choice of legal status by nascent and new entrepreneurs versus established business owner/managers in the combined 2007 and 2008 GEM sample. 27% of home based nascent and new entrepreneurs

in the UK chose the company format compared with 18% of home-based established business owner-managers. In Scotland the difference was minimal: 23% versus 19%. This also appears to reflect a greater preference in Scotland for sole trader status among home-based nascent and new entrepreneurs (60% versus 51% across the UK). There was virtually no difference, however, between Scottish and UK established home-based business owner-managers in the distribution of legal status.

One major output of economic significance from business creation efforts is how many people are employed by home-based entrepreneurs versus office-based entrepreneurs. Because office-based entrepreneurs are more likely to be members of a team of owner/managers, are more likely to work full-time, and start with more capital, we might expect them to contribute more in employment terms, and indeed they do. Table 4.6 shows the proportion of existing (i.e. new and established) business owner/managers, existing owner/managed business enterprises, and employment in those enterprises categorized by location of the business and four job size classes. Note that the proportion of self-employed businesses (businesses employing only the single owner-manager) is greater than the proportion of the self-employed among all business owner/managers, while the reverse is true for businesses and entrepreneurs who employ the most people. This is because businesses that employ many people tend to have multiple owners. The GEM sampling method oversamples such businesses since it is a survey of individuals, not businesses, but table 4.6 has adjusted for this.



Scotland												
	% of new and established entrepreneurs				% of owner/managed businesses				% of jobs created			
of total	home	office	mobile	Total	home	office	mobile	Total	home	office	mobile	Total
1 job	32	4	4	40	39	5	5	49	2	0	0	3
2-5 jobs	26	11	1	37	24	11	1	35	3	3	0	6
6-19 jobs	2	11	0	13	2	8	1	10	1	5	0	6
20+ jobs	1	8	0	9	1	5	0	6	2	83	0	85
Total	61	33	5	100	66	27	6	100	8	92	1	100

United Kingdom												
	% of new and established entrepreneurs				% of owner/managed businesses				% of jobs created			
of total	home	office	mobile	Total	home	office	mobile	Total	home	office	mobile	Total
1 job	27	5	3	36	25	10	2	37	6	1	1	8
2-5 jobs	25	11	4	40	18	18	2	38	9	8	1	18
6-19 jobs	5	12	1	18	3	15	0	19	4	15	0	20
20+ jobs	1	6	0	7	1	5	0	6	7	47	0	55
Total	59	33	8	100	47	48	5	100	26	71	2	100

Table 4.6: Distribution of new and established business owner/managers, new and established owner/managed businesses, and employment in Scotland and the UK, 2007 and 2008

Source: GEM UK 2007 and 2008 adult population survey

For both Scotland and the UK, the most frequent group of business owner-managers are home-based and employ no one beside themselves, while the group that contributes the greatest number of jobs is office-based business owner-managers who employ at least 20 people. Job distributions are highly skewed, and are sensitive to the inclusion or exclusion of a very few large employers. The larger the sample size, the more accurate the estimate, but even with large samples the outlier effect can be substantial. What we can say though is that about half of all owner/managed businesses in the UK and perhaps two-thirds of all owner/managed businesses in Scotland are run from home, but these businesses employ a minority of people employed by business owner/managers – perhaps a quarter in the UK, and fewer than one in ten in Scotland.

A second major output is sales. Here, the estimate is based only on the 2007 sample which, for Scotland, relied on data from only 80 early-stage entrepreneurs. Some 60% of UK early-stage businesses are home-based, and they account for around 29% of the annual sales generated or expected to be generated in the first year of trading by all early-stage businesses. The contribution of Scottish home-based businesses may be even larger – 43% in the 2007 sample. If we discount the projections of nascent entrepreneurs and consider only current sales of new and established owner-managed businesses, home-based businesses only contribute 16% in Scotland and 14% in the UK of total sales, with mobile business sales comprising only 1% of the total. This could reflect movements of the fastest growing businesses away from the founders' homes as they grow.



A rough indicator of the relative productivity of home-based and office-based businesses is the sales per employee in the average home-based or office-based owner/managed business. In the 2007 GEM UK sample, for those new and established entrepreneurs who volunteered both employee and sales data, and adjusting for the oversampling of multi-owner businesses, the average sales per employee in home-based businesses was £41,000 compared with £93,000 in office-based businesses and £37,000 in mobile businesses. Estimates for Scotland are based on a much smaller sample, but are in line with the UK estimate except that the estimate for office-based businesses is smaller: £40,000, £50,000 and £30,000 respectively. This reflects the fact that outliers are influential in these estimates, and larger samples are more likely to pick up unusually large or productive enterprises, thus pushing up the average estimates.

Export sales are another indicator of the economic value of a sector. Businesses that sell to customers from abroad tap into larger markets and earn foreign exchange. Home-based businesses appear to be just as, if not more, export oriented than office-based businesses. Almost three-quarters (73%) of all early-stage businesses in the combined GEM 2007 and 2008 UK sample that made over 50% of their sales to customers outside the country were home-based, higher than the overall proportion of home-based businesses (63%). In Scotland, however, the proportions were similar (63% and 63%). The proportions for existing (i.e. all new and established) enterprises across the UK were 62% and 64%, compared with 73% versus 66% in Scotland.

Innovative businesses are believed to be particularly valuable economically, since they not just provide new products or services to customers, but may enhance overall competitiveness in an economy, forcing incumbents to shape up or quit. Early-stage enterprises that are home-based are around half as likely to be innovative as office-based businesses, where "innovative" is defined as businesses whose owner-managers state their product or service is new to at least some of their customers and where there are not many competitors. 8% of home-based businesses could be classified as innovative in this way, compared with 15% of office-based businesses and 12% of mobile businesses.

In conclusion, twice as many early-stage entrepreneurs base their business in their home as in separate premises, but home-based businesses tend to be smaller, less productive in terms of sales per employee and less innovative than office-based businesses. Despite their relatively minor contribution to direct job creation, home-based businesses hold their own in exports. This paints a rather unfair picture of home-based businesses, however, because while most home-based businesses remain in the home, many office-based businesses will have started as home-based businesses. We return to this important point in chapter 8.

1 Chi-square = 7.371, df = 2, p=.025

2 Chi-square = 17.176, p=.009, N=2953

3 Mann-Whitney rank test statistic z=-9.942, p=.000

4 See GEM Scotland 2006 report, p9.

The Location of Entrepreneurial Activity in Scotland

Figure 5.1: Total early-stage Entrepreneurial Activity rates for the four NUTS2 regions of Scotland, 2002 to 2008 combined database

Source: 2002 to 2008 GEM Scotland adult population survey

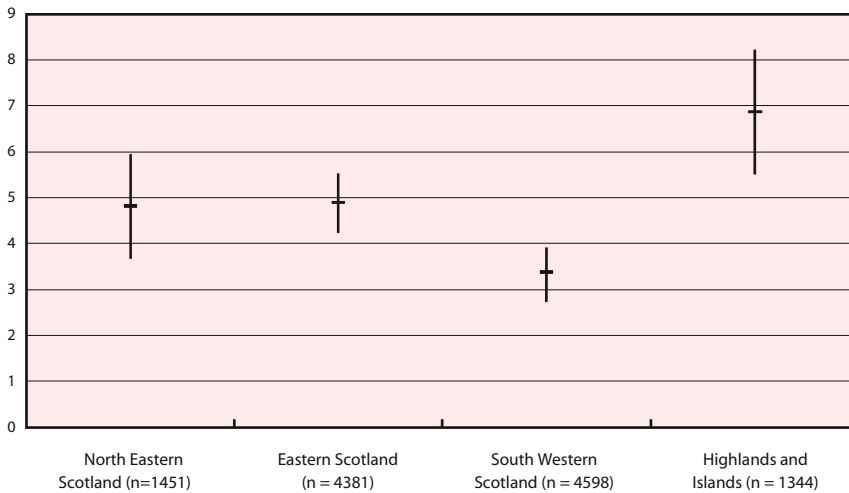
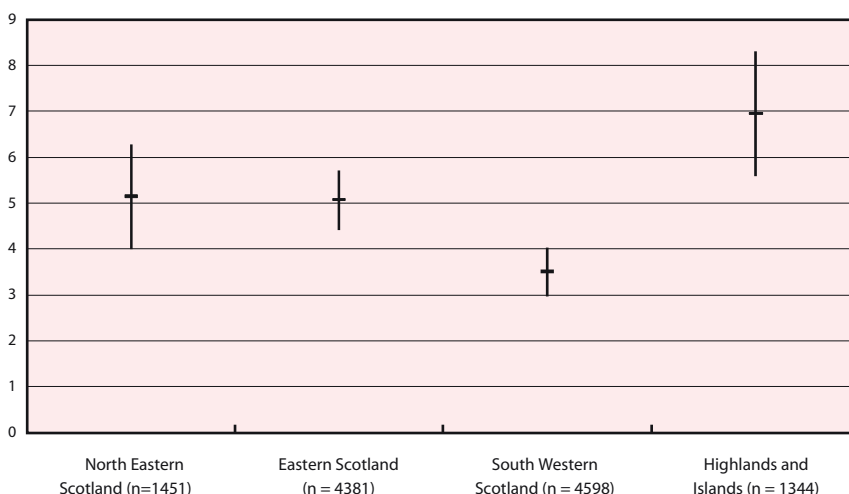


Figure 5.2: Established business owner-manager rates for the four NUTS2 regions of Scotland, 2002 to 2008 combined database

Source: 2002 to 2008 GEM Scotland adult population survey



In this chapter we compare entrepreneurial attitudes, intention and activity across Scotland. The geography of Scotland can be broken down in many ways. For example, there are four recognised NUTS2 (European) regions within Scotland: South Western Scotland, Eastern Scotland, North Eastern Scotland, and Highlands and Islands. There are 32 local authorities, which vary in size from Glasgow city with a population of 582,000 to the Orkney Islands with a population of 20,000. There are also 33 older counties, some of which were divided to form the latest local authority boundaries in 1996 while others were amalgamated.

Figure 5.1 shows the point estimates and 95% confidence intervals for TEA for the four NUTS2 areas in Scotland, using the combined 2002 to 2008 database (11,774 individuals aged 18-64). The Highlands and Islands area appears to have a higher TEA rate than South Western Scotland and Eastern Scotland. The Highlands and Islands NUTS2 area has a similar TEA rate (6.9%) to other remote rural regions of the UK such as Devon (7.3%), Cornwall and Scilly Isles (7.5%) and Dorset and Somerset (6.7%). By contrast, South Western Scotland's TEA rate (4.4%) is closer to estimates for NUTS2 areas in North East England, including Tees Valley and Durham, and Northumberland and Tyne and Wear. The two eastern NUTS2 areas have similar TEA rates (4.8% and 4.9%), close to estimates for Greater Manchester (5.0%) and West Yorkshire (4.8%), but not as high as rates in London and the home counties.

Figure 5.2 shows the point estimates and 95% confidence intervals for the established business owner-manager rate (EBO) for the same four



NUTS2 regions. Here, South Western Scotland has a much and significantly lower EBO rate than the other three regions, which at 3.5% is the third lowest in the UK, after the West Midlands (3.4%) and Merseyside (3.5%).

NUTS2 areas combine large cities and rural regions, and they may mask important differences at smaller geographical levels. Data is available on the home local authority of respondents from 2003 to 2008: a total of 10,226 individuals aged 18-64. Because of the small size of some local authorities, estimates at local authority level for some authorities are subject to a wide degree of error. However, they do build a reasonably consistent pattern of activity across Scotland, as Figure 5.3, which sorts TEA rates into quintiles (5 levels), shows. TEA rates tend

to be lower in the hinterland of Glasgow and Edinburgh and highest in Edinburgh City and remote rural areas: Highland, Argyll and Bute, Western Isles, Dumfries and Galloway and Scottish Borders. The low rate for Shetland goes against the general trend of high rates in remote areas and may be because of the extremely small sample size in this local authority.

Note that this is based on the home address of the entrepreneur, not of the business. While almost two-thirds of Scottish early-stage entrepreneurs run their business in or from the home, the pattern of business location might differ from that presented here.

Figure 5.4 indicates the stock of established business-owner managers across Scottish local

authorities. As with Figure 5.3, this is displayed by quintiles for illustrative purposes only as the point estimates are subject to a wide degree of error. In this Figure, large cities do less well, with Dundee, Glasgow and Aberdeen City in the lowest quintile and Edinburgh ranking in the middle rather than near the top. The most remote rural areas tend to have high stocks of people running their own established businesses.

In 2007, a reorganisation of the delivery of local business support services was announced, and during 2007 and 2008 a complex handover process of the Business Gateway programme, with its 12 local enterprise companies (LECs), from Scottish Enterprise to local authorities, continued, with further handover of Highlands and Islands Enterprise (HIE) activities in this

Figure 5.3. Total early-stage Entrepreneurial Activity (TEA) rate estimates for Scottish local authorities, by quintiles, combined 2003 to 2008 database

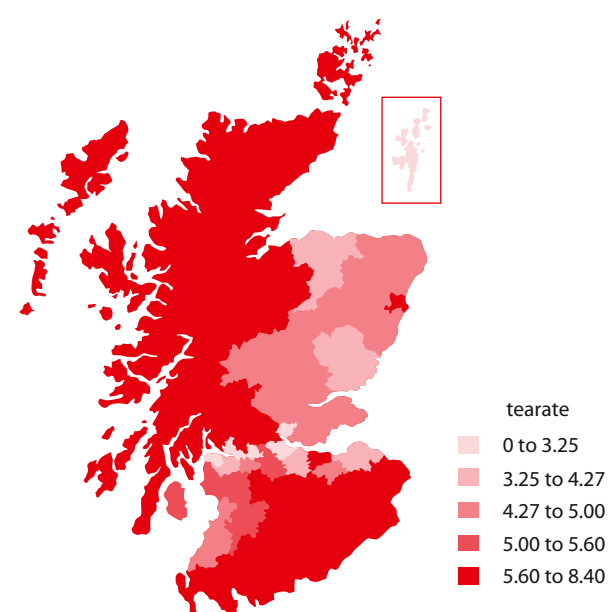


Figure 5.4. Established business owner-manager rate estimates for Scottish local authorities, by quintiles, combined 2003 to 2008 database

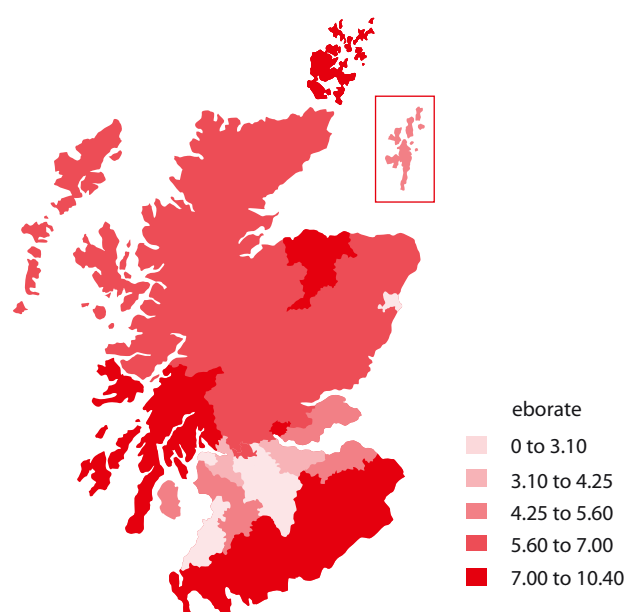
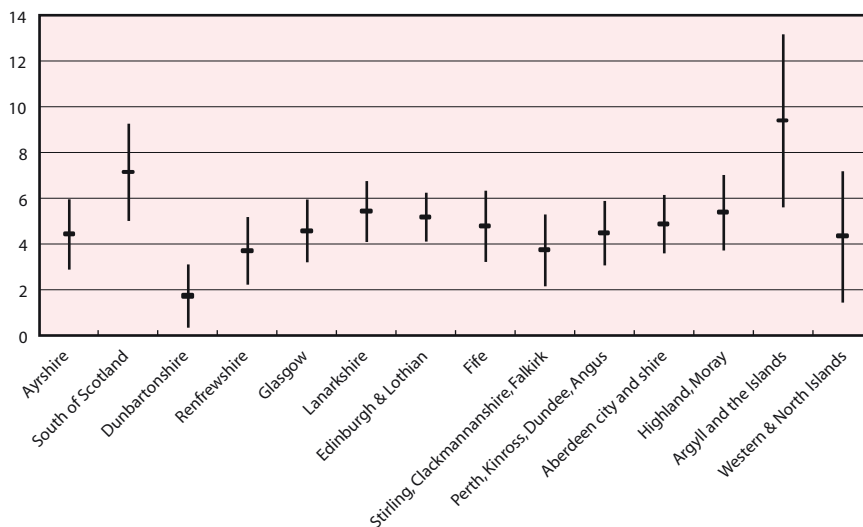




Figure 5.5: TEA estimates and 95% confidence intervals for former Business Gateway Local Enterprise Company regions, 2003 to 2008 combined database

Source: 2003 to 2008 GEM Scotland database



area planned for 2009. This coincided with the development of Single Outcome Agreements with individual local authorities to deliver on national outcomes, including increasing the business start-up rate. Figure 5.5 shows estimates for the regions covered by the 12 lowland local enterprise companies and the reformed Business Gateway areas in the Highlands and Islands area. As well as being the areas managed for business start-up, they generally provide large enough areas to give an indication of entrepreneurial activity. Some of them are based on original county boundaries, but others incorporate very different geographical spaces. Dumfries and Galloway and Scottish Borders are amalgamated in the figure as business support activities were contracted out to the same company, and western and northern islands areas are amalgamated in the figure because of small numbers.

Figure 5.6: Established business owner-manager rate estimates and 95% confidence intervals for former Business Gateway Local Enterprise Company regions, 2003 to 2008 combined database

Source: 2003 to 2008 GEM Scotland database

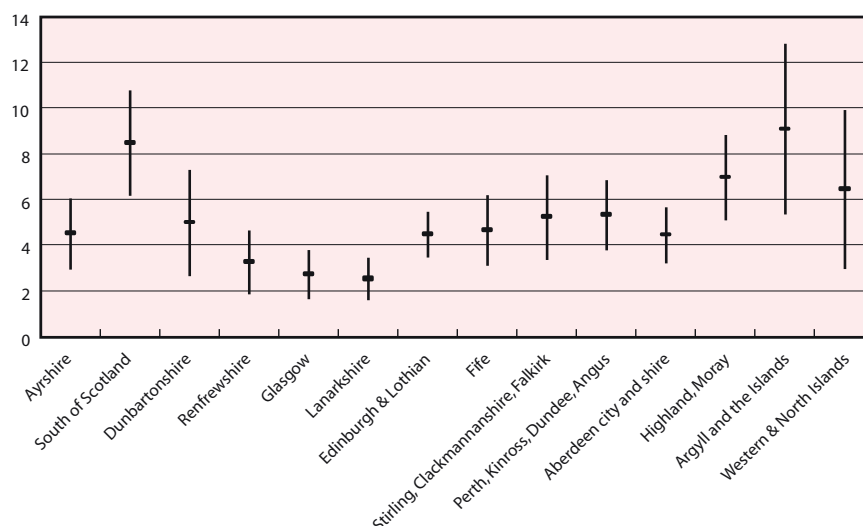


Figure 5.5 shows that TEA rates vary significantly across the LEC regions. The Dunbartonshire Business Gateway area, which comprised East and West Dunbartonshire and parts of Argyll and Bute (mainly Helensburgh) has the lowest TEA estimate of any area at less than 2%. Argyll and the Islands¹ had the largest TEA rate estimate (9.4%), and although the confidence interval was very wide because of the small size of the sample, the TEA rate for this region was significantly higher than the estimate for Dunbartonshire, Renfrewshire, and the Forth Valley region comprising Stirling, Clackmannanshire and Falkirk. The area with the next highest estimate was the South of Scotland (7.1%).

Figure 5.6 shows estimates for established business

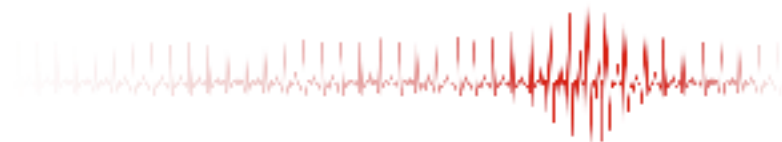
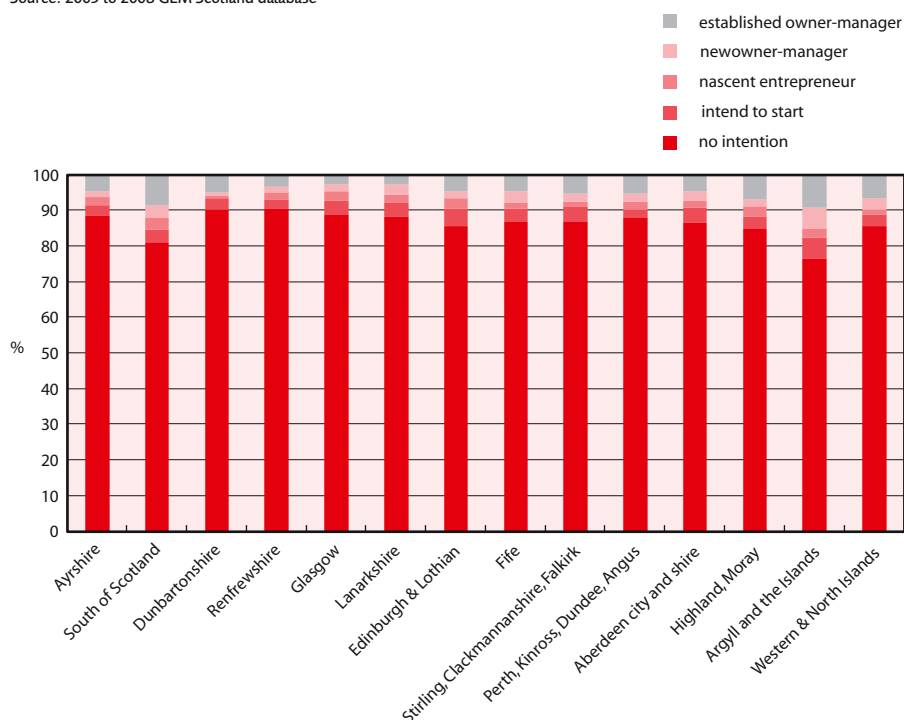


Figure 5.7: The spectrum of entrepreneurial intention and activity in former Business Gateway Local Enterprise Company regions, 2003 to 2008 combined database

Source: 2003 to 2008 GEM Scotland database



ownership for the former Local Enterprise Company regions. Here the urban/rural divide is more clear, with rural regions showing higher rates and urban regions such as Glasgow and Lanarkshire with lower rates. Dunbartonshire does better on this measure, with an EBO rate of exactly 5%.

Figure 5.7 shows the spectrum of entrepreneurial intention and activity along five levels from no intention to established business owner manager for each of the former Local Enterprise company regions for the combined 2003 to 2008 database. The South of Scotland and Argyll and the Islands stand out as having the highest proportion of entrepreneurially inclined individuals, around

double the proportion of Dunbartonshire and Renfrewshire.

Table 5.1 shows the point estimates for each former Local Enterprise Company region for key GEM measures of entrepreneurial attitudes for the non-entrepreneurially active respondents in the combined 2003 to 2008 sample. General attitudes to entrepreneurship, including entrepreneurship as a career choice, the status of entrepreneurship in society, and media coverage of successful entrepreneurs seem to be at least as high as the UK generally. However, opportunity perception varies widely from a low of 22% in the Dunbartonshire LEC region to highs of 39% in Edinburgh and Lothian and 43% in Aberdeen

City and Shire. Relatively few people know an entrepreneur in central Scotland outside of the biggest cities. Fear of failure among those who see good opportunities is surprisingly low in Dunbartonshire and Renfrewshire in comparison to high opportunity regions. This may be because of lack of alternative employment options in these regions; prospective entrepreneurs may have less to lose. Skills perception among the non-entrepreneurially active was particularly high in Argyll and the Islands and South of Scotland regions. There is a reasonably strong correlation between entrepreneurial skills self-perception rates among the non-entrepreneurially active population and TEA rates in a former LEC region ($r = .679, p = .008, n = 14$).

In summary, this chapter has demonstrated differences in entrepreneurial intentions and activity across Scotland. Edinburgh and remote rural regions tend to have high rates of entrepreneurial activity while regions adjacent to Glasgow and Edinburgh appear to have the lowest rates. In part, this reflects Scotland's industrial heritage, with former heavy industrial and mining regions showing less favourable attitude, intention and activity rates. The capital city and remote rural areas show the most positive mix of attitude, intention and activity rates. One of the reasons for this is that the capital city and remote rural regions tend to have a higher proportion of in-migrants and immigrants, and these have higher rates of entrepreneurial activity than life-long residents. There is a strong correlation ($r = 0.751$) between the proportion of in-migrants and immigrants in these regions and the regional TEA rate.

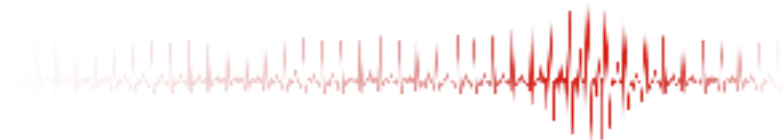


Table 5.1: Entrepreneurial attitudes among non-entrepreneurial respondents by former Business Gateway Local Enterprise Company regions, 2003 to 2008 combined database (% of respondents aged 18-64 who are not nascent or existing business owner-managers)

	Know someone who started a business in past 2 years	Good opportunities for starting a business in the next 6 months	Fear of failure would prevent me from starting a business (for those who agree there are good opportunities)	I have the skills, knowledge and experience to start a business	Most people consider that starting a business is a good career choice	Those successful at starting a business have a high level of status and respect in society	You will often see stories about people starting successful new businesses in the media
Ayrshire	24.1	26.2	29.6	37.1	51.4	70.9	54.2
South of Scotland	24.3	27.4	25.0	47.9	52.1	74.8	62.4
Dunbartonshire	18.5	22.1	18.8	44.1	54.2	78.3	62.3
Renfrewshire	22.5	34.1	25.0	42.3	58.4	77.7	62.8
Glasgow	26.8	31.4	31.7	40.2	56.6	81.7	54.4
Lanarkshire	18.6	25.4	43.5	38.2	55.0	76.7	61.2
Edinburgh & Lothian	27.8	39.3	34.0	43.6	50.3	71.6	54.4
Fife	24.4	30.3	43.5	39.4	53.9	74.8	59.4
Stirling, Clackmannanshire, Falkirk	18.0	31.6	36.5	40.3	55.6	71.1	58.1
Perth, Kinross, Dundee, Angus	18.1	29.9	31.3	45.8	51.6	71.8	54.7
Aberdeen city and shire	27.9	42.7	32.5	45.7	49.8	71.5	61.4
Highland, Moray	20.8	35.2	41.6	43.9	53.5	75.4	58.8
Argyll and the Islands	26.0	37.1	36.4	58.0	49.5	70.9	60.6
Western & North Islands	32.6	30.4	32.0	43.0	54.7	76.5	60.5

¹ Responsibility for local business support on Arran and the Cumbraes passed from HIE to North Ayrshire Council in 2009.

Entrepreneurship Training

In this chapter, we draw on two different measures of entrepreneurship training employed in different GEM surveys, one broad and one narrow, to describe the extent and effect of entrepreneurship training in Scotland, and how this compares to the UK and participating Arc of Prosperity countries.

Prevalence of Business or Enterprise Training in Scotland and the UK

Table 6.1 shows the prevalence of business or enterprise training received at school, college/university, or government agency, and work experience in a SME while at school or college, in the combined 2006 and 2007 GEM Scotland and GEM UK samples, by age group for 18 to 44 year olds. The prevalence of school-based training was significantly higher in Scotland than in the UK for the 18-24 age group. Prevalence rates of school-based and college/university-based training were much higher in younger age groups, whether standard or work experience-based. This suggests that this type of training has become more widespread in recent decades.

Effect of Business or Enterprise Training on Entrepreneurial Awareness, Attitudes, Intention and Activity in Scotland and the UK

Table 6.2 shows the proportion of non-entrepreneurially-active people in Scotland and the UK who know a start-up entrepreneur, think there are good opportunities for start-up, perceive they have start-up skills, and are not prevented from starting a business by the fear

it might fail, categorised by people who had no training and people who had compulsory training. The difference in the proportion of people with a positive attitude who received compulsory training relative to the proportion who had no training provides an estimate of the "gain" to training, without the confounding effect of self-selection into voluntary training. This gain can also be thought of as the increase in the odds of an individual in that sample having a positive entrepreneurial attitude as a result of training.

Multi-variate statistical techniques can correct estimates of gain for differences in the backgrounds of those with no versus compulsory training. Statistical significance can be also estimated for the independent effect of one training source relative to others¹. In Table 6.2, the corrected estimate of gain is shown below the raw estimate. Figures in bold are statistically significant; in simple terms, we can be quite confident that the increase or decrease in gain from training is not an artefact of the demographic or other training variables controlled for in the statistical tests. Figures in italics are close to statistical significance.

Table 6.1: Prevalence of business or enterprise training by training provider and age group, combined 2006 and 2007 sample (ages 18-44 only)

Source: GEM UK 2006 and 2007 Adult Population Survey.

	School		College/uni		Work experience		Gov. agency	
	Scot	UK	Scot	UK	Scot	UK	Scot	UK
18-24 YRS	33.7%	27.4%	25.6%	23.1%	60.7%	64.4%	14.5%	8.8%
25-34 YRS	18.0%	20.8%	19.8%	22.0%	49.0%	56.6%	14.4%	11.5%
35-44 YRS	7.7%	9.2%	16.7%	17.0%	29.3%	34.5%	16.2%	14.1%
Total	16.3%	16.6%	19.5%	19.9%	42.1%	47.8%	15.3%	12.2%

Note: Pairs of numbers in bold signify different proportions in Scotland and the UK. N= 35,000 approx. for UK and 2,000 approx. for Scotland

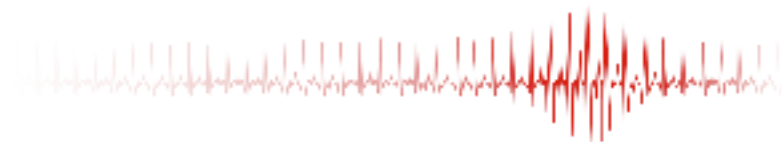


Table 6.2: Gain in entrepreneurial attitudes from business or enterprise training among non entrepreneurially-active individuals aged 18-44 in Scotland and the UK, combined 2006 and 2007

Source: GEM UK and Scotland Adult Population Surveys, 2006 and 2007.

		School		College/uni		Work placement		Gov. agency	
		Scotland	UK	Scotland	UK	Scotland	UK	Scotland	UK
Know someone who started a business in the last 2 years	No training	26.8%	26.3%	26.5%	25.7%	25.0%	23.6%	26.9%	27.5%
	Compulsory training	39.7%	37.3%	46.0%	39.7%	36.3%	32.7%	30.8%	37.0%
	Gain from training (times)	1.48	1.42	1.74	1.54	1.45	1.38	1.14	1.35
	Corrected gain	1.62	1.27	1.96	1.17	1.56	1.39	0.96	1.43
Agrees there are good opportunities to start a business locally in next 6 months	No training	36.2%	35.6%	36.4%	35.2%	32.0%	32.8%	37.7%	36.3%
	Compulsory training	53.2%	42.4%	41.4%	46.2%	45.4%	41.6%	47.8%	44.0%
	Gain from training (times)	1.47	1.19	1.14	1.31	1.42	1.27	1.27	1.21
	Corrected gain	1.52	1.02	0.64	1.20	1.48	1.48	1.73	1.15
Agrees has skills, knowledge, experience to start a business	No training	40.9%	42.4%	38.4%	39.6%	37.4%	40.0%	41.4%	42.7%
	Compulsory training	46.6%	55.1%	62.5%	63.7%	45.4%	46.5%	57.7%	60.5%
	Gain from training (times)	1.14	1.30	1.63	1.61	1.21	1.16	1.39	1.42
	Corrected gain	0.86	1.21	2.25	2.19	1.28	1.35	2.09	1.71
Disagrees with statement: "I would not start a business in case it might fail"	No training	60.1%	59.2%	59.1%	58.9%	60.2%	59.7%	57.0%	58.8%
	Compulsory training	41.4%	60.1%	59.4%	55.6%	59.3%	58.2%	69.2%	69.1%
	Gain from training (times)	0.69	1.01	1.00	0.94	0.99	0.98	1.22	1.17
	Corrected gain	0.51	0.85	0.88	1.00	0.81	0.91	2.50	1.31

Numbers in bold denote statistically significant effect of compulsory over no training; numbers in italics are close to significance

Table 6.3: Gain in entrepreneurial intent and activity among 18-44 year olds from business or enterprise training in Scotland and the UK, combined 2006 and 2007

Source: GEM UK and Scotland Adult Population Surveys, 2006 and 2007.

		School		College/uni		Work placement		Gov. agency	
		Scotland	UK	Scotland	UK	Scotland	UK	Scotland	UK
Intend to start a business in three years time (non-entrepreneurs only)	No training	4.5%	6.1%	3.6%	5.7%	3.8%	5.1%	4.5%	6.3%
	Compulsory training	5.3%	9.7%	14.6%	11.8%	7.8%	7.7%	3.8%	10.3%
	Gain from training (times)	1.18	1.59	4.07	2.08	2.08	1.49	0.83	1.63
	Corrected gain	0.61	0.95	2.17	1.66	1.24	1.36	1.09	1.56
TEA rate	No training	4.8%	6.5%	3.5%	5.7%	4.4%	6.7%	4.1%	5.9%
	Compulsory training	3.1%	7.2%	9.2%	8.0%	3.5%	5.3%	7.9%	5.7%
	Gain from training (times)	0.64	1.11	2.65	1.41	0.81	0.79	1.96	0.97
	Corrected gain	0.57	1.01	2.57	1.38	0.73	0.83	1.81	1.21

Numbers in bold denote statistically significant effect of compulsory over no training; numbers in italics are close to significance

The corrected gains are in most cases close to the raw gain. Overall, business or enterprise training in schools appeared to make little difference to entrepreneurial attitudes, and may even have slightly *increased* fear of failure. College or university-based training appears to have had positive effects, notably doubling the odds of positive start-up skills self-perception. Work experience and training from government agencies had weak but positive effects. Work experience may have been more successful in increasing opportunity perception while government agency training, uniquely, reduced fear of failure.

Table 6.3 shows the gain from training, as above, but for intention to start a business and early-stage entrepreneurial activity. Once again, college or university-based business or enterprise training stands out as roughly doubling intention and activity, particularly in Scotland, while school-based training has no detectable effect. Effects of the other training types are weak and only significant in the larger UK sample; compulsory work placements appeared to slightly reduce the odds of engaging in early-stage entrepreneurial activity.

Prevalence of Training in Starting a Business in Scotland, the UK, and Arc of Prosperity countries

In 2008, respondents in 39 nations were asked if they had received "training in starting a business", and if so, from which source. Generally, relatively fewer people in Scotland have had training in starting a business than in the UK and Arc of



Table 6.4: Percentage of GEM 2008 sample of working age who have taken training in starting a business by source of training, for Scotland, UK and four Arc of Prosperity countries

Source: GEM 2008 Adult Population Survey. N=1,500 approx for Scotland, 22,000 approx for UK, 2,000 approx for AOP countries

	Scot	UK	Denmark	Ireland	Iceland	Finland
Any in school	7.4	8.2	9.6	14.0	11.7	18.2
Part of formal, college/uni education	6.1	6.8	7.5	9.7	9.7	30.0
In college/uni, not part of formal education	4.2	4.5	3.6	6.9	4.5	10.9
Chamber of commerce or similar	3.5	3.3	3.5	4.6	2.5	6.0
Government agency	3.4	3.3	2.9	6.4	2.8	7.9
Past or present employer	2.7	3.1	0.2	5.0	4.6	3.9
Other	0.4	0.7	0.6	0.9	4.3	7.9
Informal learning (observing others, own reading etc)	8.9	9.5	5.3	13.7	14.3	30.5
Online learning	1.2	1.2	1.5	1.5	7.9	4.8
Any post-school	12.1	12.9	14.3	17.6	17.9	40.5
Any source	17.5	18.5	22.5	26.1	26.8	48.3

Prosperity countries, as Table 6.4 shows. This is as true for in-school training as post-school training. Finland stands out as having very high rates of training.

Figure 6.1 shows how younger age groups are much more likely to have received (or recall receiving) training in starting a business while at school, and how training in starting a business appears to have been more frequent, for longer in Arc of Prosperity countries².

Figure 6.2 shows the proportion of people in different age groups who have received training in starting a business after school. If opportunities to receive training were available throughout an individual's lifetime, and the individual was equally likely to take up that opportunity in any age group, one would expect to see a gradually increasing proportion of trained individuals by age group. We see this among UK males. If however training was focused on young adults, was increasingly available

over time, or individuals increasingly declined the opportunity as they grew older, we would expect the opposite pattern. This latter pattern dominates Figure 6.2. Individuals with college or

Figure 6.1: Prevalence of individuals who received training in starting a business at school by gender and age group in Scotland, UK and Arc of Prosperity countries, 2008

Source: GEM 2008 Adult Population Survey

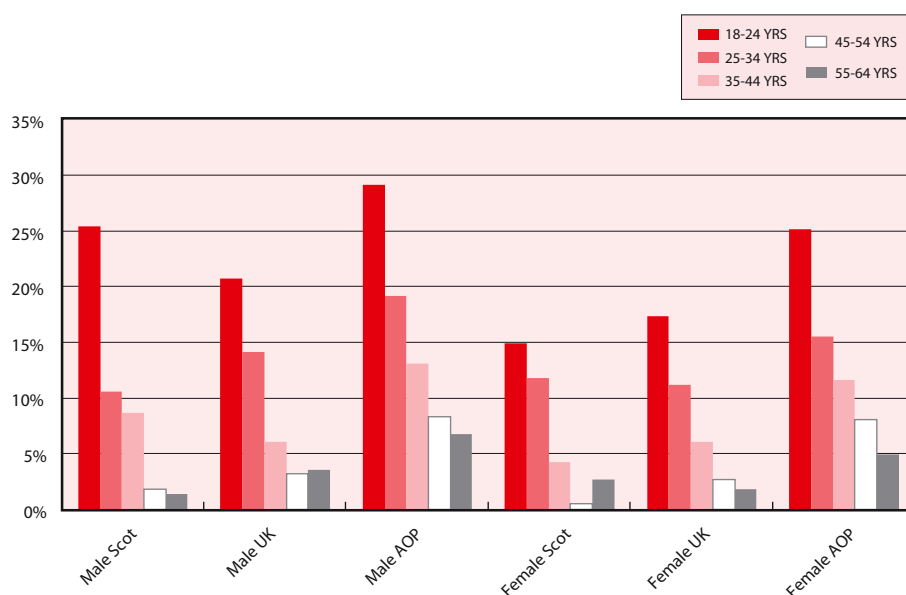
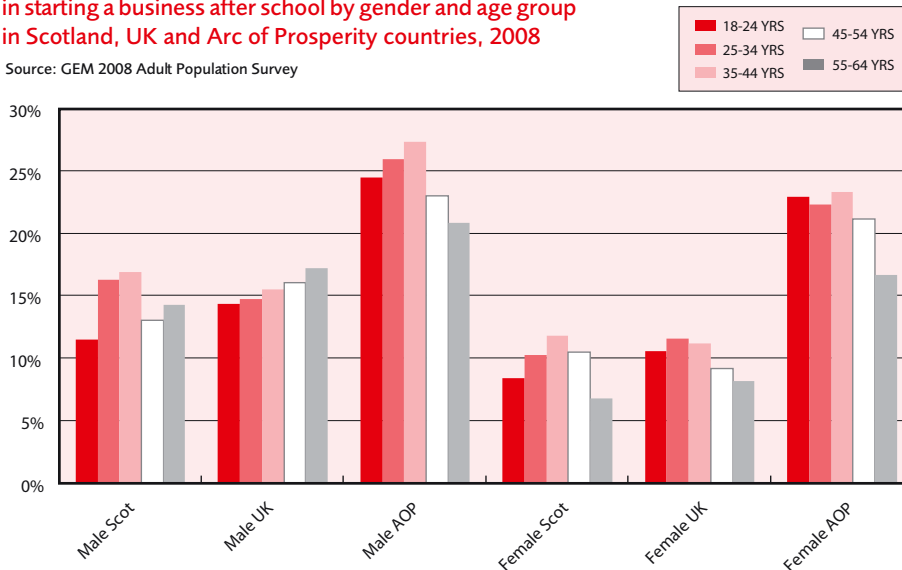




Figure 6.2: Prevalence of individuals who received training in starting a business after school by gender and age group in Scotland, UK and Arc of Prosperity countries, 2008

Source: GEM 2008 Adult Population Survey



university-based training are 50% more prevalent than individuals with other forms of organised after-school training in Denmark and Finland, but are not more prevalent in Scotland, UK, Iceland or Ireland. This may affect the average pattern for AOP countries.

Effect of Training in Starting a Business on Entrepreneurial Awareness, Attitudes, Intention and Activity in Scotland, the UK and Arc of Prosperity countries

Table 6.5: Effect of compulsory training in starting a business on entrepreneurial attitudes among non-entrepreneurially-active individuals in Scotland, UK and four Arc of Prosperity countries

Source: GEM 2008 Adult Population Survey

		Scotland	UK	Denmark	Ireland	Iceland	Finland
Know someone who started a business in the last 2 years	No training	17.4%	20.4%	40.4%	29.0%	55.7%	37.0%
	Compulsory training	29.3%	34.1%	49.5%	36.0%	65.5%	55.8%
	Gain from training (times)	1.69	1.67	1.23	1.24	1.18	1.51
Agrees there are good opportunities to start a business locally in next 6 months	No training	30.4%	24.6%	60.9%	24.4%	32.3%	45.1%
	Compulsory training	50.0%	34.1%	65.4%	28.9%	37.2%	48.4%
	Gain from training (times)	1.65	1.39	1.07	1.19	1.15	1.07
Agrees has skills, knowledge, experience to start a business	No training	36.2%	39.2%	25.8%	34.7%	36.5%	16.2%
	Compulsory training	61.9%	59.8%	44.6%	56.6%	61.4%	36.5%
	Gain from training (times)	1.71	1.53	1.73	1.63	1.68	2.25
Disagrees with statement: "I would not start a business in case it might fail"	No training	61.9%	59.8%	56.5%	59.8%	60.6%	63.2%
	Compulsory training	76.2%	65.0%	57.9%	52.3%	70.7%	63.9%
	Gain from training (times)	1.23	1.09	1.02	0.88	1.17	1.01

Note: Figures in bold denote a statistically significant difference in proportions of positive attitudes between those with compulsory training and those with no training

Table 6.5 shows the gain in entrepreneurial attitudes from any compulsory training in starting a business in Scotland, the UK and Arc of Prosperity countries, using the same method as described above. Generally, the gain from training appears to be higher in Scotland and the UK than in AOP countries, with the exception of start-up skills self-perception, which is at least 50% more likely among (compulsorily) trained individuals. Figures in bold denote a statistically significant difference in proportions of positive attitudes between those with compulsory training and those with no training³.

Because sample sizes of trained individuals are quite small in Scotland and AOP countries, the type of effect analysis conducted for business or enterprise training was not conducted for the 2008 sample. However, the overall pattern is similar to that found for business or enterprise training. Start-up training appears to have most effect on skills self-perception, followed by knowing a start-up entrepreneur. It appears to



have had little or no effect on fear of failure. It increased opportunity perception in Scotland and the UK but not in AOP countries, where opportunity perception was already high.

Table 6.6 shows the gain to start-up intention and TEA rates from compulsory training for Scotland, the UK, and AOP countries. Intention rates are significantly higher – with gains of two to three times the untrained rate. TEA rates are also two to three times higher, but, possibly because of small sample sizes and the rarity of both compulsory training and of early-stage entrepreneurs in these countries, the gain is significant only in the UK and Iceland.

Conclusion

Business or enterprise training appears to have positive effects on perceived skills in starting a business, intention and activity in Scotland and the UK. However, virtually no effect was detected of business or enterprise training in schools, whereas this training delivered in colleges and universities appeared to double the chances of having positive skills self-perception, intention and activity.

The prevalence of training in starting a business in Scotland appears to be historically lower than in Arc of Prosperity countries, and particularly Finland. Its effect may be stronger in Scotland and the UK, perhaps because of the more positive background rate of attitudes, intention and activity in AOP countries. However, skills self-perception and intent to start a business are higher among trained individuals in all these nations.

Table 6.6: Gain in intention and early-stage entrepreneurial activity from compulsory training in starting a business in Scotland, UK, and four Arc of Prosperity countries

Source: GEM 2008 Adult Population Survey

		Scotland	UK	Denmark	Ireland	Iceland	Finland
Expect to start a business in the next 3 years (non-entrepreneurs only)	no training	2.5%	3.8%	4.3%	4.3%	8.6%	2.4%
	compulsory training	8.6%	11.3%	8.3%	13.3%	14.7%	7.2%
	Gain from training (times)	3.43	2.97	1.94	3.08	1.71	2.95
TEA rate	no training	3.7%	4.2%	4.2%	5.5%	7.4%	4.4%
	compulsory training	7.4%	10.4%	4.9%	9.1%	16.4%	6.3%
	Gain from training (times)	2.01	2.49	1.2	1.7	2.2	1.4

Note: Figures in bold denote a statistically significant difference in proportions of intention or activity between those with compulsory training and those with no training

- 1 Binary logistic regression was used to predict individual propensity to have a positive rather than a negative attitude, using the following variables: gender, age group, ethnicity, education, income, occupation, migrant status, and the four types of training received. The exponentiated B coefficient of compulsory training relative to no training is an estimate of the gain, or increased odds of having a positive attitude, from this form of compulsory training, controlling for all other explanatory variables in the regression. All regression equations had acceptable model fit.
- 2 The apparently much higher rate of training among males aged 18-24 in Scotland may be an artefact of small numbers in this age group.
- 3 Chi-square tests were used for this analysis. This estimate of gain is not corrected for individual differences in background.

Scottish Entrepreneurship Policy and Programmes Review 2007 and 2008

In early September 2007, the Scottish Government announced a University Entrepreneurship Programme which would expand entrepreneurship education in Higher and Further education in Scotland. In September 2007, the Scottish Government announced that responsibility for local enterprise programme delivery to all except the highest potential new businesses would be transferred from Scottish Enterprise to local authorities, who would have responsibility for delivering on the Government's targets for increasing the business start-up rate. It was also announced that the Business Gateway support network would extend to the whole of Scotland, but be run by local authorities. 2008 was focused on implementing this major change in delivery, which required transfer of responsibility for contracted-out regional services, mainly spanning several local authorities, and for centralised services, such as marketing, the Business Gateway website, a Customer Relationship Management system and a national call centre.

According to the Scottish Government's Economic Strategy, published in November 2007¹: "The enterprise networks will now be focused on supporting investment and innovation by companies and sectors which have growth potential and are of national or regional significance. They will therefore have a key role to play in delivering this objective [supportive business environment] along with local authorities which will assume responsibility for supporting local businesses serving local markets." (p.27)

The Strategy document noted that the TEA rate in Scotland was below the rates found in the Arc of Prosperity countries (p.14). It set this in the context of Scotland's low growth economy, and set a target of matching the GDP growth rate of the small independent EU countries by 2017. It also committed to supporting "social enterprise, as part of investment in an enterprising third sector, ensuring the provision of start-up assistance and encouraging efforts to provide supported employment as an early step for those furthest from the labour market." (p.38).

Also in November 2007, a concordat was signed between the Scottish Government and COSLA, the body that represents local authorities, that set out the terms of a new relationship between national and local government, including funding commitments to 2010-11². From 2008-09, local authorities would report on their progress in contributing to national targets. Each local authority would negotiate a Single Outcome Agreement based on the national outcomes with effect from 2008-09. Within the national outcome objective of Scotland becoming the most attractive place for doing business in Europe, increasing the business start-up rate was listed as a national target, and the business start-up rate, as measured by VAT registrations, was designated as one of 45 national indicators. With changes in government recording of business start-ups, this target was later refined. Local authorities were assigned a lead role in achieving the target.

In April 2008, a Small Business Bonus Scheme was introduced with the aim of progressively

reducing rates (local property taxes) for businesses with properties with a combined rateable valuation of £15,000. It was generally welcomed by small business representatives.

By the end of June 2008, Single Outcome Agreements had been agreed with each of the 32 local authorities in Scotland³. Very specific targets for business start-up rates were developed and written into these Single Outcome Agreements. For the first time, local authorities were directly responsible for specific, publically available targets, tailored to their areas. These included targets for businesses served by the Business Gateway in their area, business bank account openings, and business registrations and de-registrations.

Also in June 2008, an action plan was launched by the Scottish Government "to create the environment in which an enterprising third sector can thrive"⁴. Proposals included the establishment of a £30 million Scottish Investment Fund in the third sector, a Third Sector Enterprise Fund, and funding for start-up social entrepreneurs. Promotion of social enterprise in schools through Determined to Succeed, and in higher and further education was also proposed.

1 www.scotland.gov.uk/Publications/2007/11/12115041/0

2 www.cosla.gov.uk/attachments/aboutcosla/concordatnov07.pdf

3 www.scotland.gov.uk/News/Releases/2008/06/30092907

4 www.scotland.gov.uk/Publications/2008/06/19085003/0

Home based businesses are the Cinderella of the enterprise economy, overlooked or dismissed by commentators and policy-makers alike. But as we showed in Chapter 4, home based businesses account for two-thirds of owner-managed businesses in Scotland. Moreover, most are serious business undertakings, in many respects little different from their counterparts in separate premises.¹ Even if most home based businesses create few jobs directly they often create significant employment indirectly, via outsourcing and collaborations.² Meanwhile those that operate on a part-time basis may be contributing a vital source of household income. For some people, running a small scale home based business is the only way that they can be economically active. Other evidence indicates that home based businesses are particularly important in rural areas where they make an important contribution to rural sustainability.³ And, of course, by eliminating commuting home based businesses are intrinsically low carbon.⁴

All of this argues for local and national governments to recognise and support home based businesses. Indeed, given their numerical significance it is difficult to see how enterprise policies can be credible without incorporating recognition for, and support of, home based businesses. A first step should be to identify and eliminate those regulations, such as tax, planning, tenancy and tenure agreements, which discourage or even disallow home based businesses. For example, clause 3.2 of the Model Revised Scottish Secure Tenancy Agreement states: "You and anyone living with you must not run any kind of business from the house.

However, if you ask us, we may give permission... If we give permission, we may also increase your rent." This clause is used by local authorities in Scotland and may well act as a disincentive for those with most to gain from economic advancement through entrepreneurship.⁵

Chapter 5 showed that entrepreneurial activity varies widely across Scotland, and local problems may require local solutions. The Scottish Government has shifted the pendulum from national to local delivery with the hand-over of responsibility for new and small business support from Scottish Enterprise to local authorities. The handover has been long and drawn out, partly because of the award of three year tenders of contracts for Local Enterprise Company regions, which tend to span more than one local authority. While lead authorities have been appointed in each LEC region, there are signs that some individual local authorities are increasingly looking to local solutions to deliver on their Single Outcome Agreements. Some LECs contained local authorities with differing levels of entrepreneurial activity, and cooperation between local authorities in these regions could be strained due to these differences.

A deeper issue remains. Local authorities have ambitious targets to boost start-up rates in their areas. Start-up rates in Scotland, as measured by GEM since 2000, have hardly changed in nine years. It will be interesting to see if this bold experiment in delivery decentralisation makes a difference in the years to come.

The findings in Chapter 6 on prevalence

and effect of entrepreneurship training have implications for policy, given the effort being expended in Scotland in enterprise education in schools, and the persistent lag in entrepreneurial attitudes and activity in Scotland relative to the UK and Arc of Prosperity nations revealed in Chapter 3. The findings for Scotland and the UK suggest that enterprise training in third level, but not primary or secondary school, roughly doubles the odds of an individual having positive entrepreneurial attitudes, intention and activity. The survey interviewed individuals who would, in the main, not have benefited from the recent investment in enterprise education. Only tracking through time will reveal whether this investment in schools enterprise education will reap dividends, or whether investment in third level entrepreneurship training, as suggested by these findings, would be more productive.

1 For more evidence on the economic significance of home based businesses, see C M Mason, S Carter and S Tagg (2008) *Invisible businesses: the characteristics of home-based businesses in the United Kingdom*, Working Paper 08-01, Hunter Centre for Entrepreneurship, University of Strathclyde www.strath.ac.uk/huntercentre/research/wp/

2 Enterprise Nation (2008) *Home Business Report 2008*, Redbrick Enterprises, Shropshire (www.enterprisenation.com).

3 Dwelly, T et al (2006) *Under The Radar: Tracking and supporting rural home-based business*, LiveWork Network for the Commission for the Rural Communities

4 T Dwelly and A Lake (eds) *Can Homeworking Save The Planet?* (London: The Smith Institute) www.smith-institute.org.uk/publications/can_homeworking_save_the_planet.htm

5 Available at www.scotland.gov.uk/Publications/2002/09/15391/10798#b20

Appendix 1

In the GEM 2008 Executive Report¹, the tenth in the series, a revised GEM model was presented. This model incorporated what has been learnt about entrepreneurial activity in the past ten years, and also what has been learnt about the economics of development and where entrepreneurship and innovation contribute to economic development. In particular, GEM adopted the World Economic Forum typology of "factor-driven economies", "efficiency-driven economies", and "innovation-driven economies"².

The revised model recognises that the nature and contribution of entrepreneurship may vary across countries with different levels of economic development. The model suggests

a comparative study of entrepreneurship of an economy such as Scotland should focus on other innovation-driven economies rather than factor - or efficiency-driven economies.

The second major adjustment to the GEM model is the recognition that entrepreneurship is multi-faceted, and is not captured by one measure but by many. This is represented in the diagram by the Entrepreneurship box which has three main components: attitudes, activity and aspirations. Given the right institutional context (as represented by the left hand side of the diagram), entrepreneurial attitudes, activity and aspiration interact to contribute to national economic growth through the provision of new economic activity. This is important because it

suggests that a narrow focus on measuring the number of business start-ups alone may miss the important impact that attitudes and aspirations, as well as institutions, may have on the effect of entrepreneurship in a nation on national economic growth.

1 Bosma, N., Acs, Z.J., Autio, E., Coduras, A., and Levie, J. (2009). *Global Entrepreneurship Monitor 2008 Executive Report*. London: GERA. Available at www.gemconsortium.org

2 Phases of economic development are decided on the level of GDP per capita and the extent to which countries are factor-driven in terms of the shares of exports of primary goods in total exports. See Porter, M.E. and Schwab, K. (2008), *The Global Competitiveness Report 2008-2009*, Geneva, Switzerland: World Economic Forum.

