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EXECUTIVE SUMMARY

BACKGROUND TO GEM

- The Global Entrepreneurship Monitor (GEM) project was created in 1997 as a joint initiative between Babson College - the leading centre for entrepreneurship in the United States – and London Business School. The principal aim of GEM is to bring together the world's best entrepreneurship scholars to explore and understand entrepreneurship and its link to economic growth.
- This is the fourth year that Wales has taken part in the study, along with thirty-one other nations around the World. This year the UK co-ordinating team – based at London Business School – has also attracted significant interest and funding to conduct GEM-type analyses for many of the English Regional Development Areas (RDA) and additional reports have been prepared for Northern Ireland and Scotland. The results we report below compare Wales to the whole of the UK – the latter benefiting from an amalgamated dataset of over 22,000 observations. **This degree of scale contributes to far greater accuracy of the GEM findings this year and the statistical analysis is remarkably robust at this level.** All national reports can be downloaded from the GEM website at www.gemconsortium.org. The primary data for the study of Wales was collected from an adult population survey of 2000 individuals, together with 36 interviews with Welsh experts on entrepreneurship.
- In Wales, the GEM research project is headed by Professor Dylan Jones-Evans, (Director of Entrepreneurship at the North East Wales Institute of Higher Education). His co-researcher on the project is Professor David Brooksbank (Director of the Welsh Enterprise Institute at the University of Glamorgan). Both individuals are actively involved in the development of entrepreneurship research within Wales, being responsible for undertaking detailed studies supporting initiatives such as the Entrepreneurship Action Plan for Wales, Enterprise College, Enterprise Club, Wales Fast Growth Fifty initiative and the Wales Spin-Out Programme. The Welsh GEM research has been supported financially by the Welsh Development Agency, and will help inform the future development of the Entrepreneurship Action Plan for Wales.
- The GEM project is an annual research event that is, with each passing year, building a longitudinal international database to inform policy-makers, academics and practitioners of the relevance of entrepreneurial activity to economic development. The opportunity to benchmark Wales against the major economies of the World is to be welcomed, giving us the opportunity to improve our understanding of entrepreneurship in a Welsh context, and to participate in the leading forum for policy debate on entrepreneurship globally.
- In the past year GEM has risen in prominence on the UK and world stages remarkably. The analysis forms the backbone of the Small Business Service's policy and action plan in England. The UK Treasury has adopted the findings, now cited in many of the Chancellor of the Exchequer's speeches and DG Enterprise in Brussels is using the methodology to steer them during the first year of the new Entrepreneurship Action Plan for the EU. GEM is now accepted as the definitive guide to rates of and trends in entrepreneurial behaviour in countries across the world and it is to the Welsh Development Agency's credit that Wales is one of the oldest contributing partners in this project.

HOW ENTREPRENEURIAL IS WALES?

- **Entrepreneurial activity in Wales has grown by 74% since 2002, the second largest increase of any UK region.** The main GEM index now shows that approximately 6.8 per cent of adults in Wales are now engaged in entrepreneurial activity – either in actively entering the start-up process or running a new small firm. This is up from 3.9 per cent in 2002, and should be ‘benchmarked’ against an average increase across the UK as a whole of 1 per cent. Whilst many nations across the world have seen increases in entrepreneurial activity, the increase in Wales should certainly be greeted with considerable enthusiasm.
- **Wales has the largest percentage increase of any ‘nation’ taking part in the GEM survey.** Only twelve other nations (including the UK and Scotland) out of the thirty one surveyed in 2003 demonstrated an increase in entrepreneurial activity on the previous year. This demonstrates the extent to which Wales is quickly adopting an entrepreneurial culture and attitude and translating this into start-up activity. This finding is a remarkable indicator of the possible effects of the Entrepreneurship Action Plan in encouraging more people to consider self-employment as a career option.
- **Most entrepreneurs in Wales continue to be opportunity driven.** Some 84 per cent of all entrepreneurial activity in Wales is to take advantage of opportunities that are available within the economy. The rise in entrepreneurial activity in Wales since 2002 is accounted for entirely by an increase in opportunity-based entrepreneurship, as opposed to people being driven to start new firms out of necessity.
- **There has been a boost in the numbers of both men and women in Wales engaged in entrepreneurial activity in 2003.** 4.1 per cent of women are likely to be entrepreneurs, compared to 9.1 per cent of men.
- **Entrepreneurial activity is focused on three key groups, which have accounted for a significant proportion of the increase in TEA in Wales.** Whilst TEA is highest amongst 25-34 year old males, three other distinct groups (males aged between 18-24; males aged between 45-54; females aged between 55-64) have increased their activity substantially since the last GEM study in 2002. This suggests that the policy of targeting key groups through the Potentia initiative could be bearing fruit and making a significant contribution to the increase in Welsh entrepreneurial activity.
- **Wales continues to have a low rate of individuals involved in start-up activity.** Only 3.6 per cent of the Welsh adult population were engaged in the first processes of entrepreneurial activity at the time of the survey. This represents an increase from 2.1 per cent in 2002 and is approximately the same as the increase experienced across the other GEM nations.
- **Wales has experienced an increase in small business management.** Wales has a new firm prevalence rate of 3.4 per cent of the adult population engaged in running firms less than 42 months old in 2003, up from 2.0 per cent in 2002. Whilst 3.4 per cent seems low in comparison to many leading nations, it nevertheless places Wales firmly in the average for European nations.
- **Welsh Business Angel activity has increased again slightly in 2003.** In 2003, 1.4 per cent of the Welsh adult population identified themselves as informal funders of start-ups, representing a modest increase in business angel involvement in supporting new firms on 2002. This is steady (but by no means spectacular) progress, especially given the prominence given to this area in terms of publicly funded efforts to increase Business Angel activity in Wales over the past few years.
- **Perception of opportunity and entrepreneurial skills has increased again in Wales.** As the optimism driving the economy continues, people still perceive good opportunities for the future in terms of new business creation. Wales now has 37 per cent of the population believing that there will be good opportunities within the next 6 months, up from 22 per cent last year. This is now only 2 per cent behind the UK average and is a good demonstration of how Wales is beginning to close the gap in terms of conditions favourable to entrepreneurship with the rest of the UK. In addition, the number of adults in Wales who believe that they have the knowledge, skills and experience to start a business has increased from 40 per cent in 2002 to 53 per cent in 2003, just 1 per cent below the UK average.

KEY POLICY RECOMMENDATIONS

- **Maintain the momentum and policy drive.** The results from this year's study are encouraging. Wales can be justly proud of the increase in entrepreneurial activity it has achieved, but there is still significant ground to make up on other regions of the UK. There needs to be considerably more work undertaken to embed an enterprise culture within Welsh society. Clearly, some of the projects being developed under the umbrella of the Entrepreneurship Action Plan are beginning to have an effect on the perception of entrepreneurship by the Welsh public and this may have begun to feed through into actual start-ups.
- **Continue to provide sufficient and appropriate finance for small firms.** There is now a wide variety of accessible finance available for potential and existing businesses. Many experts felt that the provision of loans and grants from a very low level, through to investments on the scale of venture capital, was now widely known and accepted in Wales. However, some also felt that the 'grant mentality' that this has perpetuated will not be helpful over the longer term. Therefore, care is needed in marketing the blend of products available such that the message is one of support in an environment that is still competitive.
- **Continue support for entrepreneurship amongst under-represented groups.** Wales has clearly been extremely successful in promoting entrepreneurship, especially to men, over the last few years. It is important that the very meaningful advances achieved by the organisations within the Potentia partnership are encouraged and maintained. Self-employment is still not a natural choice for many women when they consider returning to the workforce and the same is true for many of the other under-represented groups.
- **Maintain the high profile 'marketing' of the opportunities available to individuals from 'commercialising' a good idea.** The results of this year's GEM research show that there are now more individuals in Wales perceiving opportunity and believing they have the skills to establish a new business. However, this is not being translated into new firms (at least according to the current data). Therefore, there must be an increased focus in the range of start-up programmes (Potentia, KEF, Business Birth rate) on getting a higher conversion rate from 'good intentions to become an entrepreneur' into actual start-ups.
- **Facilitate better linkages between the public and private sector support functions for small firms.** There are still a great many support organisations, both in the public and private sectors, that purport to support 'enterprise' in its many guises. This is not surprising given the financial and political rewards available. However, it is vital that the efforts of these bodies pull in the same direction and here the National Assembly has a vital role in steering the economic path for the country. Duplication of initiatives and funding will do little to achieve the overarching aim.
- **Rethink the organisation and delivery of enterprise education and training.** There needs to be greater co-ordination between (and across) the different educational sectors to ensure that schools, colleges and universities are 'singing from the same hymn sheet' when it comes to the development of enterprise within the educational system and, perhaps, most importantly, outside of it.
- **Emphasise the need to change the perception that society and culture in Wales is anti-entrepreneurship.** Despite improvements in some areas, there is still a perception that Welsh society is not supportive of entrepreneurial success, does not encourage creativity and innovation, and does not emphasise autonomy and personal initiative. This means that there has to be a longer term commitment by policymakers in ensuring that the positive message regarding entrepreneurship permeates throughout Welsh culture.
- **More detailed study of Welsh entrepreneurial activity required.** Whilst the results of this current GEM study are important in monitoring and improving the development of an entrepreneurial economy within Wales, there are certain limitations to the data gathered. For example, having such a small sample means that very little detailed analysis can be undertaken of entrepreneurial activity. Therefore, the study needs to be expanded for 2004 into a more detailed study of entrepreneurship, working closely with partners at a local and regional level, to ensure that GEM can give a more detailed account of how entrepreneurship is developing within all parts of Wales.

INTRODUCTION TO GEM

The Global Entrepreneurship Monitor (GEM) describes and analyses entrepreneurial activity across a large and growing range of nations. Begun in 1997 as a joint initiative between Babson College in the US and London Business School, its principal aim is to produce internationally comparable data on the elusive concept of entrepreneurship.

The global GEM study focuses on answering three fundamental questions:

- Does the level of entrepreneurial activity vary between countries (and regions within countries) and, if so, by how much?
- Does the level of entrepreneurial activity affect the national or regional rate of economic growth?
- What makes a country (or region) entrepreneurial?

The GEM conceptual model builds a cogent argument for a link between the activity of the entrepreneurial sector of the economy and national economic growth. It is presented in Appendix A.

This is the fifth annual GEM cross-national assessment of entrepreneurial activity. The programme has expanded from 10 countries in 1999 to more than 30 in 2002 and 2003 (the current list of participating teams is shown in Appendix B). Wales took part in GEM for the first time in 2000, along with Scotland. The assessment of the UK now includes several RDA areas (including East Midlands, South West England and West Midlands) as well as Scotland and Northern Ireland.

The countries included in the 2003 assessment are:

- Western Europe - Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, The Netherlands, Norway, Spain, Sweden, Switzerland, UK (including Wales).
- Eastern Europe – Croatia and Slovenia.
- Asia – Developed - Hong Kong, Japan and Singapore.
- Asia/Africa – Developing - China and Uganda.
- Latin America - Argentina, Brazil, Chile and Venezuela.
- Other English Speaking - Australia, Canada, New Zealand, South Africa and the United States.

Data for the GEM Wales research study was gathered from three main sources:

1. A survey of the adult population.
2. In-depth interviews with Welsh experts on entrepreneurship.
3. A selection of economic and labour market data from a variety of sources.

For GEM 2003, over 100,000 individuals were surveyed and over 1000 experts interviewed in 31 nations around the world. This means that GEM covered more than three-fifths of the world's population and 92 per cent of its gross domestic product. In Wales, 2000 individuals were surveyed and 36 national experts were interviewed.

¹ Reynolds, Paul D., Bygrave, William D., Autio, Erko and Others (2004) Global Entrepreneurship Monitor: 2003 Executive Report

Summary results of the global GEM 2003 study were published in January 2004¹ and the findings can be summarised as follows:

- **Entrepreneurship is a massive global phenomenon.** The national average prevalence rate – the Total Entrepreneurial Activity (TEA) index – was 9 per 100 of those 18-64 years old. The addition of new countries this year increased the range of activity from 2% to 29% – a factor of 15. There has been considerable year-to-year stability in this measure for individual countries. Among the participating GEM countries there are 2.4 billion in the working years (18-64 years old); it is estimated that 300 million nascent entrepreneurs are attempting to establish 192 million new firms.
- **The level of that activity varies from country to country.** The levels vary from about 3 per cent of the adults in Japan up to more than 18 per cent in India and Thailand. The lowest levels are recorded in the developed Asian countries and Central Europe. They rise in the EU, then the other English speaking countries, with the highest in the developing Asian countries. This suggests that patterns of growth of entrepreneurial activity can be characterised by both stages of a nation's development as well as cultural norms.
- **Entrepreneurship is associated with economic growth.** New firms appear to provide from 2% to 15% of the current jobs in the GEM countries; this job creation is highly correlated with the level of startup activity. There is a positive, statistically significant association between national economic growth and national level of entrepreneurship (either the group classification or the level of the TEA index) in prior years. This association is higher for the TEA necessity index, reflecting those that pursue start-ups because they have "no better choices for work." Necessity entrepreneurship is much greater in poorer countries, which have higher growth rates than richer countries.
- **Entrepreneurship creates jobs.** Over the 2000 to 2003 period, about four in five new firms expect to create jobs and once they are established, one in five expect to provide 20 or more new jobs. New firms are created in all economic sectors but only one in 33 expects to have a substantial innovative impact on the market. About two-thirds are implemented by men and 60 per cent by those 25-44 years old; 66 per cent are starting a new firm to pursue an opportunity, 27 per cent out of necessity, and 7 per cent for other reasons.
- **The economic and cultural context is vital for entrepreneurship to flourish.** Men are twice as likely to pursue start-ups as women, and younger adults (25-34 years old) are the most active. A positive personal context – knowing entrepreneurs, seeing good business opportunities, and having the skill to create a business – has a major impact on participation in firm start-ups. A cultural context that is positive toward entrepreneurship – reflected in social acceptance of entrepreneurial careers, respect for new business success, and positive media coverage – tends to increase participation in startups, but has less effect than a positive personal context. Educational attainment and household income affects the motives for entrepreneurship – the poor and uneducated are more likely to be responding to necessity – than the absolute level of participation.
- **Investment in infrastructure is not a short term fix.** High potential new firms, those expecting or planning for substantial job growth, appear to be more prevalent in countries with a substantial research and development infrastructure. While the presence of such an infrastructure is likely to have a major long-term influence on technology based entrepreneurship, it can sometimes take decades for a significant, measurable impact.

This report focuses exclusively on Wales and builds on last year's comprehensive benchmark research to:

- Present the GEM 2003 Wales findings.
- Assess the position of Wales relative to the GEM nations taking part in this year's study.
- Compare the results with previous Wales GEM reports to determine how entrepreneurship is developing within Wales.
- Develop a public policy agenda for the development of entrepreneurship within Wales.

HOW ENTREPRENEURIAL IS WALES?

THE GEM MEASURES OF ENTREPRENEURIAL ACTIVITY

This report focuses on the entrepreneurial activity taking place in Wales in 2003. However, it is part of a global study reflecting the activity of over 450 million people. In this fourth year of participation, we can begin to compare some of the trends in global, as well as regional, activity and examine the impact of some of the interventions that have been designed to boost enterprise and entrepreneurship over the past few years.

While the original focus of the GEM research programme was (and still remains) on cross-national comparisons in entrepreneurial activity, the current global level of activity suggests that the phenomenon is substantially more prevalent than first expected. Not only may entrepreneurship be a major feature of national economic growth, but it also appears to involve a large proportion of adults at some time in their working lives. The capacity to compare countries at different levels of development and in different states of transition suggests multiple roles for and diverse consequences of entrepreneurial activity. The primary output of GEM is intended to be a comparable measure of entrepreneurial activity. This measure is not only comparable across countries each year – allowing a ranking of nations to be established – but also across time – allowing individual countries to chart their progress against a reliable benchmark.

GEM defines entrepreneurship quite narrowly as “Any attempt at new business or new venture creation, such as self-employment, a new business organisation, or the expansion of an existing business by an individual, teams of individuals, or established businesses.” This means that we are considering people who are either in the process of start-up or who have actually recently started a new firm.

GEM constructs measures of four areas of entrepreneurial activity. The first is the level of start-up activity – defined as the proportion of the adult population aged 18-64yrs who are actively participating in the process of start-up. We call these individuals nascent entrepreneurs and the proportion of the population engaged in this activity we label as the nascent entrepreneurship prevalence rate. The second area is that of new firms. Here we measure the proportion of the population that is currently active in running a new business – the new firms prevalence rate – and define new as businesses that have been running for less than 42 months.

By combining these two measures (nascent and new), we can construct the Total Entrepreneurial Activity (TEA) rate for the country, which constitutes the main output index of this research. Care is taken when compiling this measure not to double-count individuals who may be both nascent and new firm entrepreneurs and for this reason the TEA index will not always equal the exact sum of the other two measures.

Finally we look at the proportion of individuals who can be classified as ‘business angels.’ In other words, adults who have provided funding for start-ups, whether that be for family, friends or complete strangers. This gives us a feel for the ‘informal’ venture capital market that exists in Wales, since a high level of activity has often been linked with successful and dynamic economies with high levels of entrepreneurial activity.

Once again for GEM 2003 we decompose the primary motivations behind an individual's decision to engage in entrepreneurial activity. In particular, we have a look at measures that highlight whether the activity was based on ‘opportunity’ or was born of ‘necessity’. The Opportunity Entrepreneurship prevalence rate is calculated as the proportion of respondents who are classified as nascent entrepreneurs and indicated that they were attempting to start the new business in order to pursue a new business opportunity. The Necessity Entrepreneurship prevalence rate is the proportion of nascent entrepreneurs who responded that they were attempting to establish the new firm because there were no better choices of work.

BUSINESS START-UP ACTIVITY

START-UPS

Wales has seen a marked improvement in entrepreneurial activity in the last year. In 2003, Wales had 3.6 per cent of the adult population engaged in the first processes of entrepreneurial activity at the time of the survey, compared to 2.1 per cent in 2002, an increase of approximately 71 per cent.

This gives a ranking of 17th out of the 31 countries taking part in GEM 2003 and puts Wales slightly ahead of the UK average level of entrepreneurial activity.

This increase is pleasing to see and is reflected across a number of other GEM countries. It would appear that the modest upturn in global business activity, together with the relative stability of the UK economy, has had an impact in Wales. This increase in performance is reflected in other GEM nations. For example, the United States had a rate of 8.1 per cent in 2003, compared to 7.1 per cent in 2002. The countries with the highest rate of nascent entrepreneurship are Venezuela (19.2 per cent), Uganda (14.8 per cent), Argentina (12.4 per cent) and Chile (10.9 per cent). All of these have a start-up rate of nascent entrepreneurship that is statistically significantly above that in Wales.

NEW FIRMS

Wales has a new firm prevalence rate of 3.4 per cent of the adult population engaged in running firms less than 42 months old in 2003, compared with 2.0 per cent in 2002. This ranks Wales 16th out of the 31 GEM nations. France has the lowest rate at just 0.3 per cent followed by Croatia with 0.9 per cent. The countries with the highest rate of new firm activity are Uganda (16.9 per cent), Venezuela (9.7 per cent), Argentina (8.5 per cent) and China (7.4 per cent).

Whilst 3.4 per cent is quite low in comparison to some of these other nations, it nevertheless represents a significant improvement for Wales and places the country on a par with the UK and ahead of many of our close European neighbours. Clear differences remain between levels of entrepreneurship in European nations and for other regions of the world – both in terms of the reason for undertaking entrepreneurship and also in terms of the sheer numbers involved.

Once again in 2003, the start-up rate for Wales is higher than that for new firms. This pattern is expected and common to almost all of the GEM nations. In practice many ideas for new firms go through a 'gestation' phase where options are considered, finance investigated, markets researched etc., but then do not actually end up with the launch of a new firm. However, the gap has closed this year, perhaps indicating some degree of improvement in the number of ideas that have actually taken off in Wales.

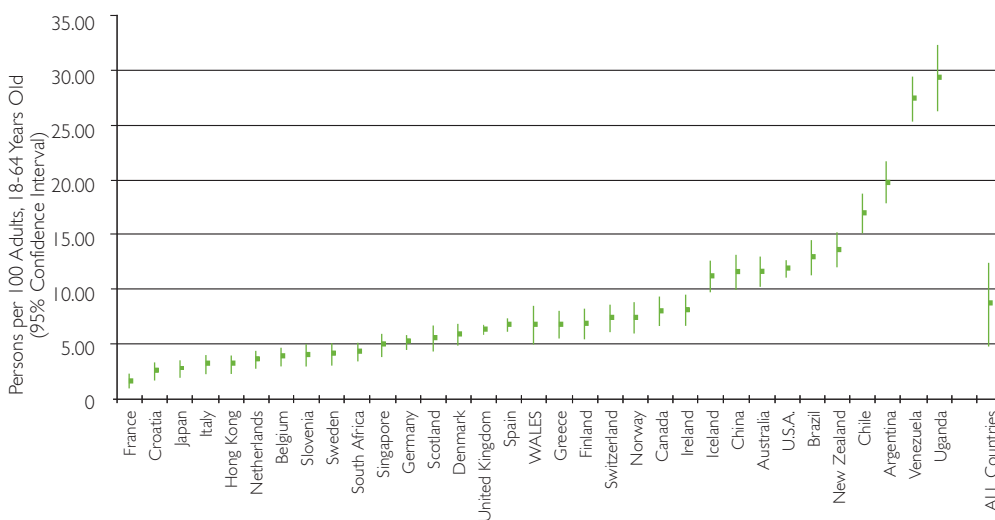
TOTAL ENTREPRENEURIAL ACTIVITY

The Total Entrepreneurial Activity (TEA) indices for 2003 are depicted in Figure 1. This shows the sum of the nascent and the new firms prevalence rates, less any double counted respondents who may appear in both categories.

We see that in 2003 Wales had a TEA score of 6.8 per cent, up from 3.9 per cent in 2002. This represents an increase of approximately 74 per cent in total entrepreneurial activity over the period 2002-2003. This means that approximately 7 people in every 100 aged 18-64yrs in Wales were actively involved in starting or running a new firm in 2003 (or approximately 132,000 people).

Across the Global GEM study, Wales ranks 16th out of the total group of 31 GEM nations, compared to a ranking of 33 in 2002. Therefore, in 2003, Wales rose ahead of Scotland (5.5 per cent) ranked 19th and the UK (6.4 per cent) ranked 17th. These figures are statistical approximations and so vary within a confidence interval.

Figure 1 TEA 2002 - Total Entrepreneurial Activity Prevalence Rate by Country



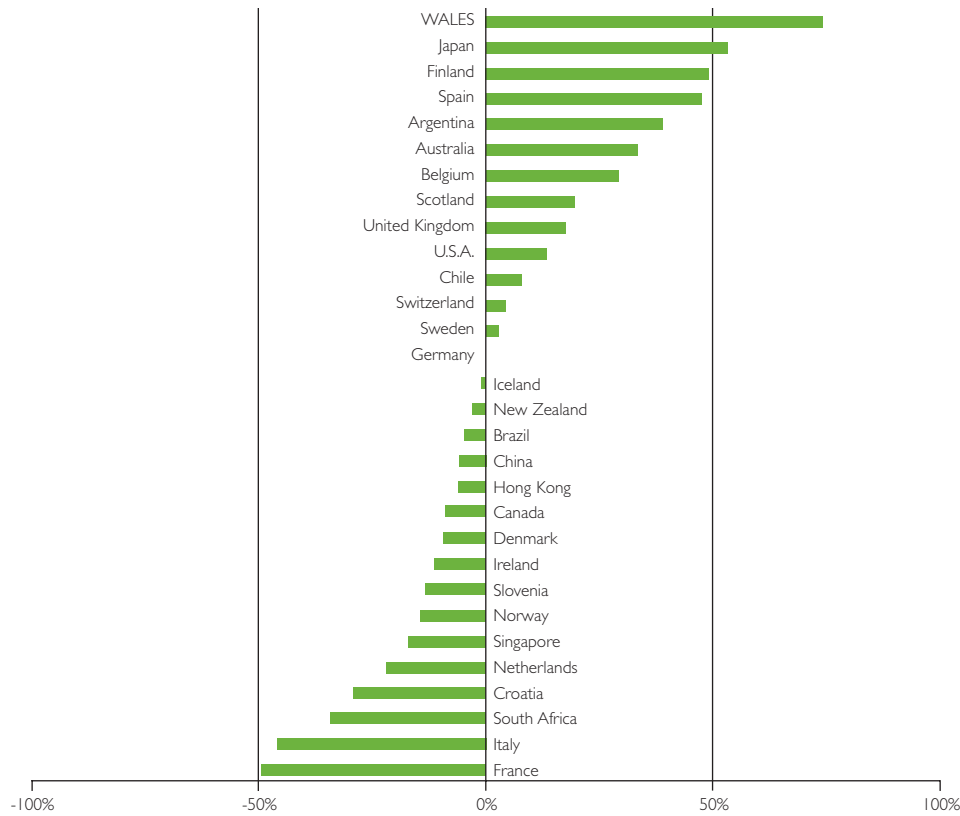
The lines drawn from each point in figure 1 represent the 95 per cent confidence interval and therefore actual ranking could vary quite substantially. Only when there is no intersection between the lines of the confidence intervals for two particular scores can we be sure that one nation definitely ranks above another. Interestingly this means that Wales could be ranked as low as 25th, but we know it is highly unlikely to be ranked above Iceland in 10th place. This problem could be solved by a bigger sample frame for Wales which could then also give more statistically robust approximations for a range of other key indicators such as ethnic entrepreneurship and sub-regional start-up rates.

The most entrepreneurial nations in GEM 2003 were Uganda (29.3 per cent), Venezuela (27.3 per cent), Argentina (19.7 per cent) and Chile (16.9 per cent). The United States had a TEA score of 11.9 per cent, up from 10.5 per cent in 2002. The lowest countries were France (1.6 per cent) and Croatia (2.5 per cent).

However, if we look at the relative change in total TEA in the period 2002-2003, we find that Wales has had the **largest percentage increase** of any 'nation' taking part in the GEM survey (Figure 2). Only twelve other nations (including the UK and Scotland) out of the thirty one surveyed in 2003 demonstrated an increase in entrepreneurial activity on the previous year. This demonstrates the extent to which Wales is quickly adopting an entrepreneurial culture and attitude and translating this into start-up activity and is a remarkable indicator of the possible effects of the Entrepreneurship Action Plan in encouraging more people to consider self-employment as a career option.

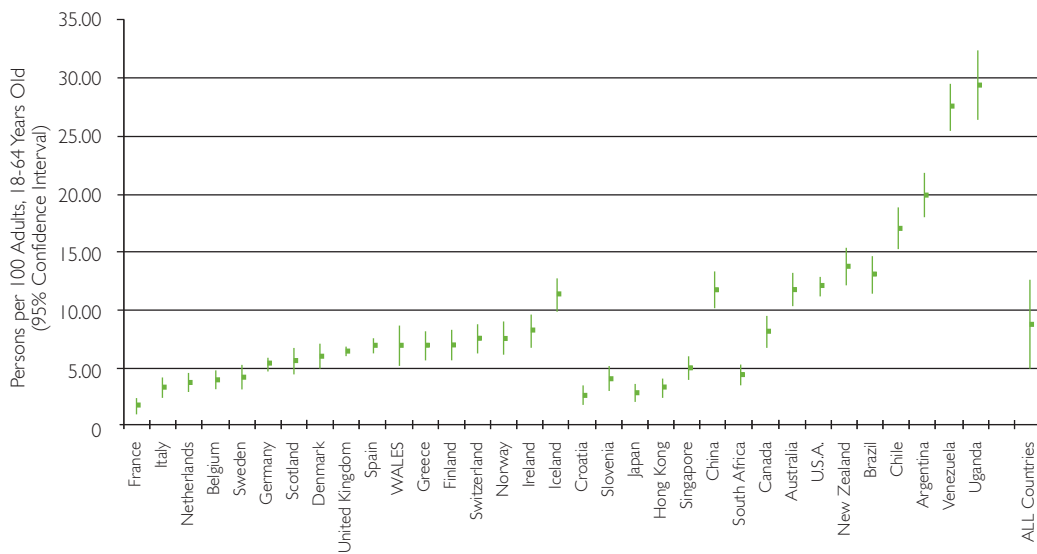
As discussed briefly above, it does appear that stages of development, as well as other cultural and demographic phenomena go some way towards explaining the differences that occur between nations. Figure 3 shows the TEA scores for the nations rearranged into the geographical regions mentioned above – Western Europe, Eastern Europe, Asia – Developed, Asia/Africa Developing, Latin America and other English Speaking. Wales is ranked towards the middle of the Western European group, but not statistically significantly different from most in that group.

Figure 2 TEA Percentage Change 2002-2003



The average TEA score in Western Europe is about 6 per cent. The average scores for the other global regions are also interesting to examine. There are similar rates for Eastern Europe, whilst Asia-Developing is far higher on average than Asia-Developed. One explanation for this is the very traditional (and in some cases hierarchical) employment structures in these developed nations. Starting new firms is not part of the everyday activity of life in these countries and strong social values means that this is unlikely to change quickly over time. In the other English speaking (former British Empire) countries there is still a striking difference between the 'developing' country of South Africa and the 'developed' countries of Australia and New Zealand.

Figure 3 TEA 2003 - Total Entrepreneurial Activity Country by Region



OPPORTUNITY AND NECESSITY ENTREPRENEURSHIP

The distinction between those new business starts driven by a desire to exploit a business opportunity, and those where there was effectively no better choice, was first introduced into GEM two years ago. It proved so useful that it has now become an established part of the whole programme of research.

Figure 4 shows prevalence rates of opportunity based entrepreneurship for the 31 nations; Wales has a rate of 5.6 per cent – up significantly from 2.8 per cent in 2002. This compares to 4.6 per cent in Scotland and 5.6 per cent in the UK. Almost every team experienced a slight rise in this measure in 2003, although the range of the measure is still large. For example, the highest rate of 16.9 per cent was in Uganda, with New Zealand at 11.5 per cent. The average rate was about 6.3 per cent across the whole 31 GEM nations, with the lowest being 1.1 per cent in France – this range of prevalence rates represents more than a ten-fold difference.

Approximately 84 per cent of new entrepreneurs in Wales claimed to be pursuing their start-up idea because they had spotted an opportunity in the market. These results rank Wales at 16th out of the 31 nations. In Wales, 66 per cent of opportunity-based entrepreneurs were male with a TEA score of 7.4 per cent, 34 per cent were female with a TEA score of 3.7 per cent. 68 per cent of these people were aged between 25 and 44 years.

The distribution of necessity entrepreneurship – where people have no better choices for work – is shown in Figure 5. Wales has a necessity-based prevalence rate of 1.2 per cent in 2003, slightly up from 0.8 per cent in 2002. Scotland has a rate of 1.1 per cent, with the UK at 1.0 per cent. However, there is no statistical difference between these three rates. Here the range of prevalence rates is even broader with Italy at 0.2 per cent and Belgium at 0.3 per cent at the lower end of the distribution, compared to Uganda (13.4 per cent), Venezuela (12.9 per cent) and Argentina (8.7 per cent) at the upper end.

Figure 4 TEA 2003 - Opportunity-Based Entrepreneurship by Country

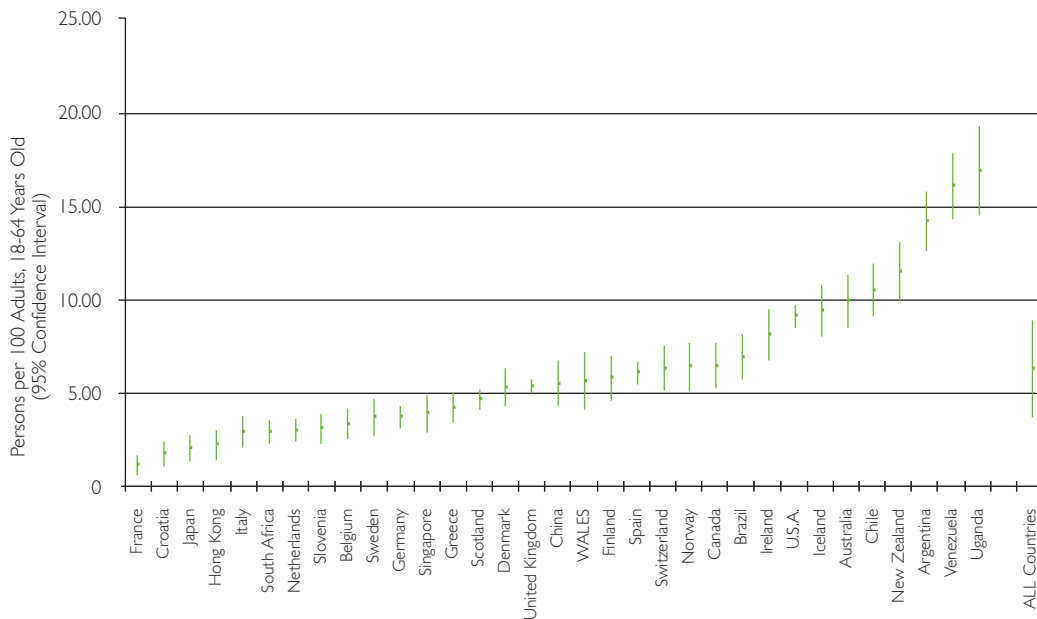
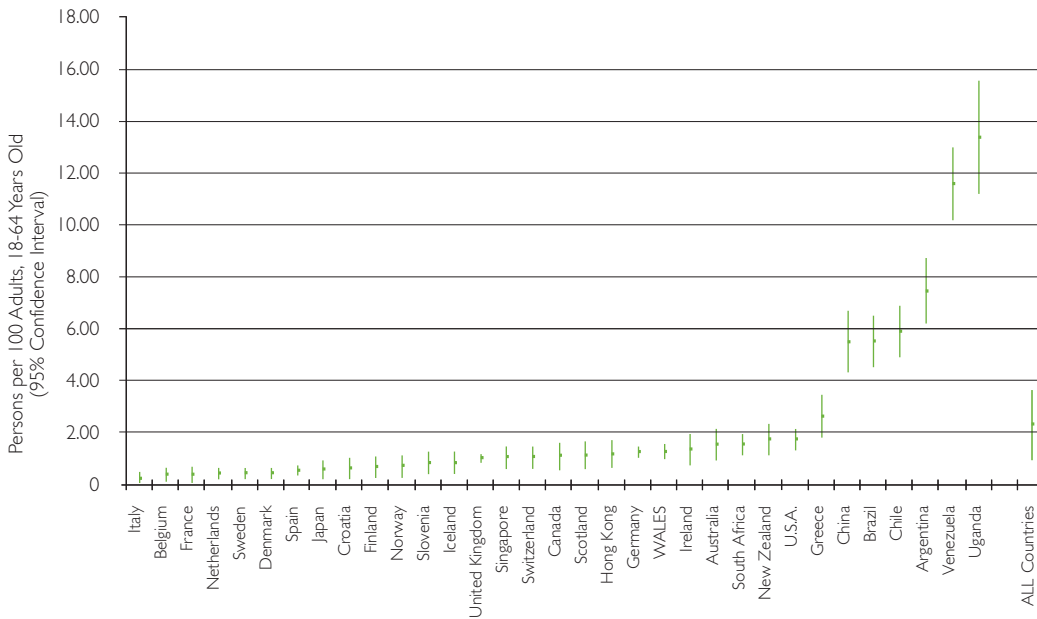


Figure 5 TEA 2003 - Necessity-Based Entrepreneurship by Country



What is interesting is that many of the GEM countries have so few people actually participating in entrepreneurship out of necessity. At the higher value end of the table there are the developing countries, with the more developed countries congregating at much the same sort of low levels towards the left side of the chart. The average for the 31 nations is approximately 2.3 per cent, although this is skewed by the rates in the developing countries.

In Wales, 38 per cent of necessity based entrepreneurs were male with a TEA score of 1.9 per cent, 62 per cent were female with a TEA score of 0.5 per cent. However, there was no statistical difference between these two measures and the sample size was small.

ENTREPRENEURSHIP, AGE AND GENDER

In GEM 2003, the gap between prevalence rates for men and women has widened slightly. 68 per cent of Welsh entrepreneurs were male (with a TEA score of 9.1 per cent) whilst 32 per cent were female (with a TEA score of 4.1 per cent). There is now a statistically significant difference between these two measures. This does not compare favourably in terms of female entrepreneurship to last year when 57 per cent were male and 43 per cent female – and this ‘divide’ was not statistically significant. So taking these broad measures, roughly nine out of every one hundred males in Wales are currently engaged in entrepreneurial activity, compared to four out of every hundred women.

Despite some improvement in female participation rates, we remain reluctant to draw too many conclusions from such a fluctuating measure and await a longer time-series before definite policy implications can be drawn. Indeed, Figures 6 and 7 shows that this divide is present in many countries around the world and that the sorts of fluctuations we find in Wales are not untypical. A more detailed attitudinal measure of how women are faring within enterprise in Wales is described later in this report through an analysis of interviews with key informants.

Figure 6 Total Entrepreneurial Activity - Males 2003: By Country

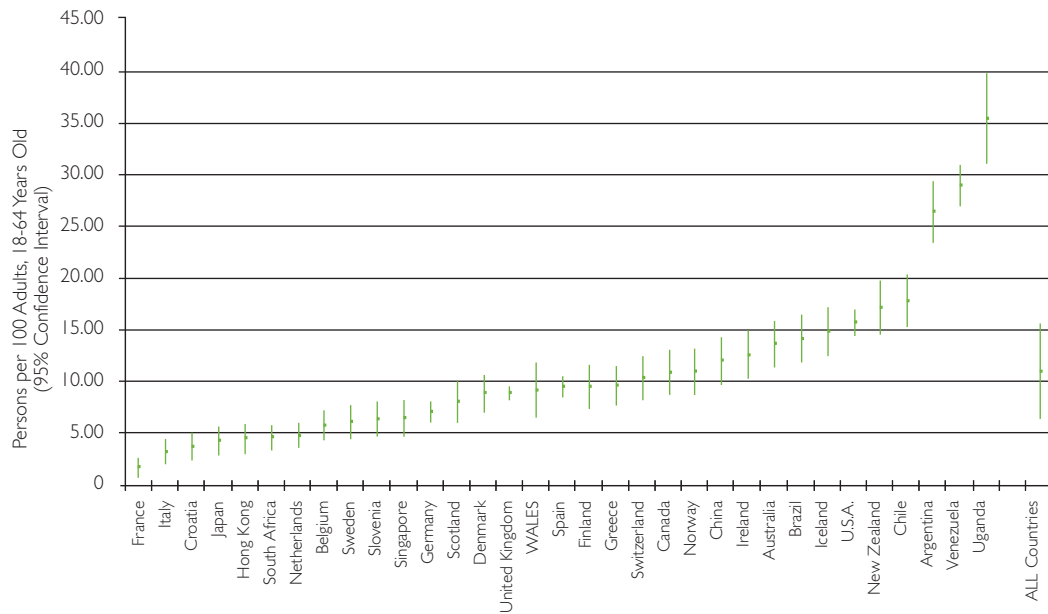
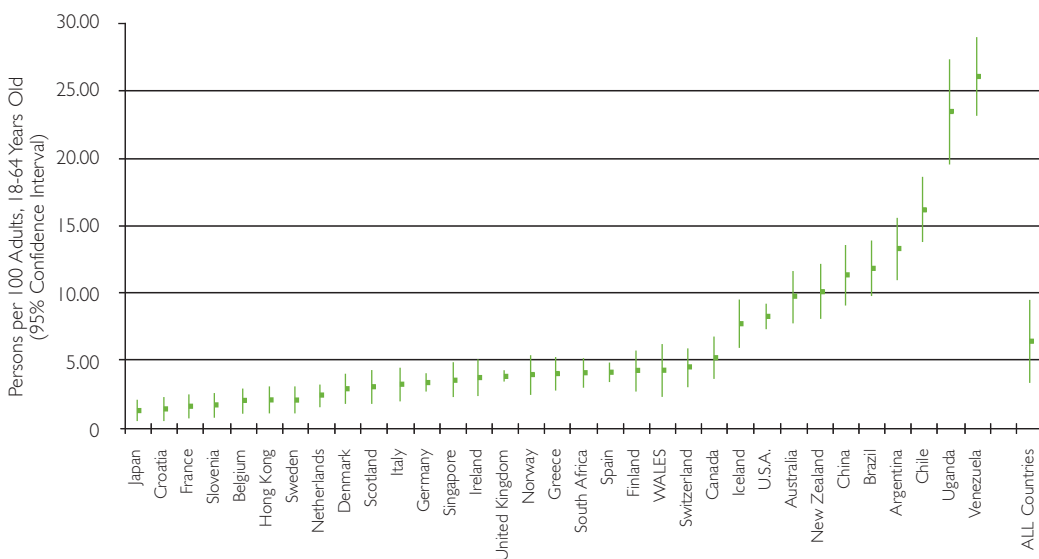


Figure 7 Total Entrepreneurial Activity - Females 2003 by Country

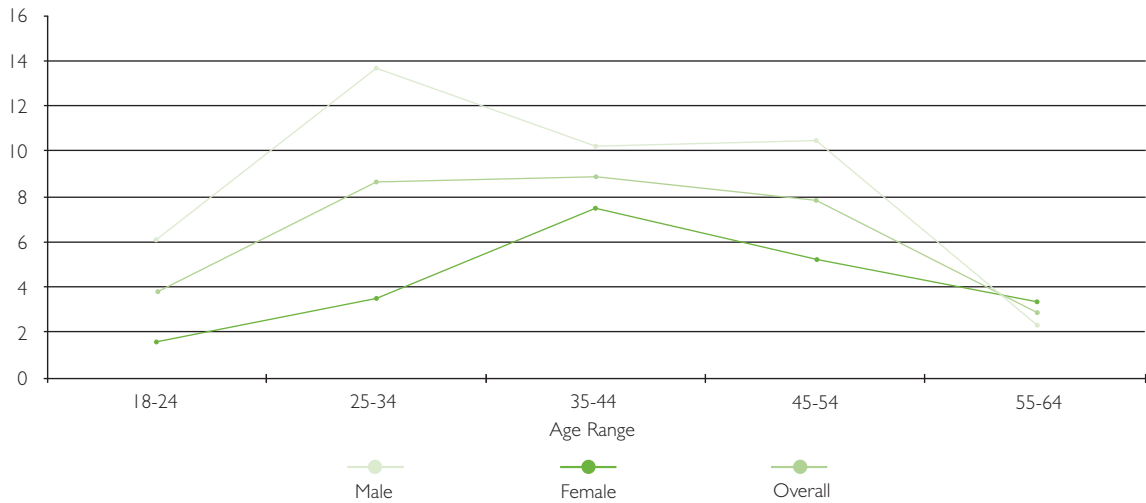


Examining the age profile for entrepreneurship is also interesting, given the development of policy proposals such as the WDA's Potentia programme, which targets young people and those over the age of 50. As Figure 8 shows, the peak of entrepreneurial activity in Wales in 2003 occurred in the 25-34 years age range. However, it is also worth noting that in terms of the increase in total entrepreneurial activity, which is the main finding of this year's report, three quite distinct groups make significant contributions, namely

- Males aged between 18-24.
- Males aged between 45-54.
- Females aged between 55-64.

Given that the Entrepreneurship Action Plan has concentrated on these key groups, this could be an indication that this policy of targeting could be working and contributing significantly to the increase in entrepreneurial activity within Wales. These figures must be treated with caution as the small sample size precludes us from drawing out too many conclusions although, as in previous years, it would appear that policies aimed at encouraging entrepreneurship amongst the younger and older age ranges continue to address a definite need in the economy identified by this study.

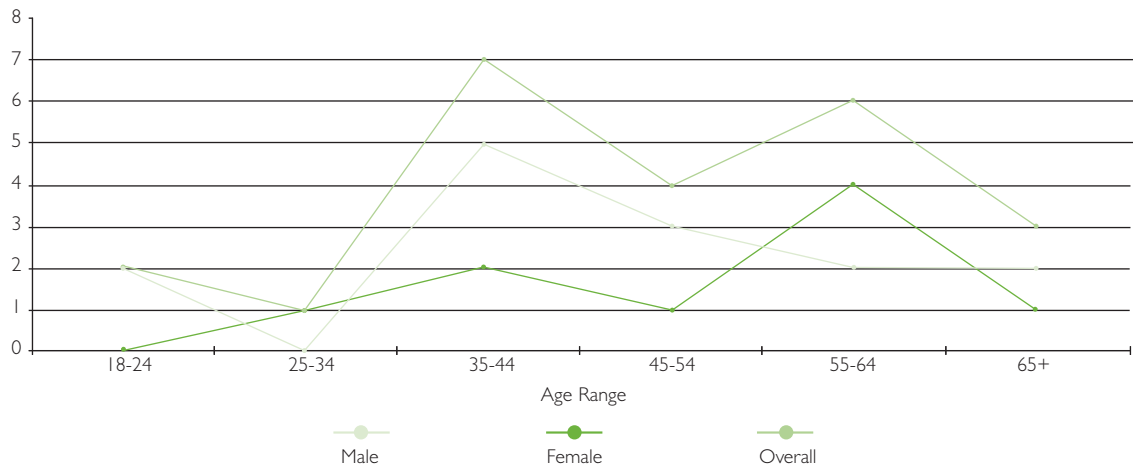
Figure 8 Entrepreneurial Activity by Age Range, Wales 2003



BUSINESS ANGEL INVESTMENT

The extent to which individuals provide funds for start-up firms on what is usually an informal basis is an important indicator of entrepreneurial activity (Figure 9). For GEM 2003, 23 individuals (or 1.4 per cent of the sample) identified themselves as having personally provided funds in any of the past three years for a new business start-up that was not their own (excluding buying shares in a publicly traded stock or mutual fund). This is a marginal improvement on the 20 individuals identified in 2002 in the Welsh survey.

Figure 9 Business Angel Demographics, Wales 2003



With regard to the profile of the business angels identified in the adult population survey:

- Fourteen were male whilst nine were female.
- Two of the males and one of the females were over 65 years of age, with the rest spread evenly across the age range.

Table 1 Business Angel Activity, Wales 2003

Business Type	Relationship of Business Angel to Entrepreneur	Investment Amount (£s)
Management Consultancy	Friend/neighbour	75,000
Hotel	Spouse/partner	20,000
Manufacturing	Other relative	20,000
Civil Engineering	Friend/neighbour	20,000
Service sector	Spouse/partner	15,000
Restaurant/Bar	Spouse/partner	10,000
Civil Engineering	Spouse/partner	10,000
Fast Food Retail	Spouse/partner	5,000
Photography	Other relative	3,000
Builder	Spouse/partner	3,000
Restaurant/Bar	Friend/neighbour	2,000
Restaurant/Bar	Spouse/partner	2,000
Garage Services	Stranger	2,000

Table 1 illustrates the range of new businesses attracting Business Angel investment in Wales identified by the GEM survey. The range is fairly narrow, with traditional areas such as catering, garages services and consultancy being highlighted. Only one owner-manager had received funds from a stranger (someone not identified as a relative, friend or neighbour), with the rest relying on 'closer' contacts to provide the funds. The gradual trend towards surveys like this identifying growth in the 'equity environment' in Wales is clearly a good sign. However, Wales still remains well down the ranking at 28th out of the 31 GEM nations in this area and it should clearly be one where increased emphasis is given.

WALES' ENTREPRENEURIAL SCORECARD

Table 2 provides a summary of the main indices for Entrepreneurial Activity for Wales and illustrates how the nation has performed against the other countries in the GEM study for 2003.

Table 2 Wales' Entrepreneurial Activity Scorecard

Entrepreneurial Activity Indicators	Wales		All GEM Countries		
	Rank	Score	Median	High(Score)	Low (Score)
Start-ups overall	26th	4.2%	9.1%	27.7% (VE)	1.7% (FR)
Opportunity entrepreneurship	16th	5.6%	5.5%	17.1% (UG)	1.1% (FR)
Necessity entrepreneurship	15th	1.1%	1.0%	13.2% (UG)	0.2% (IT)
Nascent entrepreneurship	17th	3.6%	2.5%	19.2% (VE)	0.9% (FR)
Total Entrepreneurial Activity	16th	6.8%	6.8%	29.3% (UG)	1.6% (FR)
Change in TEA 2002-2003	1st	74.1%	3.1%	74.1% (WAL)	-49.1% (FR)
TEA – Male	18th	9.1%	9.5%	35.6% (UG)	1.7% (FR)
TEA – Female	13th	4.2%	4.0%	25.7% (VE)	1.3% (JP)
Start-ups Female/Male Ratio	12th	52%	44%	448% (FR)	21% (SW)
New Firms Female/Male Ratio	25th	36%	50%	125% (IT)	10% (SL)
Participation of population as business angels in last 3 years	28th	1.2%	3.0%	13.2% (UG)	0.4% (JP)

Country codes:

FR – France;

IT – Italy;

JP – Japan;

SL – Slovenia;

SW – Sweden;

UG – Uganda;

VE – Venezuela;

WAL - Wales

ENTREPRENEURIAL FRAMEWORK CONDITIONS IN WALES

The theoretical model developed by GEM identifies nine different dimensions that are considered to have an impact on a nation's entrepreneurial activity by directly influencing the conditions that lead to new venture start-ups and business growth (see Appendix A). The nine entrepreneurial framework conditions are:

- **Financial support** - the availability of financial resources, equity and debt for new and growing firms including grants and subsidies.
- **Government policies** - the extent to which government policies, reflected in taxes or regulations (or the application of either), are either size-neutral or encourage new and growing firms.
- **Government programmes** - the presence of direct programs to assist new and growing firms at all levels of government (national, regional, and local).
- **Education and training** - the extent to which training in creating or managing small, new, or growing business is incorporated within the educational and training systems at all levels.
- **Research and development transfer** - the extent to which national research and development will lead to new commercial opportunities and whether or not these are available for new, small, and growing firms.
- **Commercial and professional infrastructure** - the presence of commercial, accounting, and other legal services and institutions that allow or promote the emergence of new, small, or growing businesses.
- **Barriers to entry** - the extent to which commercial arrangements are prevented from undergoing constant change and re-deployment, preventing new and growing firms from competing and replacing existing suppliers, subcontractors, and consultants.
- **Access To Physical Infrastructure** - the ease of access to available physical resources (communication, utilities, transportation, land or space) at a price that does not discriminate against new, small, or growing firms.
- **Cultural and Social Norms** - the extent to which existing social and cultural norms encourage, or do not discourage, individual actions that may lead to new ways of conducting business or economic activities and, in turn, lead to greater dispersion in wealth and income.

The influence of each of the entrepreneurial framework conditions is examined by means of in-depth interviews with selected experts, who were chosen, as in last year's study, on the basis of his or her knowledge of a specific framework and who could articulate the issues for the entrepreneurial sector within that entrepreneurial framework condition. At least two experts were interviewed per entrepreneurial framework condition who were directly involved in delivering a major aspect of that framework condition but who were known to possess a wider than normal 'vision' of the entrepreneurial phenomenon. The third expert to be interviewed in an entrepreneurial framework was an observer; i.e. someone who is not directly engaged in delivering an entrepreneurial framework condition, but who has a deep knowledge and broad overview. Such experts were normally either academics or consultants. Where a fourth key informant was chosen for a particular entrepreneurial framework condition, that person should be a deliverer rather than an observer. It was also ensured that at least 25 per cent of the key informants are or were entrepreneurs (with ethnic, minority and gender balance also considered when choosing experts).

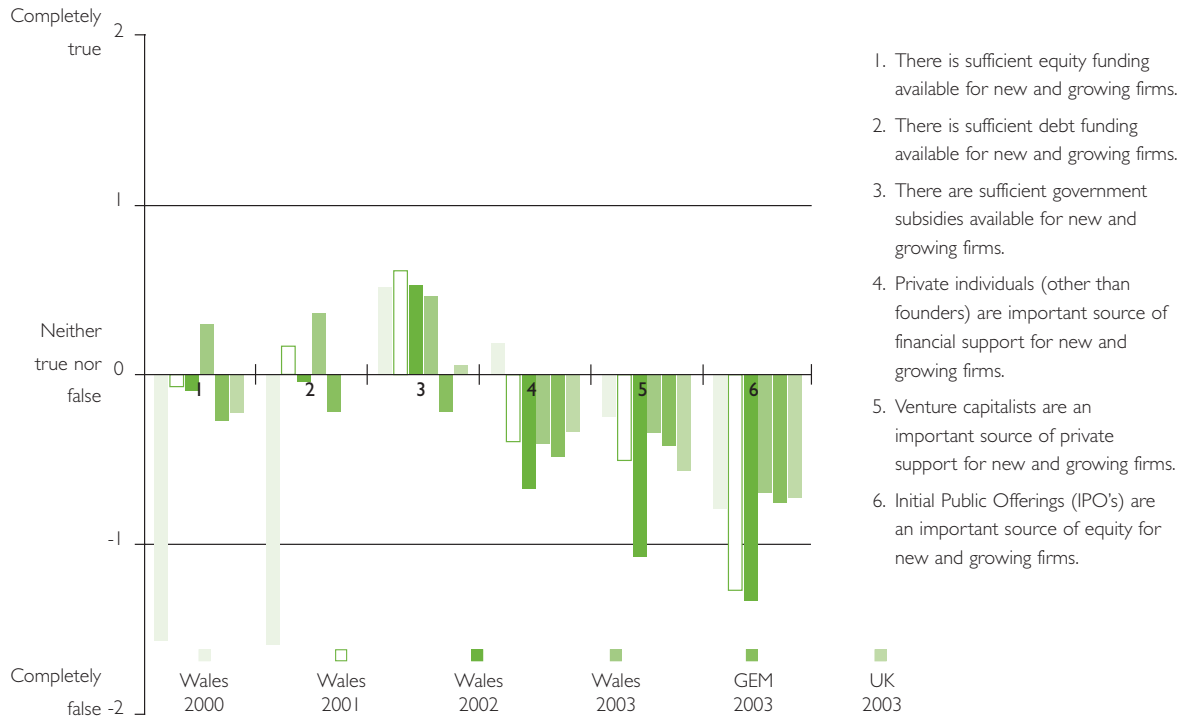
In Wales, a total of 36 'key informants' were interviewed made up of representatives from the private, public and voluntary sectors and the GEM Wales research team would like to thank the senior businesspeople, politicians, educationalists, policy-makers, financiers and entrepreneurs who gave up their valuable time to act as key informants for this study.

FRAMEWORK CONDITION NO 1
FINANCIAL SUPPORT

Loan, equity and public sector support

- According to the latest British Bankers' Association², bank lending to SMEs rose in the first three quarters of 2003 to an estimated £29.8 billion (an increase of 10.6 per cent on 2002). Similarly, overdraft-lending rose by 9.0 per cent to £9.8 billion and deposits rose by 6.9 per cent to £39.3 billion. This suggests, as for last year, low interest rates are encouraging businesses to access capital through high street banks, predominantly in the form of loans rather than through overdraft. This reflects a long-term trend where term loans have become more popular amongst SMEs as the main source of borrowing to finance their business.
- This broad finding – that finance is not an issue with entrepreneurs - certainly reflects the interviews with the key informants in Wales. As figure 10 indicates, there is a greater belief amongst the entrepreneurship 'experts' that there is sufficient equity and loan funding within Wales. Indeed, the situation has improved dramatically since the first GEM study of 2000, when a similar panel of experts were scathing about the availability of funding for entrepreneurial activities.

Figure 10 Financial Support - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



- Whilst low interest rates have certainly contributed to this overall impression of the availability of SME funding within Wales, the increasing profile of Finance Wales in terms of the provision of loan and equity funds to businesses across the region, may also have been a factor in the positive outlook by the key informants. As one noted, "Finance Wales has been a moderate success, especially when seen alongside the plethora of other financial aid available. This is an area of the country where, if you have a good idea, it will almost certainly get financial backing. This especially true of good university spinout ideas. The time has never been better in Wales for getting cash out of the public sector!"
- For example, the latest figures for the Welsh 'development bank' indicate that for the ten months from April 2003 to February 2004, 125 businesses received a total investment of over £5 million from Finance Wales, leveraging in another £14 million from other financial institutions³. This has created nearly 829 jobs and safeguarded another 422.

² BBA (2003) "Rising Trend in small business borrowing and deposits", Research Note, BBA Statistics, 31st December

³ Finance Wales (2004) Finance report, February

- As in the previous three GEM studies, it is of little surprise to find that there are sufficient government subsidies available for new and growing firms in Wales and government grants are relatively more important in Wales as a source of funding than in the UK or for the average GEM nation.
- Within Wales, the main source of government funding for SMEs is the Assembly Investment Grant (AIG) scheme. This was introduced in April 2002 and offers financial support throughout Wales for SMEs through the provision of grants of between £5,001 and £50,000. Not surprisingly, the scheme has become increasingly popular amongst small firms and in the period 1st April to 31st December 2003, 414 offers of AIG (with a total value of £13.1 million) were made to companies to help support some £35.3 million of investment⁴.
- Whilst the jury is still out on the effectiveness of AIG and its impact on the Welsh economy of Wales, a recent review of the scheme undertaken for the Assembly Government⁵ found a number of key positive features for the grant scheme including:
 - A flexible source of support to small and medium sized enterprises.
 - Far more popular than originally envisaged, leading to a first year spend much higher than expected and consequent pressures on staff resources.
 - A lighter touch than Regional Selective Assistance (RSA) in relation to processes, which has been noticed by most stakeholders.
 - It can make medium-sized marginal investments (typically £50k - £100k) much easier for businesses to make, resulting in higher value businesses and jobs, and earlier and/or larger growth than would have been the case without it.
 - The flexibility of the scheme helps avoid some of the distortions which some more tightly defined public funding sources may experience.
- One interesting comment regarding the role of public sources of funding came from one key informant, who felt that one of the issues holding back the development of the Welsh economy is the means by which such financing is managed within Wales. As he stated "It is probably true to state that governments at all levels control the "seed" funds that are essential but industry can rapidly begin to look after its own costs once start-up has been assured. Fundamental is the recognition that funding must be adequate, of medium term and not a singular insertion. It must be managed by visionary people, not financial accountants who attempt only to "maximize" some intangible value from the investments as happens in Wales. If the total budget for duplicating the successes elsewhere is either not available or acceptable, then no amount of micro-funding will spark a desired outcome. No vision, no success".

Business angels, venture capital and IPOs

- As in the previous three years, there is continued scepticism over the provision of funding via business angels, venture capital and IPOs although the perception appears to be improving slightly from last year's results, at least relative to the average GEM nation.
- The National Business Angels Network⁶ defines business angels as successful entrepreneurs who understand risk and are prepared to assist with strategic and management issues. They generally invest between £20,000 and £500,000 (either individually or as part of a syndicate) to help develop businesses that have high growth potential.
- Within Wales, there is one business angel network that is active across the entire region, namely Xenos (which is managed by Finance Wales). Established in 1997, Xenos currently has around 100 investors although it is worth noting that despite their activities in the region, this report suggests that business angel investment in Wales remains low. This may be due to the fact the its 'parent' company, Finance Wales, has essentially filled the 'equity gap' for many SMEs within Wales, and Xenos has found itself operating in a 'no-man's land', although the crucial element of business angel investment – namely the experience the angel brings to the company in which he or she invests – is still an important aspect of the work of the network.

⁴ National Assembly for Wales (2004) Regional Selective Assistance (RSA) and Assembly Investment Grant (AIG) Statistics for 2003 - 2004, March 17th 2004

⁵ Rolph, Martin (2004) Review of Assembly Investment Grant, Welsh Assembly Government, January

⁶ National Business Angels Network (2003) Business Angels Finance 2003-2004, NBAN, London

- This continued gap in the provision of funding by informal investors in Wales could be holding back the future development of a more entrepreneurial economy. For example, it is also worth noting the comments of Bill Bygrave within this year's GEM Global report⁷, who states that "grassroots financing is a crucial ingredient for an entrepreneurial society", especially by accessing funding from the assets of families and friends.
- Whilst the viewpoint of the importance of venture capitalists' role in funding firms within Wales remains low, the perception of key informants has certainly improved during the last twelve months although there have been very few major deals by the main private sector venture capitalists based in Wales – Wales Fund Managers, Wesley Clover, UK Steel Enterprise and Hafren Ventures.
- As discussed in previous GEM reports, IPOs (Initial Public Offerings) provide a critical source of funding to aid the expansion of businesses and tend to reflect the entrepreneurial maturity of regions as they move from start-ups to the development of 'supergrowth' companies that generate wealth and employment. However, IPOs seem to be very scarce within the Welsh business scene, which perhaps reflects the reluctance of many of our entrepreneurs to develop companies of a significant size and impact.
- For example, whilst there were two flotations in Wales in 2002, there has been no positive activity in 2003 and, according to the London Stock Exchange⁸, there are only 21 companies traded on the main market or AIM in Wales in 2004 (as compared to 177 in Scotland) and this represents less than 1% of the total number of UK firms trading on the stock exchange. Despite this, the picture may be brighter over the next few months as Sir Terry Matthews has floated Newbridge Networks whilst the anti-pollution systems company UK Euro has also announced it will do the same.
- Therefore, as a number of the key respondents indicated, the loan environment in Wales is fine but there is not enough equity and many will not turn to business angels for support. More venture capitalists are needed but the general opinion is that they will not come here unless there is the dealflow. The role of the Assembly and the Welsh Development Agency is therefore to ensure that the right people are getting knowledge on good firms and they are attracting potential financiers into Wales to look at growth businesses with high potential. Perhaps, as one expert noted, "there needs to be a greater recognition of the need to provide assistance with risk and there must be greater investment in enterprises which may or may not fail".

FRAMEWORK CONDITION NO 2

GOVERNMENT POLICY

- The impact that government policy has on entrepreneurial activity is a particularly important theme of the GEM research. This is not surprising because enterprise has become a major focus of stated government ambitions over the last few years and the perception of actual policy has therefore been the subject of increasing scrutiny. The high priority placed on this area in Wales is highlighted by the series of policy documents that derive from the "Winning Wales" National Economic Development Strategy for Wales⁹, launched by the Welsh Assembly Government at the end of 2001. This confirmed the commitment of the National Assembly to encouraging entrepreneurship in Wales through "improving the climate for enterprise, offering better support for new and growing businesses and by making (the) school and college education system more oriented to teamwork, project work, creativity and business venturing".
- As Figure 11 shows, it is the opinion of the key respondents that current government policy has yet to consistently favour new firms and there is little change in this view since the previous year (although this pattern is repeated across most of the other GEM nations). Indeed, one expert stated that he was "Not sure that the current government is truly committed to enterprise despite the rhetoric. There are headline making policies but little of substance to back this up. Politicians in Wales are more worried about quick fixes to joblessness than real structural change."

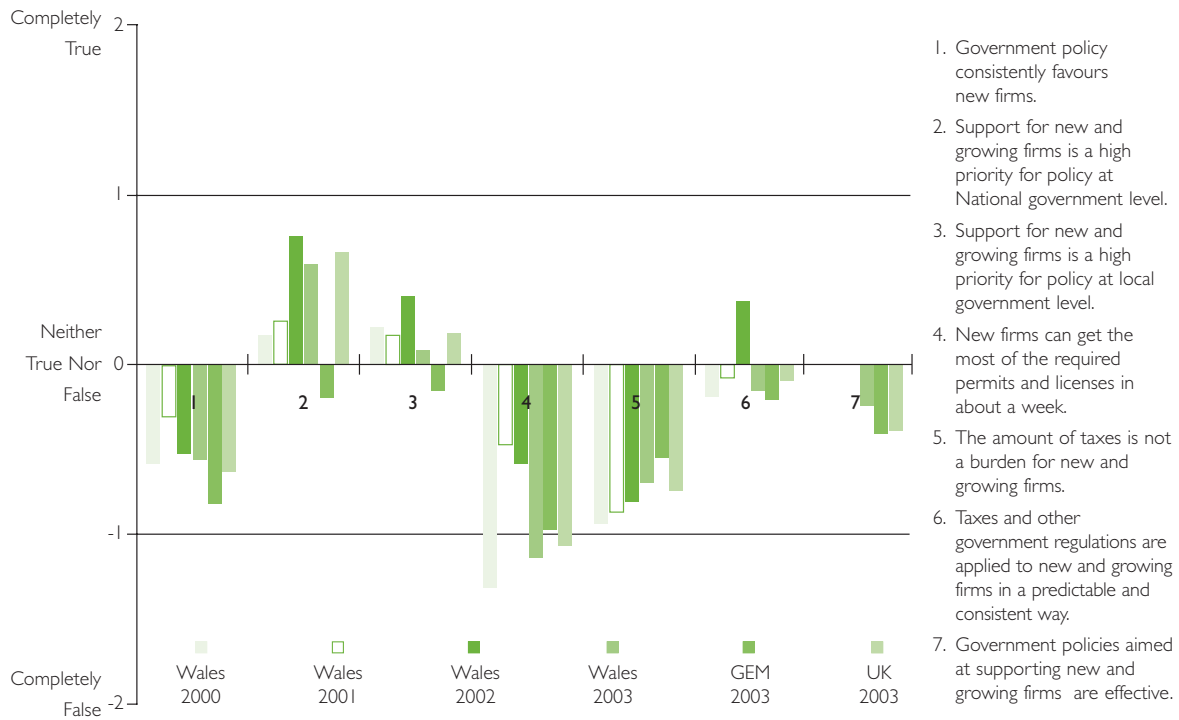
⁷ Reynolds, Paul D., Bygrave, William D., Autio, Erko and Others (2004) Global Entrepreneurship Monitor: 2003 Executive Report

⁸ London Stock Exchange (2004) LandMark Wales

⁹ National Assembly for Wales (2001) A Winning Wales - the National Economic Development Strategy of the Welsh Assembly Government, National Assembly for Wales, Cardiff

- However, a number of experts did express the opinion that politicians have a growing understanding that entrepreneurship needs to be addressed and a recognition that Wales must keep its own home grown talent and that inward investment won't always be the answer. There is much more effective examination of what strategies should be implemented with more policy direction and resources. There is also an increasing focus and publicity on the benefits of entrepreneurship from policies such as the Entrepreneurship Action Plan. For the first time, "people are starting to talk about entrepreneurship".

Figure 11 Government Policy - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)

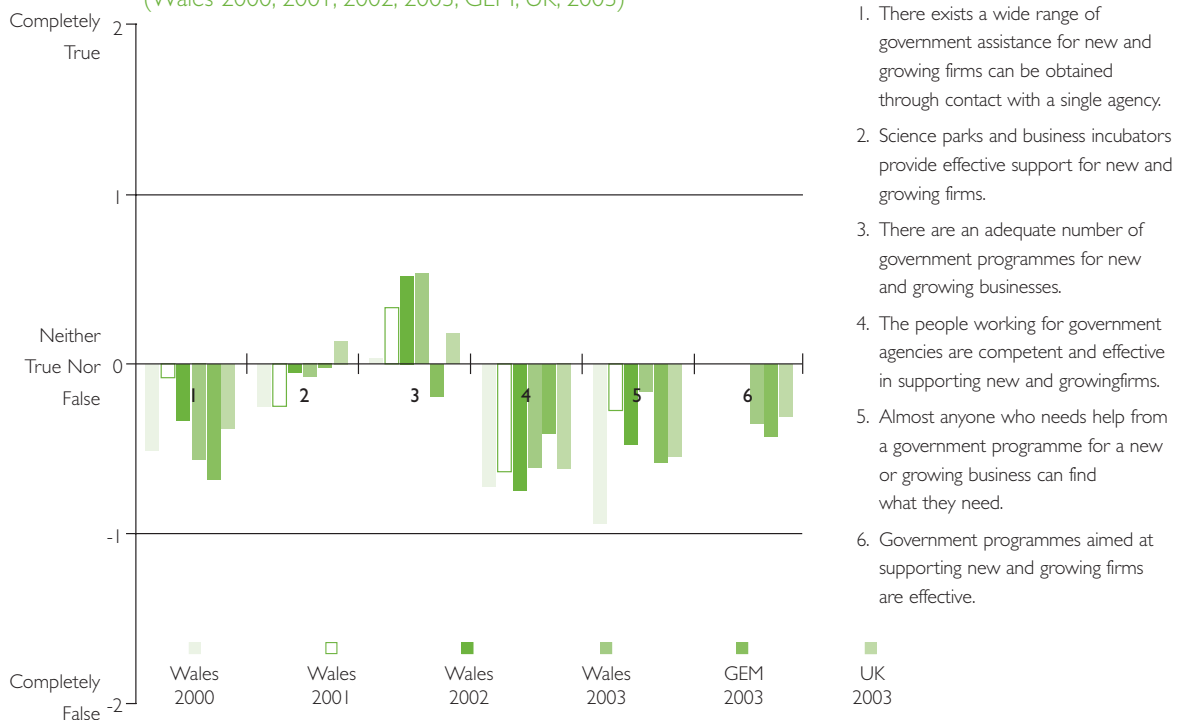


- Whilst respondents in 2002 had been far more positive about local government's prioritising of support for new and growing business (as compared to that of the National Assembly), the situation in 2003 was reversed. This is quite surprising, given the large amounts of funding that local authorities have provided, particularly in Objective 1 areas, towards enterprise development.
- There appears to be a slightly increased concern in 2003, regarding the time taken by entrepreneurs in obtaining the required paperwork to establish and develop a business. Experts in Wales and the UK are equally as pessimistic and this may reflect some of the increased media coverage about so-called 'red tape' having a negative impact on small business owner-managers.
- Taxation, whilst not being within the legislative remit of the National Assembly for Wales, is still seen as a major burden for small businesses in Wales, and is perceived to be a more significant problem than in the majority of other GEM nations. Interestingly, there is little difference with the expectation in Scotland, where the Scottish Parliament has primary legislative power, although in the UK, there is the perception that taxation is becoming slightly more of a burden for small firms.
- Following last year's rise in National Insurance Contributions, our experts reversed their 2002 opinions and have swung back to a more neutral (and very slightly negative) view of the way in which taxes and regulations are applied to new and growing firms. In addition similarly negative views reflect how the experts feel about the effectiveness of government policies (This is a new question for 2003 and it will be interesting to monitor how this view changes over time). However, as one noted, "If there is a real desire to encourage entrepreneurship then government actions should be consistent with rhetoric as increasing taxes and regulations does not encourage entrepreneurs".

FRAMEWORK CONDITION 3 GOVERNMENT PROGRAMMES

- Despite the launch of the Business Eye 'gateway' service, there appears to be growing scepticism that a wide range of government assistance for new and growing firms can be achieved through contact with a single agency. The Business Eye service aims to provide an entry point for all business support enquiries in Wales. It provides free information and signposting for businesses or potential businesses, and if appropriate puts them in contact with support from the private, public or voluntary sectors. Access can be via the web page (www.busesseye.org.uk) or by telephoning a central number (08457 969798). When you call the telephone number, you are connected to a pan-Wales contact centre, where your enquiry is handled and your details are taken confidentially. If required, your query will be forwarded to someone who can provide further help appropriate to your location, type of business and the support that you require.
- Notwithstanding this, the experts consider that general confusion still exists over what is provided by support agencies and many firms are still confused over what the different organisations can actually do for entrepreneurs. As one expert noted, there is a lot of support available but no clear route as how to get to it. "Business support is still disjointed and even though there is plenty of agencies, you need a degree before you can find your way through it to actual support".
- There is also no change in the perception that Wales has a more than adequate number of programmes for new and growing businesses (Figure 12). Clearly, one of the major concerns is not the number of programmes but the quality of the people delivering them. Yet again this year, the key respondents do not agree with the view that the people working within government agencies in Wales are competent and effective in supporting new firms.
- Indeed, one interesting comment from a key industrial expert was whether the WDA was trying to be the 'jack of all trades' and that the expertise currently available is not geared towards medium or large sized entrepreneurial firms but towards the lower end of the spectrum of the small firm sector. "The existing infrastructure in the form of the WDA and related bodies are in place to potentially assist entrepreneurship development. Nevertheless, it appears doubtful this works much beyond small manufacturing oriented developments. Big business cannot find people who understand the ethics and principles of big business nor understand their long term needs and goals - a two tiered organisation is needed".

Figure 12 Government Programmes - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



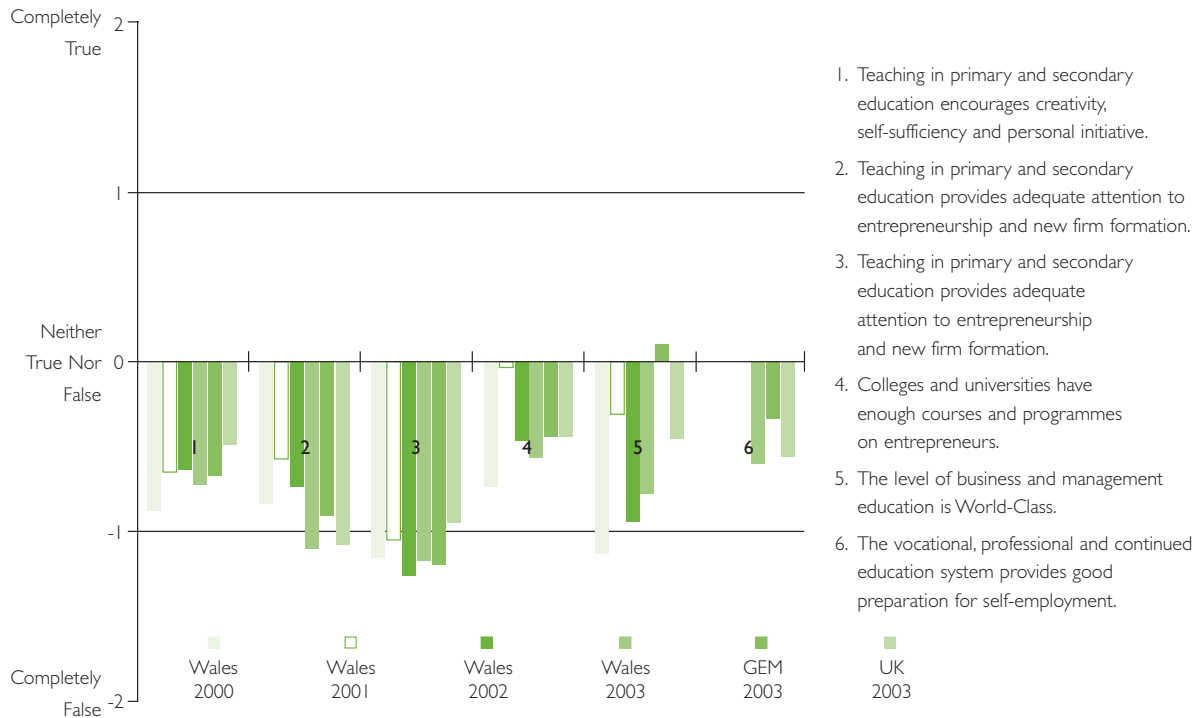
- There has been almost no change in the neutral view in Wales towards whether science parks and incubators provide effective support for new and growing firms. The expansion of the Technium programme by the WDA has aimed to significantly increase the number of and scale of these 'new breed' of business incubators linking universities and industry in Wales. However, the perception still remains amongst the key informants in Wales that these developments do not, as yet, provide effective support for new and growing businesses.
- Therefore, the general message in terms of government programmes in Wales geared towards entrepreneurship remains the same as in previous years, namely that is plenty of business support available although the complexity of this needs to be simplified. In particular, first line support needs to be improved, especially the entry into the support system – there needs to be an infrastructure that will support and record enquiries so that they can be tracked and help can be targeted towards the right businesses.

FRAMEWORK CONDITION 4

EDUCATION AND TRAINING

- Enterprise education is at the heart of GEM and the accumulated findings from the last five years of research through this global project. Essentially the findings can be summed up in a phrase like "how can you expect more people to think about starting new firms if they have never had this option explained and enthused about at both School and through the Further and Higher Education systems." Clearly such a step takes time and the Entrepreneurship Action Plan for Wales recognises that aspects of the cultural change required will take many years and clearly there needs to be a continuous emphasis on developing an enterprise culture within schools and increase the awareness of entrepreneurship in the curriculum.
- One of the positive changes in the last few years identified by the experts has been the increasing understanding in Wales that the vocational route can be very important in entrepreneurship and that those who do not go onto higher education can form a cadre of individuals who can go on to form their own business.
- The message that comes from key respondents regarding education and training across all GEM nations in 2003 is, however, still that more needs to be done in terms of developing a greater entrepreneurial culture at all primary, secondary and tertiary levels of education. Indeed, not one GEM nation (including the USA) was positive about the relevance of education and training to entrepreneurship.
- Despite the huge emphasis on this in the EAP, Figure 13 suggests that the overall perception of enterprise education and training in Wales remains weak, although this is also reflected in the results of other GEM nations. Given that large amounts of funding have been spent in this area since 2002, the fact that there has been little (if any) improvement in the perceptions of the quality and relevance of enterprise education at all levels – primary, secondary and tertiary – suggests that much work remains to be done to convince sceptics that increased funding and programmes are making a difference.

Figure 13 Education and Training - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



- A number of the key respondents felt that there is (a) not enough awareness of entrepreneurship in education, with little training in business and life skills and teaching schoolchildren to set up a company (b) far too little attention given to 'business' in secondary schools with pupils leaving with virtually no understanding of how the private sector operates (c) a lack of effective strategies to address the lack of entrepreneurial culture within schools and the outmigration of young people to other higher education institutions in the UK which does mitigate against them coming back.
- With regard to the quality of business schools and management education, which is seen as crucial in developing entrepreneurial businesses, Wales again scored below the GEM average. It was generally felt that there is a relatively low proportion of well-educated and experienced business managers in Wales, particularly those with commercial and technical skills that could be translated into their own business.
- Therefore, one of the messages from the key respondents this year is that enterprise needs to be a core element of the national curriculum and, where possible, teachers needs to be freed from red-tape and encouraged to engage their pupils with the world of the private sector.

FRAMEWORK CONDITION 5

RESEARCH AND DEVELOPMENT TRANSFER

- R&D is fundamental to developing a creative, innovative economy. According to the latest statistics available, (UK Business Enterprise R&D 2002), in 2002, £13.1 billion was spent on R&D performed within UK businesses – a rise of 6 per cent at current prices compared to the 2001 total. Total R&D Expenditure in 2002 represented approximately 1.2 per cent of GDP as in previous years. The number of staff employed on R&D increased by 10 per cent between 2001 and 2002 with scientists and engineers accounting for 63 per cent of the staff employed on R&D in 2002.
- In 2002, 93 per cent of business R&D expenditure was carried out in England, a similar level to previous years. The regions with the largest R&D expenditure were again the South East which accounted for 25 per cent of the total expenditure and Eastern which accounted for 21 per cent, followed by the North West and Merseyside with 13 per cent. In Wales, £170 million was spent on R&D, representing 1.3% of the UK total. Approximately 3,000 people were employed in Wales to conduct this activity.

- Within the peripheral regions of Europe such as Wales, universities are seen as the key to the development of technological innovation, especially given the low level of R&D historically undertaken within the private sector. In order to fully utilise the potential of technology transfer as an economic force for development, it is vital that research – both basic and applied – is adequately resourced. However, recent evidence suggests that Wales needs considerably greater resources for academic R&D not only to catch up with the funding of research in other parts of the UK, but to close the quality gap in areas – such as biological sciences, chemistry and mechanical, aeronautical and manufacturing engineering - which form the foundation for important high technology industries such as aerospace, optoelectronics, biotechnology and pharmaceuticals, sectors in which the majority of R&D is undertaken within the UK.
- Despite the launch of the Innovation Action Plan for Wales, some experts remain sceptical about whether it will create a sea change in the attitudes of firms towards innovation. As one scientific expert noted “The government is not seen as really serious about building a knowledge base in Wales. Their recent Innovation for Wales policy has virtually no new money and the last thing Wales needs is a network of expensive incubators. These do not encourage innovation, they simply sap money that could be better used to encourage genuine innovation among existing companies”.
- As in the three previous GEM studies, Figure 14 indicates there is general agreement that R&D is not being effectively transferred from the academic to the commercial sector and that new and growing firms have only limited access to research and technology (although this is equally as true in Wales as it is in the UK and the majority of other GEM nations).
- A new question to GEM in 2003 asked if there is adequate support for engineers and scientists to have their ideas commercialised through new and growing firms. Whilst broadly neutral, the experts did side with a slightly pessimistic view. Intuitively perhaps most people would think of commercialising scientific ideas through established (and maybe larger) firms, and despite the existence of considerable public sector support to ease this process, there is little widespread knowledge of how to access suitable small, new firms.

Figure 14 Research & Development Transfer - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)

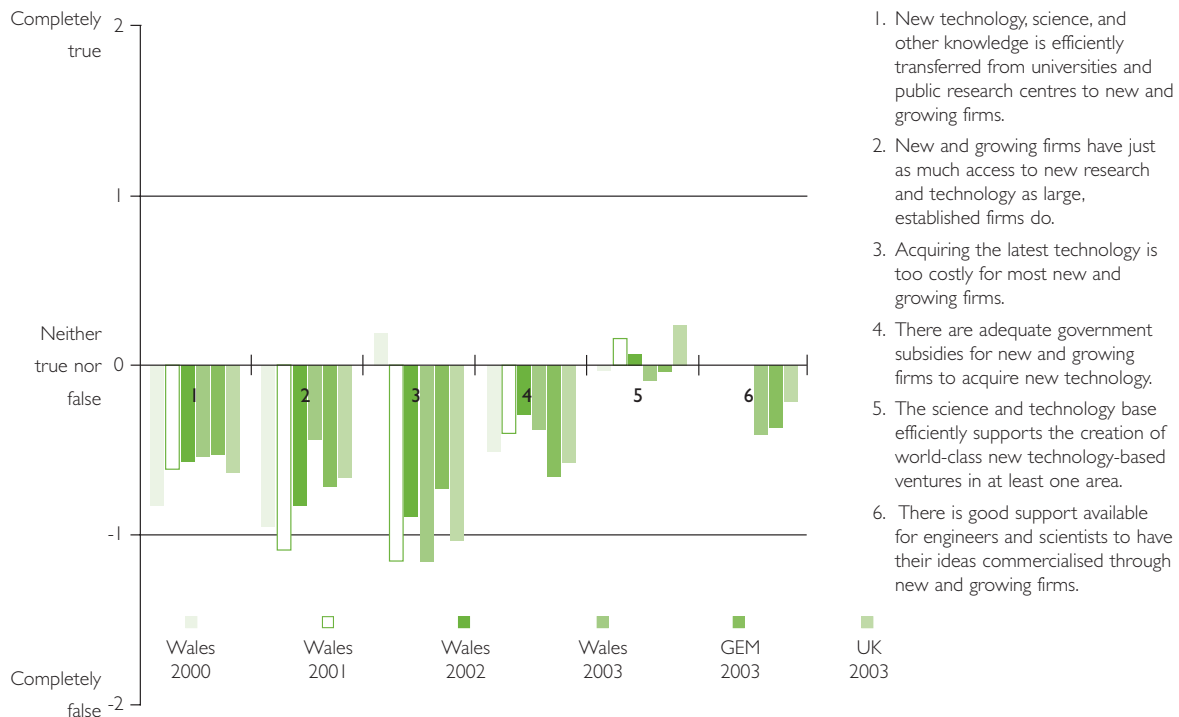
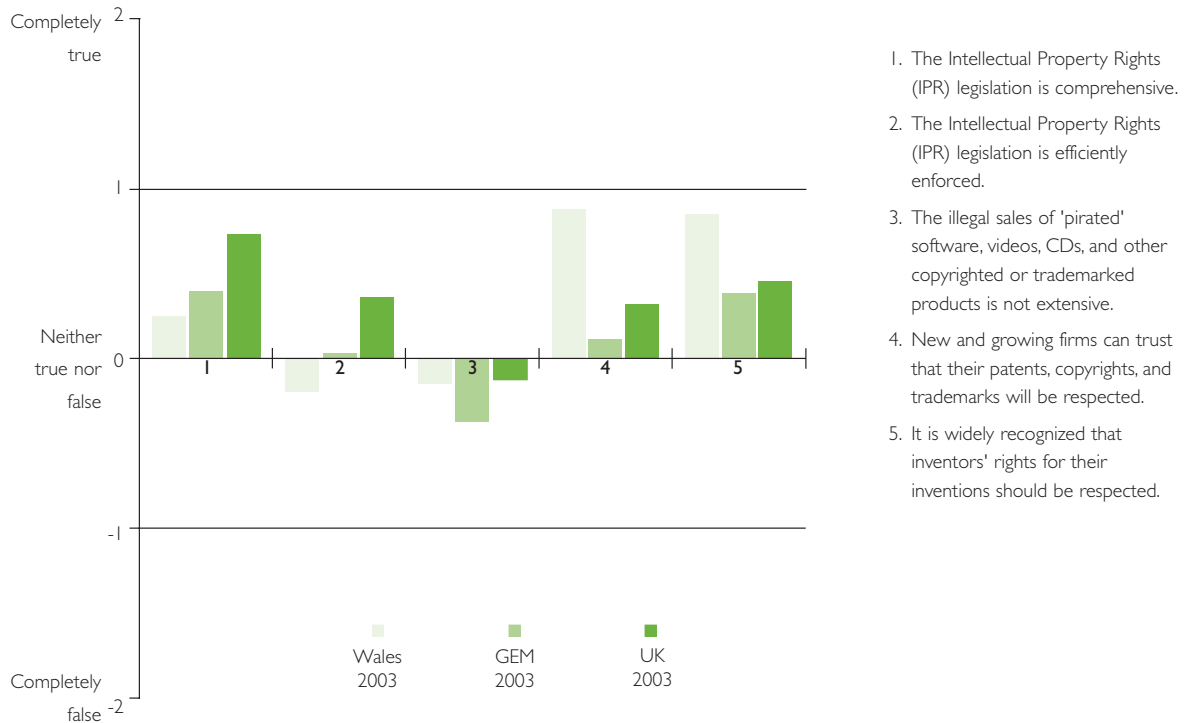


Figure 15 Intellectual Property Rights - Comparisons of Expert Opinions (Wales,GEM, UK, 2003)



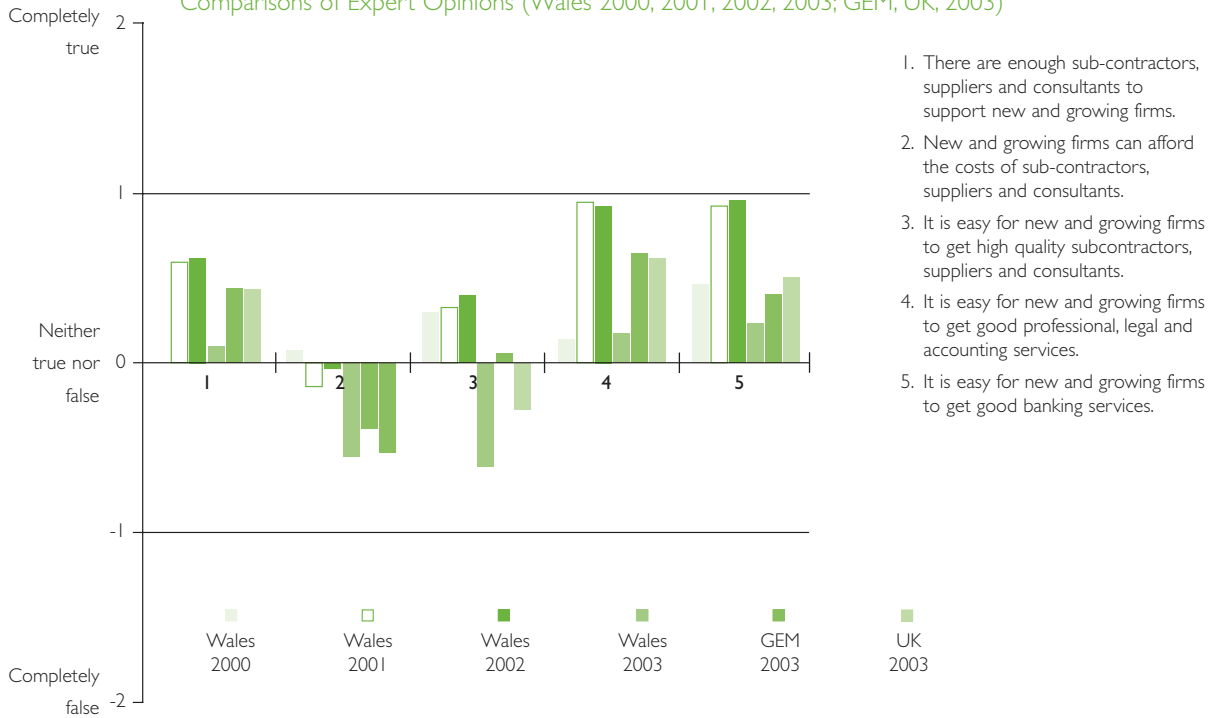
● One other important aspect of commercialising expertise and encouraging more innovative activity is the issue of protecting rights. Also new to GEM this year is a series of questions that address some of these points (Figure 15). Most respondents felt that the Intellectual Property Rights (IPR) legislation is comprehensive, although in Wales the enforcement of the rights was more of an issue than the UK as a whole. There is no substantive evidence from the interviews to suggest why this view might prevail in Wales. In general, no expert felt that IPR rights would be infringed and it was felt that inventor's rights over their inventions should be respected.

FRAMEWORK CONDITION 6

COMMERCIAL AND PROFESSIONAL INFRASTRUCTURE

● According to the experts, Wales continues to have one of the best commercial and professional infrastructures amongst all the GEM nations for the development of entrepreneurship (figure 16). Whilst it is considered that there are more than enough subcontractors and consultants in Wales to support new and growing firms, the majority of key respondents see the costs as being too high.

Figure 16 Commercial and legal infrastructure - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



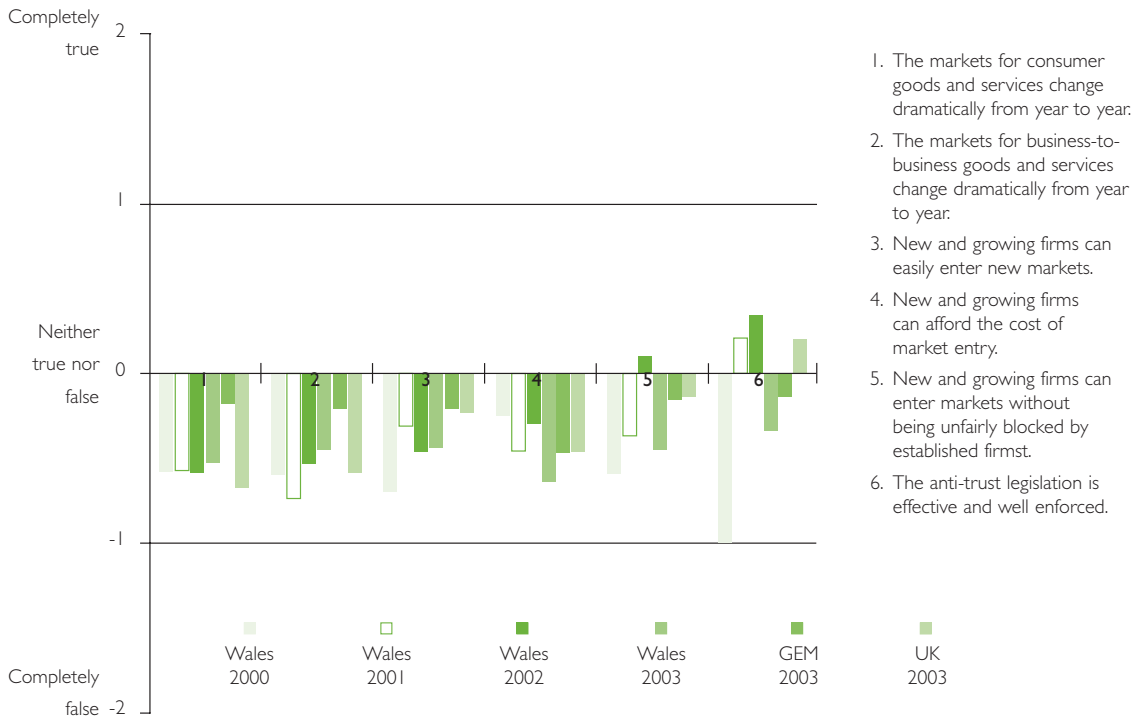
● What is most interesting is that the perception of quality of subcontractors, suppliers and consultants has changed since the 2002 study, becoming far more negative in 2003. Similarly, there has been a considerable increase in the number of key respondents believing that it has become harder for new and growing businesses to get good professional, legal, accounting and banking services in Wales. Indeed, given the low scores attributed to public sector support in Wales, there is clearly an opportunity to involve the private sector more closely in the delivery of services to businesses in Wales.

FRAMEWORK CONDITION 7

BARRIERS TO ENTRY

- The barriers to entry framework condition (or the degree of internal market openness) deals with the dynamism of industry within a region, as new firms come in to replace existing businesses (figure 17). Wales is perceived to be one of the least dynamic of the GEM regions, reflecting current economic data on the region, with markets for consumer and business-to-business goods hardly changing from year to year.

Figure 17 Barriers to entry (internal market openness) Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



- Once again this year there is the perception in Wales that new firms continue to find it difficult to afford the cost of market entry, despite the increase in the amount of support available to SMEs in Wales during the last four years. Continuing last year's decline, there is even more acceptance of the view that established firms increasingly do not (or are unable to) 'block' new entrants into the market place.

FRAMEWORK CONDITION 8

ACCESS TO PHYSICAL INFRASTRUCTURE

- As Figure 18 indicates, according to the experts interviewed for the study this year, the physical infrastructure in Wales, at least compared to the majority of the GEM countries, is not as fully supportive of new and growing businesses and there was a concern, among a number of the key informants, that is a need to ensure we make the most of European funding to get the environment for business right, (especially in terms of the transport infrastructure) as there is a worry about improving the communications within Wales and examine what opportunities could emerge from this improved infrastructure (such as improved North-South transport systems).

Figure 18 Access to physical infrastructure - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



1. The physical infrastructure (roads, utilities, communications, waste disposal) provides good support for new and growing firms.
2. It is not too expensive for a new or growing firm to get good access to communications (telephone, Internet, etc.).
3. A new or growing firm gets good access to communications (telephone, Internet, etc.) in about a week.
4. New and growing firms can afford the cost of basic utilities (gas, water, electricity, sewerage).
5. A new or growing firm can get access to utilities (gas, water, electricity, sewerage) in about a month.

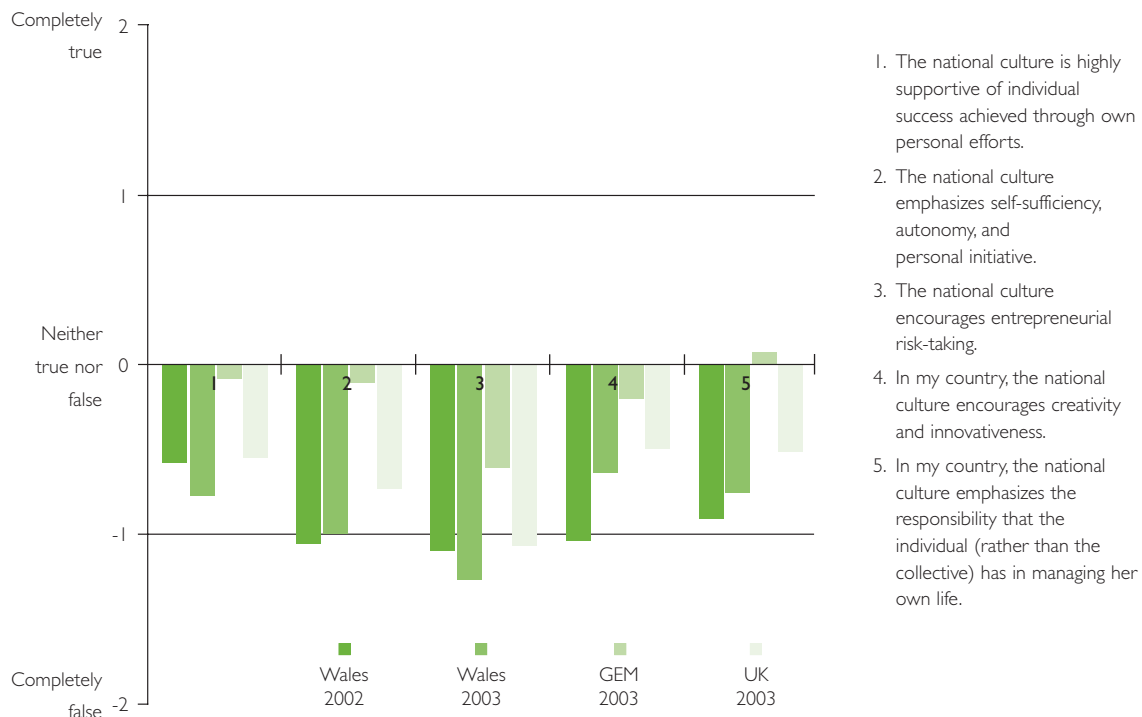
- Whilst experts felt that new firms can get access to utilities in about a month, as well as being able to afford these services, another key issue among the experts was the need for greater provision of sufficient incubator space and enterprise units which, in turn, can allow both traditional and community entrepreneurs to take advantage of opportunities to create a new business.
- Another common comment from the interviews regarding the physical infrastructure in Wales is the fact that the quality of life is high and that can attract certain types of entrepreneurs from outside to start a business. Indeed, Wales is relatively well located with respect to European and UK markets and, geographically, Wales does not look too remote to the rest of the world who may be attracted to relocate to the region. Indeed, as the bigger centres in the UK become more polluted and crime rates climb, people will view Wales as being more favourable as a location in which to raise families. The present lower cost of living is also helpful.

- Of interest is the comment by one of the key informants regarding the importance of physical infrastructure to the development of a more entrepreneurial economy and the fact that virtually all entrepreneurial regional successes have occurred in favourable and attractive locations, especially in relation to the development of a strong technology cluster: "Universities and colleges are essential to feed the growth of new businesses although many persons will also come from afar. Setting up a micro-village in a remote Welsh valley cannot hope to succeed on any scale much beyond the needs of the few companies involved. Critical synergistic forces must be present for growth. Although several sites in Wales may be proposed, near Cardiff is the clear-cut winner for a low risk technology oriented village. It offers scenic beauty, educational institutions at all levels, arts, shops and theatres, an airport and ready M4 access. The geographical bounds on external funding sources have too often been considered as the decisive factor in many such deliberations. Quick wins in remote locations rarely lead to long term stable growth. No grand vision, no grand success". Such a comment makes uncomfortable reading for those who wish to develop such projects in rural or Valleys areas, but it is clear that the required physical infrastructure needs to be in place before any substantial development in high technology entrepreneurship can take place.

FRAMEWORK CONDITION 9 CULTURE AND SOCIAL NORMS

- In 2003, along with many of the other GEM measures, Wales is far closer to the UK average in terms of cultural and social norms. There is still a wide disparity between the average for the GEM nations, but no marked difference between Wales and the UK. This is a noticeable change and may well reflect an impact of the Entrepreneurship Action Plan in promoting and raising awareness of the general acceptance of 'entrepreneurship' by society.

Figure 19 Cultural and social norms– Comparisons of Expert Opinions (Wales 2002, 2003; GEM, UK, 2003)



- The worrying aspect is the gap between the UK and the rest of the GEM nations. Despite all of the activity and public sector support, there is still a view that the national culture is not highly supportive of individual success achieved through personal efforts. Do the British despise winners? Whatever the answer, changing the entrepreneurial nature of Wales is very much a long term process that may take a generation or more.

- However, it is clear that the campaign to develop a greater entrepreneurial culture is not getting through to the key informants who are experts within their fields in Wales and the individuals to whom such messages should be received loud and clear. As a result, some of the aspects of the Entrepreneurship Action Plan committed to culture may continue to need ongoing funding and resources to ensure that such a mind set is changed and that the message of Wales becoming a more entrepreneurial nation is repeated time and time again.
- A valuable section of the adult population survey asks people questions about their attitudes towards entrepreneurship and factors that may influence their decision to start a new firm. A key question is that involving the fear of failure – with anecdotal evidence suggesting that the stigma attached to business failure in the UK is significant.
- In Wales, fear of failure is often quoted as one of the main reasons why people will not risk starting a new business. In GEM 2003, 32 per cent of respondents to the adult survey said that fear of failure would prevent them, compared to 30 per cent in 2002.
- Figure 19 below shows that Wales is ranked 12th of the 31 nations – the highest ranked nation being Greece with 59 per cent. This puts Wales firmly in the ‘average’ of views on the subject and whilst some of the answer must be bound up in cultural explanations, there appears to be little out of the ordinary in Wales. Figure 20 shows the age and gender profile of those people in Wales who said that fear of failure would prevent them from starting a business. There is clearly a similar pattern or path for both genders and a gradual decline as people get older. As one accumulates wealth and experience, the perceived and personal risks involved with starting a new firm may decline, as does the stigma attached to failure.

Figure 20 Fear of failure would prevent me from starting a business

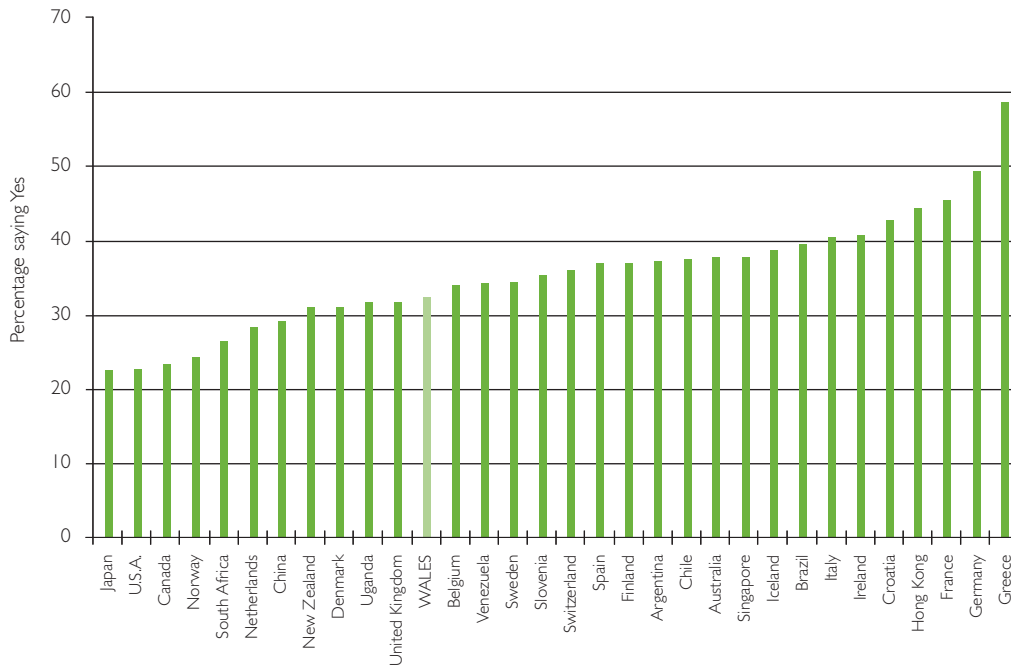
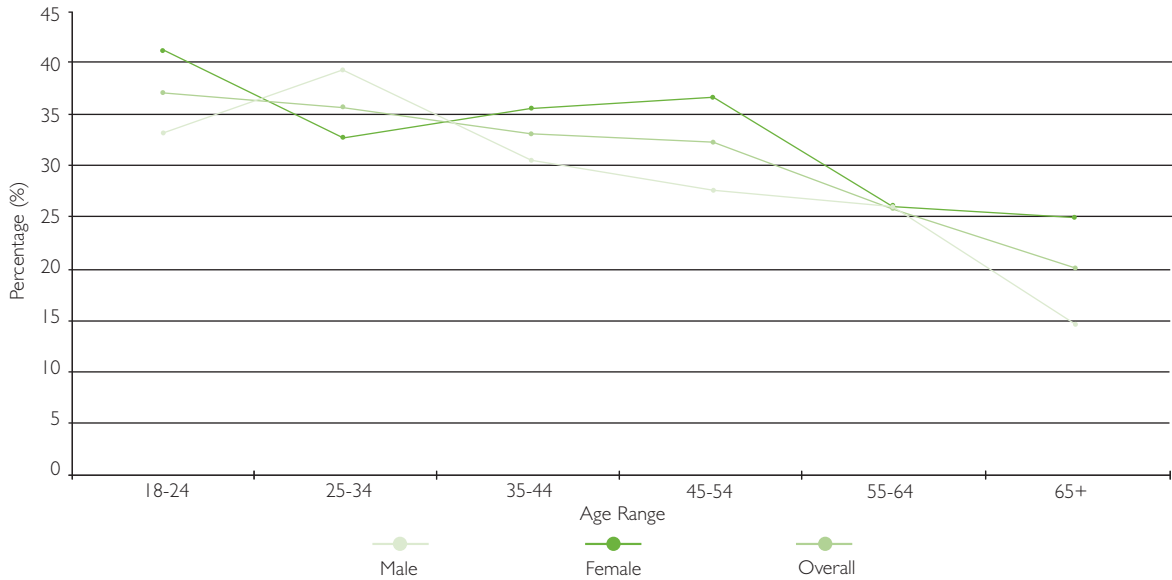


Figure 21 Percentage of people who say that fear of failure would prevent them from starting a business



- As in previous years, one of the key issues regarding the development of a more entrepreneurial Welsh economy relates directly to the culture in Wales. A number felt that there is a general lack of aspiration and individual ambition to get ahead. The perceived lack of an entrepreneurial culture is perceived to be a common feature throughout Wales and it was considered that is a very difficult aspect to address because of the outcome of the historical cultural thrust to produce professionally qualified people such as teachers and doctors. There is therefore a difficulty with parents who do not see business as being a 'safe' future for their children. As one expert memorably stated "When you wake up in the morning in Wales, do you want to be a Tesco checkout person or do something more with your life such as setting up your own business?"
- Another key issue raised by a number of the experts was the fact that there has never been a large entrepreneurial tradition in Wales because of low critical mass and fragility of the small firm sector; and historically, it has been far easier to seek a low paid job in the public sector. In particular, it was felt there is a general lack of self-confidence amongst the population when it comes to entrepreneurship, and that "people don't believe that they can do it, even with all the support available". This lack of self confidence was put down to weaknesses in the education system which 'doesn't breed entrepreneurs, especially in the way that people have been brought up to work for someone else and not to do something yourself'.
- On a more positive note, it was felt that there were an increasing number of the population who have the skills and ideas to start up businesses (as evidenced by this study). In particular, there is a growing cadre of people who have become entrepreneurs and who are willing to be used as role models to promote business start-up and to demonstrate that you can be successful in Wales.
- Therefore, some of the key issues emerging from the interview regarding the further development of an enterprise culture in Wales include:
 - Create more role models that can act as exemplars of successful entrepreneurial behaviour to the population. In particular, there is a continuing need to recognise entrepreneurs within their local communities and make them known as local heroes.
 - Increasing activities to not only bring new ideas to Wales, but to take Welsh entrepreneurs to other parts of the World that are entrepreneurial. This could encourage a better culture towards enterprise in Wales
 - The stigma of failure needs to be removed - becoming an entrepreneur is risky and it is possible to fail. The current culture does not tolerate failure easily and the message needs to be emphasised that "having a crack at something is better than having no crack at all".
 - There should be no let up in getting the message across that it is possible to become a successful entrepreneur in Wales. Many Welsh people think that they cannot succeed in their own country, although being in the region makes no difference if you have a good idea that can work.

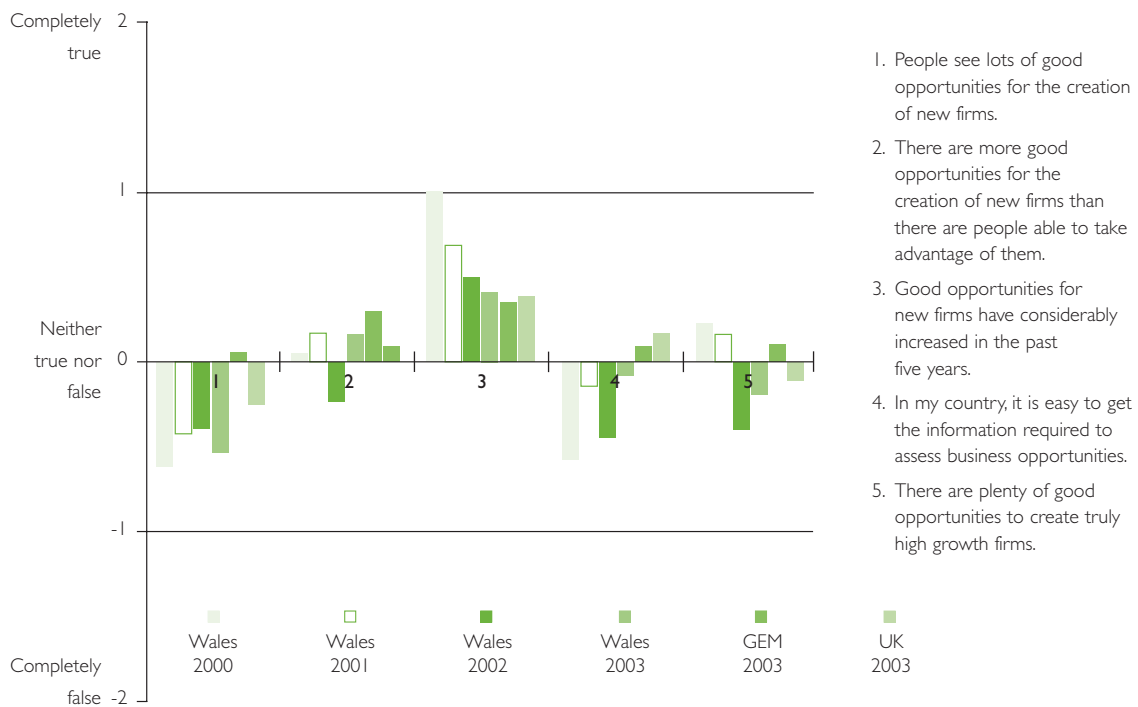
ENTREPRENEURIAL OPPORTUNITY AND CAPACITY

- The previous sections have examined the entrepreneurial framework conditions of the GEM model in some detail. These provide the context and environment within which more entrepreneurial activity can take place. However, the link to economic growth and prosperity requires more individuals who can spot good business opportunities, and who have both the skills and the motivation to make the most of them. In the section that follows we weave together some of the findings from the adult population survey with the opinions of the experts to give a picture of how well Wales is placed to carry out this task.

Entrepreneurial opportunity

- According to the key respondents, people in Wales do not perceive lots of good opportunities for the creation of new businesses, although there is a slight improvement on last year's findings. Whilst the key respondents believe there are more good opportunities in Wales than people to take advantage of them and that good opportunities have increased for new firms in the last five years, potential entrepreneurs are being hindered by the lack of information available to help new businesses.
- With regard to creating high growth businesses, the Welsh experts were less pessimistic than last year, although this is still slightly below the GEM average for the study.

Figure 22 Entrepreneurial opportunities - Comparisons of Expert Opinions
(Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



- The other two measures of entrepreneurial opportunity are of particular significance (and concern) to the future of the Welsh economy. In measuring whether opportunities are increasing for new firms, and if there are plenty of good opportunities to create truly high growth firms, there has been a steady decrease in opinions since 2000 by key respondents in Wales.
- Figure 23 shows that in Wales in 2003, 37 per cent of the population think that there will be good opportunities to start a business during the next six months. This compares with only 22 per cent in 2002 and 11 per cent in 2001. This again places Wales in the middle group of nations, but again emphasises the degree of growing optimism that exists. The most pessimistic nations are Japan, Poland and France. The most optimistic countries are Argentina, Venezuela, Uganda and Iceland. Figure 24 confirms that people in Wales generally seem to get less optimistic about future opportunities as they get older.

Figure 23 "In my country there are good opportunities for a startup in the next six months" (Adults survey GEM 2000-2003)

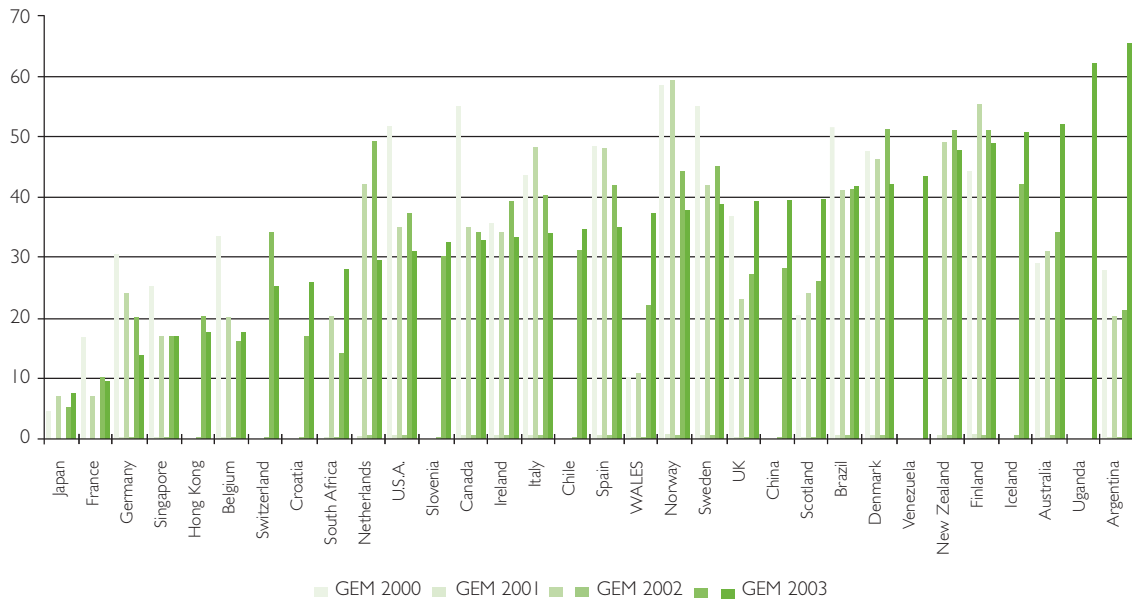
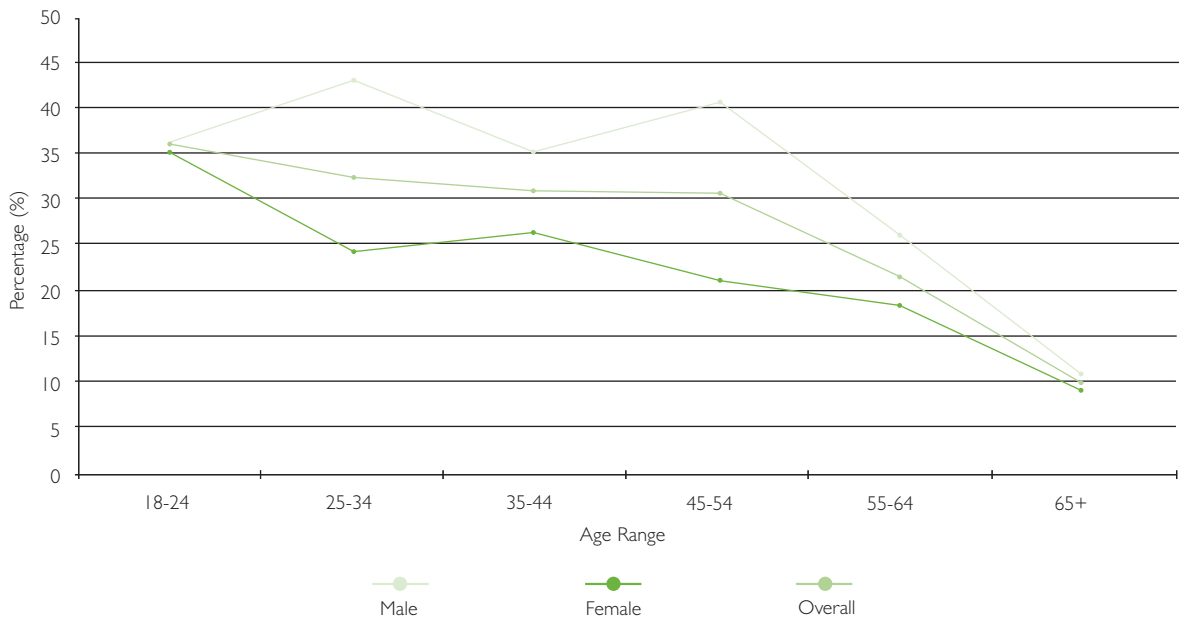


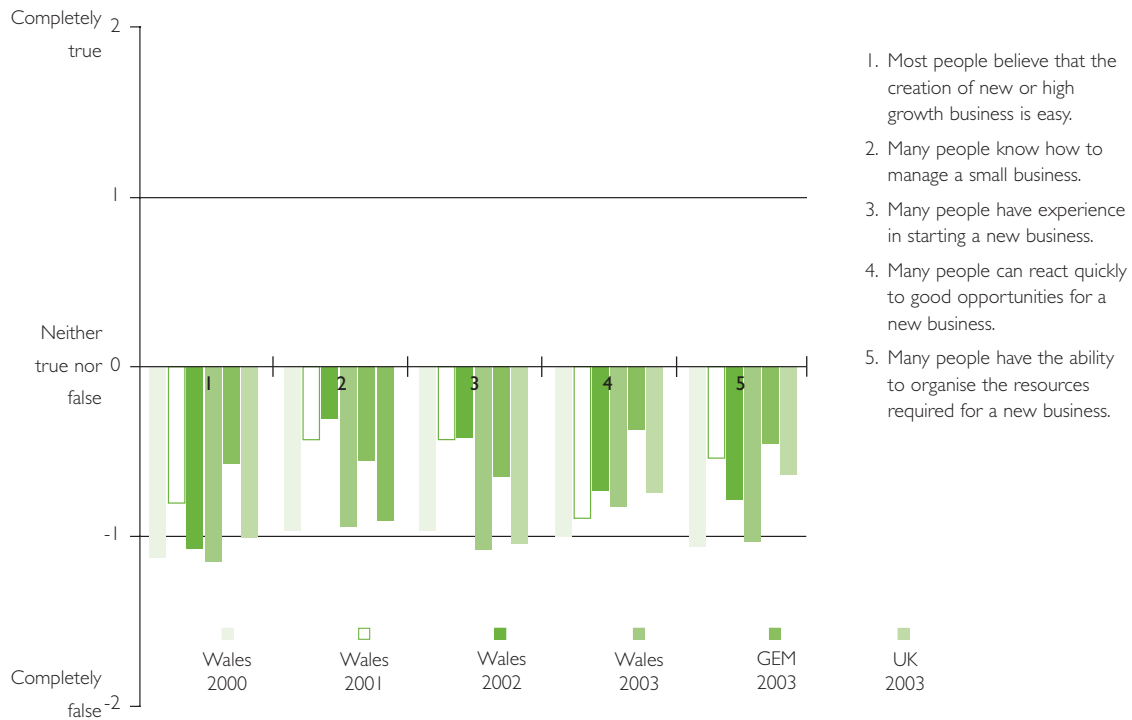
Figure 24 Percentage of people who believe there will be good business opportunities in the next six months



Entrepreneurial capacity

- Whilst the perception of opportunity is important, alone it is not sufficient for entrepreneurship to take place. As we have described earlier, an individual must also possess the entrepreneurial capacity - both skill and motivation - to start a business. As in last year's study, the assessment of the all nations' key informants is extremely pessimistic (figure 25). In terms of more specific issues, few of the key informants in Wales believe that the creation of new or high growth businesses is easy.

Figure 25 Entrepreneurial capacity (skill) - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



● In order for a business opportunity to be exploited, an individual must have both the skills and the motivation to make the new venture work. However, a study of the population data (Figure 26) indicates that 53.4 per cent of adults in Wales believe that they have the knowledge, skills and experience to start and run a business, confirming the results of the key respondent study. This is up from 41 per cent in 2002 and 28 per cent in 2001 and can be interpreted as an extremely positive indication of confidence. The figure for the UK in 2003 was 54.2 per cent and there is no statistically significant difference between this figure and that for Wales. Figure 27 also confirms that the existing skills are concentrated in the age range 35-54 and further exposes the need for education at both ends of the age spectrum.

Figure 26 You have the knowledge, skill and experience required to start a new business

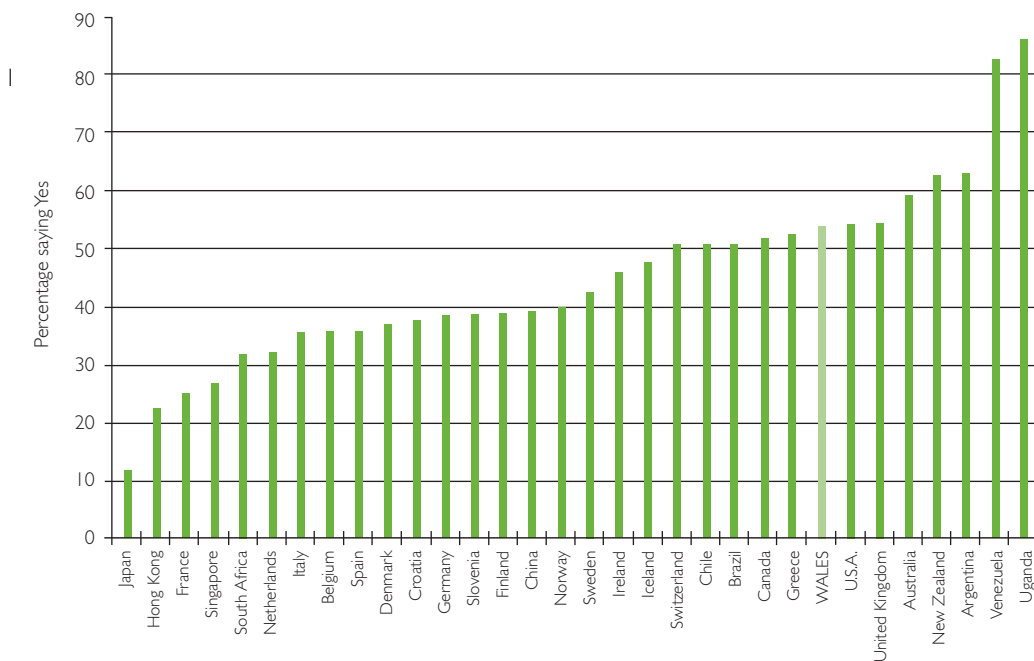
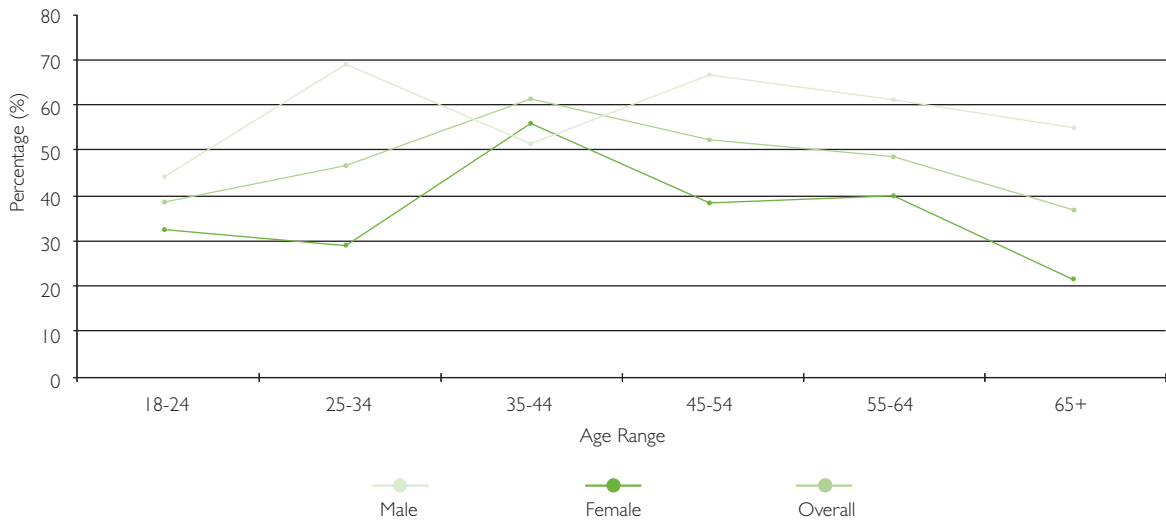


Figure 27 Percentage of people who think that they have the skill to start a business



Entrepreneurial Motivation

- According to the key informants, there seems to be very little motivation amongst the Welsh population in either perceiving entrepreneurship as a desirable career choice or as an appropriate way of becoming rich (Figure 28), and whilst this perception has risen very marginally since 2002, it is still well below that recorded in 2001.
- The question here, of course, is whether the message regarding the benefits of entrepreneurship is getting through to not only the key informants but also the wider population, given the range of innovative methods adopted to 'spread the gospel' of enterprise throughout Wales. Obviously, this is not because of low press coverage, as papers such as the Daily Post and the Western Mail were praised for highlighting local success stories of entrepreneurs who had 'made it'.

Figure 28 Entrepreneurial motivations - Comparisons of Expert Opinions (Wales 2000, 2001, 2002, 2003; GEM, UK, 2003)



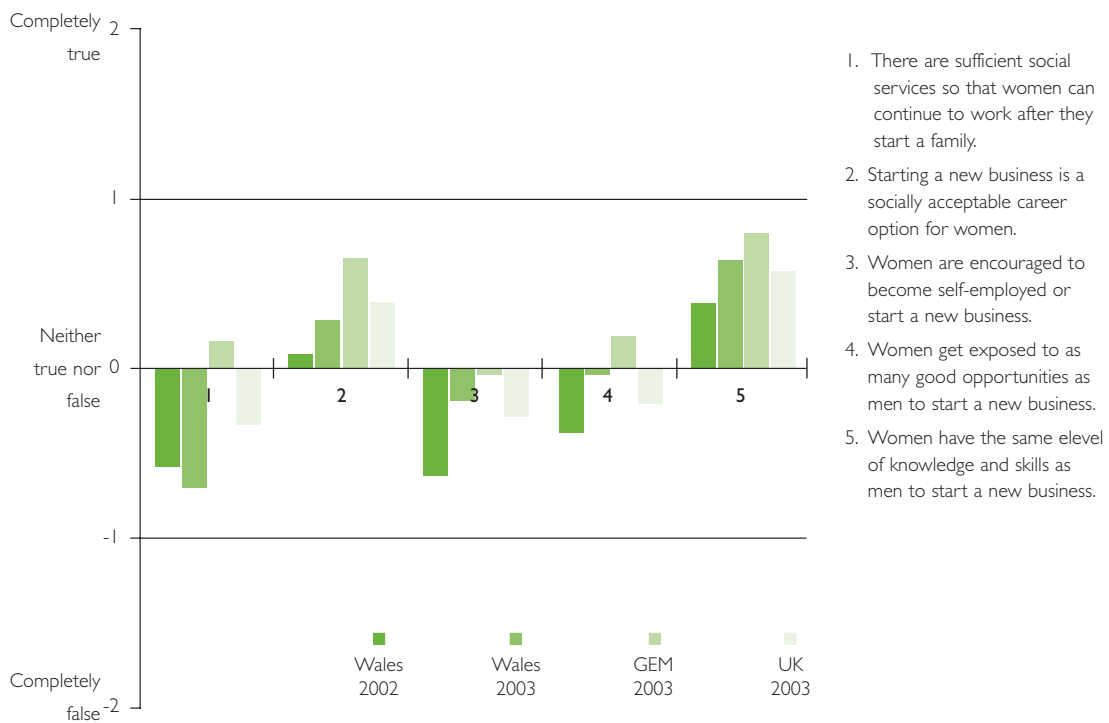
1. The creation of new ventures is considered an appropriate way to become rich.
2. Most people consider becoming an entrepreneur as a desirable career choice.
3. Successful entrepreneurs have a high level of status and respect.
4. You will often see stories in the public media about successful entrepreneurs.
5. In my country few think that people start new firms only if they cannot find a good job.

- Once again we find in 2003 that the key informants are ambivalent towards the level of respect and status entrepreneurs have in Wales, which is in complete contrast to the majority of the other GEM nations. This remains a core and important challenge for the Entrepreneurship Action Plan, as the section on culture and social norms also demonstrated.

Women In Enterprise

- The figures and results presented earlier in this report continue to illustrate the gap that exists between male and female prevalence rates in terms of entrepreneurial activity. This has been recognised not only through academic research, but also through proactive policy in the form of special programmes to help women start companies. The results of GEM 2003 indicate that in no way should these efforts be diminished.

Figure 29 Women in enterprise - Comparisons of Expert Opinions (Wales 2002, 2003; GEM, UK, 2003)



- Figure 29 illustrates that some progress appears to have been made. Wales has moved closer to the GEM and UK averages in terms of starting a business being a socially acceptable option for women. There is now more encouragement for women to start new firms and women are exposed to more good opportunities. The only measure that declined slightly was in relation to there being sufficient social services in the area of childcare, although the difference across years is not statistically significant.

SUMMARY AND RECOMMENDATIONS

KEY FINDINGS FOR WALES

Total Entrepreneurial Activity

- In 2003, Wales had a TEA score of 6.8 per cent, which means that approximately 7 people in every 100 aged 18-64yrs in Wales were actively involved in starting or running a new firm in 2003 (or approximately 132,000 people).
- Across the Global GEM study, Wales ranks 16th out of the total group of 31 GEM nations. Therefore, in 2003, Wales rose above Scotland (5.5 per cent) ranked 19th and the UK (6.4 per cent) ranked 17th.
- The most entrepreneurial nations in GEM 2003 were Uganda (29.3 per cent), Venezuela (27.3 per cent), Argentina (19.7 per cent) and Chile (16.9 per cent). The United States had a TEA score of 11.9 per cent, up from 10.5 per cent in 2002. The lowest countries were France (1.6 per cent) and Croatia (2.5 per cent).
- Wales has the largest percentage increase of any 'nation' taking part in the GEM survey at 74%. Only twelve other nations (including the UK and Scotland) out of the thirty one surveyed in 2003 demonstrated an increase in entrepreneurial activity on the previous year. This demonstrates the extent to which Wales is quickly adopting an entrepreneurial culture and attitude and translating this into start-up activity and is a remarkable indicator of the possible effects of the Entrepreneurship Action Plan in encouraging more people to consider self-employment as a career option.
- Approximately 84 per cent of new entrepreneurs in Wales in the global study claimed to be pursuing their start-up idea because they had spotted an opportunity in the market. These results rank Wales at 16th out of the 31 nations. In Wales, 66 per cent of opportunity-based entrepreneurs were male with a TEA score of 7.4 per cent, 34 per cent were female with a TEA score of 3.7 per cent. 68 per cent of these people were aged between 25 and 44 years.
- For those who had effectively no better choice but to start their own firm (necessity-based entrepreneurship), Wales has a necessity-based prevalence rate of 1.2 per cent in 2003, slightly up from 0.8 per cent in 2002. Scotland has a rate of 1.1 per cent, with the UK at 1.0 per cent. However, there is no statistical difference between these three rates. Here the range of prevalence rates is even broader with Italy at 0.2 per cent and Belgium at 0.3 per cent at the lower end of the distribution, compared to Uganda (13.4 per cent), Venezuela (12.9 per cent) and Argentina (8.7 per cent) at the upper end.
- In terms of gender, in GEM 2003, the gap between prevalence rates for men and women has widened slightly. 68 per cent of Welsh entrepreneurs were male (with a TEA score of 9.1 per cent) whilst 32 per cent were female (with a TEA score of 4.1 per cent). There is now a statistically significant difference between these two measures. This does not compare favourably in terms of female entrepreneurship to last year when 57 per cent were male and 43 per cent female – and this 'divide' was not statistically significant.

START-UP ACTIVITY

- In terms of nascent (or start-up) entrepreneurship, Wales has seen a marked improvement in entrepreneurial activity in the last year. In 2003, Wales had 3.6 per cent of the adult population engaged in the first processes of entrepreneurial activity at the time of the survey, compared to 2.1 per cent in 2002, an increase of approximately 71%. This gives a ranking of 17th out of the 31 countries taking part in GEM 2003 and puts Wales slightly ahead of the UK average level of entrepreneurial activity.
- The countries with the highest rate of nascent entrepreneurship are Venezuela (19.2 per cent), Uganda (14.8 per cent), Argentina (12.4 per cent) and Chile (10.9 per cent). All of these have a start-up rate of nascent entrepreneurship that is statistically significantly above that in Wales.

NEW FIRMS

- Wales has a new firm prevalence rate of 3.4 per cent of the adult population engaged in running firms less than 42 months old in 2003, compared with 2.0 per cent in 2002. This ranks Wales 16th out of the 31 GEM nations.
- France has the lowest rate at just 0.3 per cent followed by Croatia with 0.9 per cent. The countries with the highest rate of new firm activity are Uganda (16.9 per cent), Venezuela (9.7 per cent), Argentina (8.5 per cent) and China (7.4 per cent).

BUSINESS ANGEL INVESTMENT

- For GEM 2003, 23 individuals (or 1.4 per cent of the sample) identified themselves as having personally provided funds in any of the past three years for a new business start-up that was not their own (excluding buying shares in a publicly traded stock or mutual fund). This is a marginal improvement on the 20 individuals identified in 2002 in the Welsh survey.
- With regard to the profile of the business angels identified in the adult population survey, fourteen were male whilst nine were female, two of the males and one of the females were over 65 years of age, with the rest spread evenly across the age range.

OPPORTUNITIES AND BARRIERS TO ENTREPRENEURSHIP

- An important indicator for the development of entrepreneurship in Wales in 2003 is that 37 per cent of the population think that there will be good opportunities to start a business during the next six months. This compares with only 22 per cent in 2002 and 11 per cent in 2001. This places Wales in the middle group of nations, but again emphasises the degree of optimism that exists.
- Similarly, the number of adults in Wales who believe that they have the knowledge, skills and experience to start a business has risen to 53.4 per cent of adults. This is up from 41 per cent in 2002 and 28 per cent in 2001 and can be interpreted as an extremely good indication of confidence. The figure for the UK in 2003 was 54.2 per cent and there is no statistically significant difference between this figure and that for Wales.

LESSONS FROM GEM WALES 2003

- The Global Entrepreneurship Monitor data is just one measurement of entrepreneurial activity within Wales and should be read in conjunction with other studies being developed as well as existing government reports, such as VAT data. Currently in its fourth year, the research identifies a number of attributes of entrepreneurship within Wales and, more importantly, enables us to benchmark our nation against other countries globally.
- There is a need to maintain the momentum and policy drive. The results from this year's study are encouraging. Wales can be justly proud of the increase in entrepreneurial activity it has achieved, but there is still significant ground to make up on other regions of the UK. There needs to be considerably more work undertaken to embed an enterprise culture within Welsh society. Clearly, some of the projects being developed under the umbrella of the Entrepreneurship Action Plan are beginning to have an effect on the perception of entrepreneurship by the Welsh public and this may have begun to feed through into actual start-ups.

- The research has highlighted the need to continue to provide sufficient and appropriate finance for small firms. There is now a wide variety of accessible finance available for potential and existing businesses. Many experts felt that the provision of loans and grants from a very low level, through to investments on the scale of venture capital, was now widely known and accepted in Wales. However, some also felt that the 'grant mentality' that this has perpetuated will not be helpful over the longer term. Therefore, care is needed in marketing the blend of products available such that the message is one of support in an environment that is still competitive.
- In addition, we have found that most people believe that efforts to continue support for entrepreneurship amongst under-represented groups are needed. Wales has clearly been extremely successful in promoting entrepreneurship, especially to men, over the last few years. It is important that the very meaningful advances achieved by the organisations within the Potentia partnership are encouraged and maintained. Self-employment is still not a natural choice for many women when they consider returning to the workforce and the same is true for many of the other under-represented groups.
- There is a clear need to maintain the high profile 'marketing' of the opportunities available to individuals from 'commercializing' a good idea. The results of this year's GEM research show that there are now more individuals in Wales perceiving opportunity and believing they have the skills to establish a new business. However, this is not being translated into new firms (at least according to the current data). Therefore, there must be an increased focus in the range of start-up programmes (Potentia, KEF) on getting a higher conversion rate from 'good intentions to become an entrepreneur' into actual start-ups.
- It is important to facilitate better linkages between the public and private sector support functions for small firms. There are still a great many support organisations, both in the public and private sectors, that purport to support 'enterprise' in its many guises. This is not surprising given the financial and political rewards available. However, it is vital that the efforts of these bodies pull in the same direction and here the National Assembly has a vital role in steering the economic path for the country. Duplication of initiatives and funding will do little to achieve the overarching aim.
- One area close to hearts of the authors is the need to rethink the organisation and delivery of enterprise education and training. There needs to be greater co-ordination between (and across) the different educational sectors to ensure that schools, colleges and universities are 'singing from the same hymn sheet' when it comes to the development of enterprise within the educational system and, perhaps, most importantly, outside of it.
- There is also a need to stress the importance of changing the perception that society and culture in Wales is anti-entrepreneurship. Despite improvements in some areas, there is still a perception that Welsh society is not supportive of entrepreneurial success, does not encourage creativity and innovation, and does not emphasise autonomy and personal initiative. This means that there has to be a longer term commitment by policymakers in ensuring that the positive message regarding entrepreneurship permeates throughout Welsh culture.
- More detailed study of Welsh entrepreneurial activity required. Whilst the results of this current GEM study are important in monitoring and improving the development of an entrepreneurial economy within Wales, there are certain limitations to the data gathered. For example, having such a small sample means that very little detailed analysis can be undertaken of entrepreneurial activity. Therefore, the study needs to be expanded for 2004 into a more detailed study of entrepreneurship, working closely with partners at a local and regional level, to ensure that GEM can give a more detailed account of how entrepreneurship is developing within all parts of Wales.

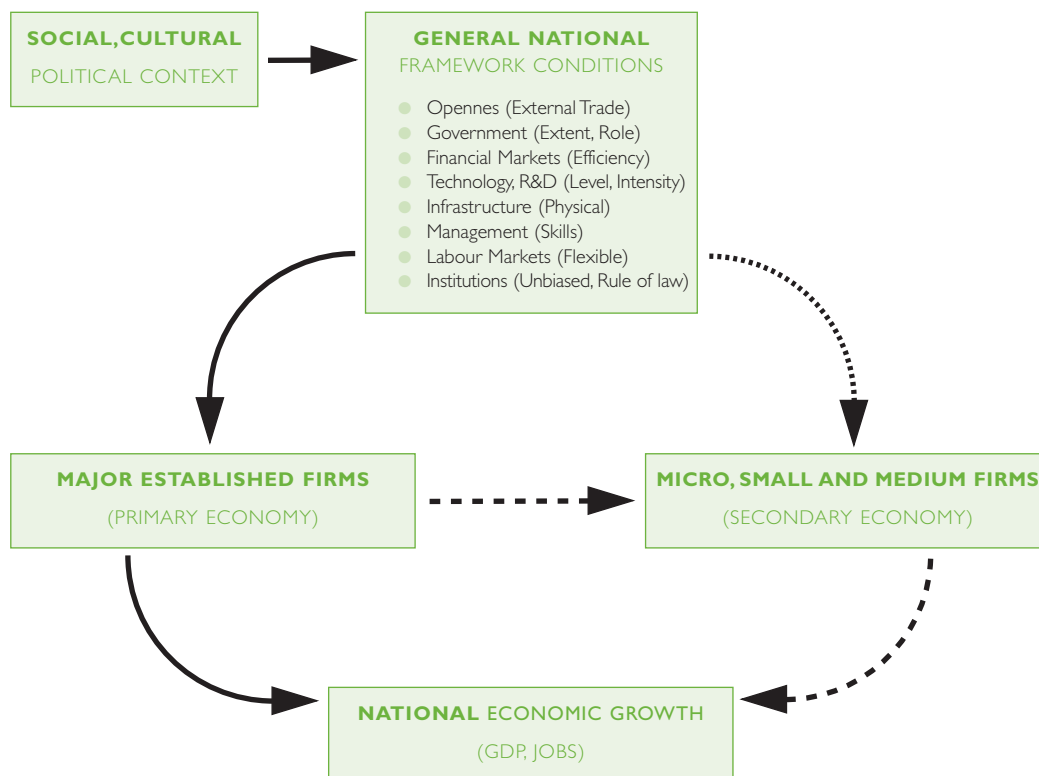
APPENDIX A

THE GEM MODEL

At the heart of the GEM project is the development of an understanding of the relationship between entrepreneurship and **economic growth**. Previous approaches examining economic growth (including GDP and employment growth) have tended to focus on the contribution of large established firms rather than smaller firms, assuming that the former, rather than the latter, are the engines of prosperity in modern economies.

These conventional models – such as the Global Competitiveness Report – also tend to concentrate on examining the relationship between **General National Framework Conditions** (external trade; role of government; efficiency of financial markets; level and intensity of R&D; physical infrastructure; management skills; flexible labour markets and legal institutions) and the impact these will have on the performance of larger businesses. Figure A illustrates this conventional approach to the process leading to economic growth via larger businesses.

Figure A Role of larger established firms and economic growth



Such a model is conspicuous for its absence of entrepreneurship as a driver for economic growth. The role played by the small-to-medium sized firm sector is relegated to that of a supporting actor, involved in the supply of goods and services to larger established businesses. This is despite empirical evidence demonstrating that large firm activity can explain only a proportion of the variation in economic growth within a nation.

As figure B demonstrates, entrepreneurship can have a direct impact on national economic growth. This model includes a large number of factors ignored in the conventional economic models. Firstly, it can be recognised that entrepreneurial activity is shaped by a distinct set of factors – the **Entrepreneurial Framework Conditions**. These include:

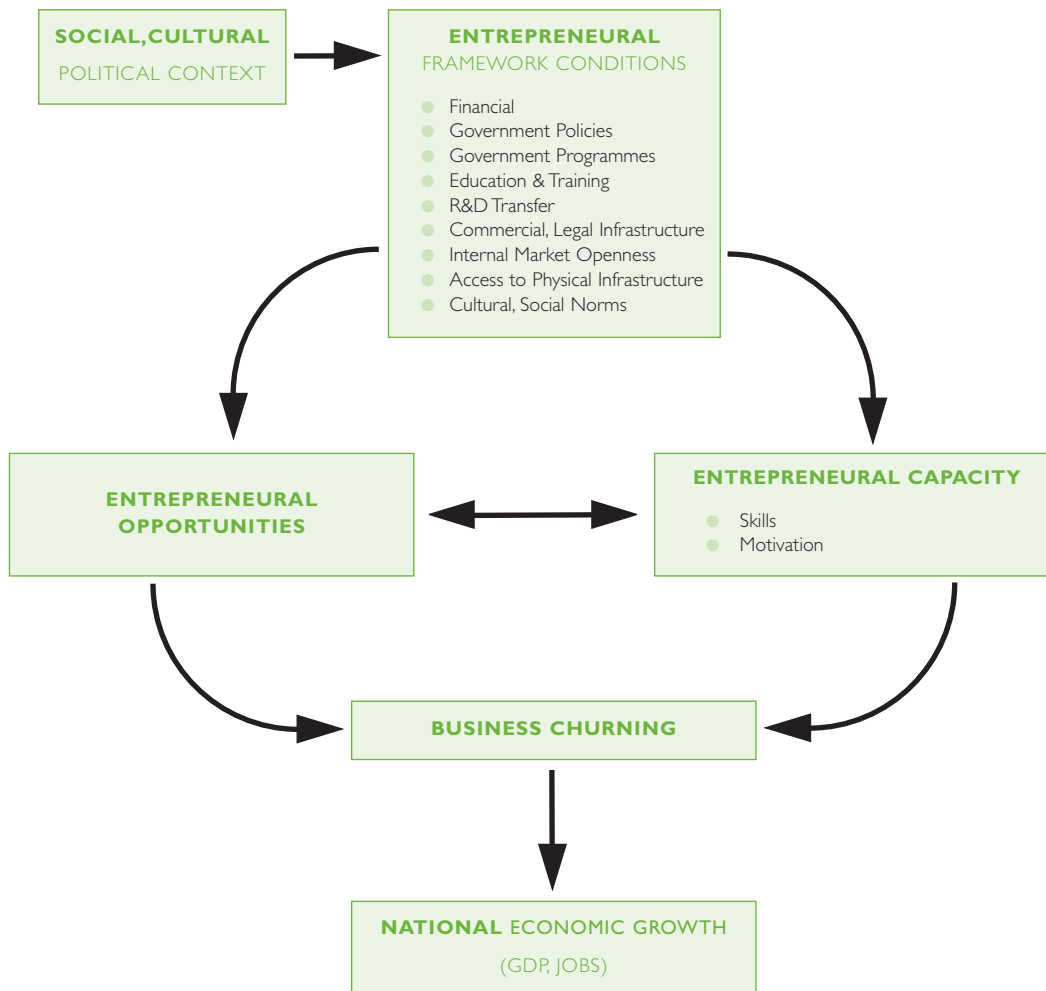
- The availability of financial resources for new and growing ventures.
- Government policies and programmes designed to support new and growing ventures.
- The level of entrepreneurship education and training for practising entrepreneurs.

- Technology transfer.
- Availability of commercial and professional services.
- Ease of access to new markets.
- Access to physical infrastructure.
- Cultural and social norms that affect initiative and self-sufficiency.

Secondly, the level of entrepreneurial activity is directly related to the ability of individuals to recognise that **entrepreneurial opportunities** are available and, more importantly, that those individuals have the **entrepreneurial capacity** – motivation and skills – to exploit them.

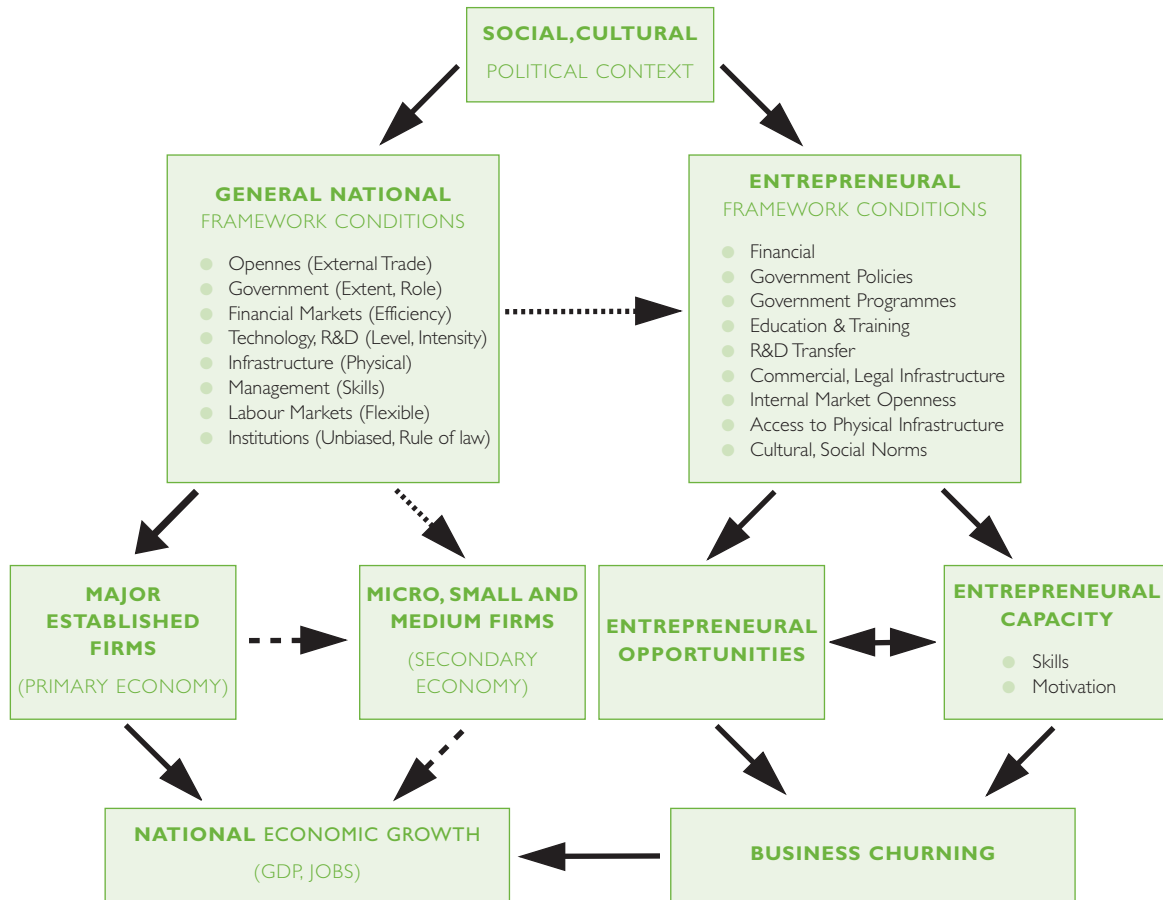
It is the interaction between entrepreneurial opportunity and capacity that leads directly to the creation of start-ups within an economy. However, as an economy creates new births and subsequent jobs, it is likely that there will also be a corresponding increase in firm deaths and job destruction. The intensity of this process, known as **business churning**, contributes to greater economic growth.

Figure B The Entrepreneurial process and economic growth



Clearly, neither the conventional nor the entrepreneurial model gives a full understanding of national economic growth. However, by combining both approaches, we can determine the influence of both large firms and new entrepreneurial businesses on the development of economies, although the mix or contribution made by each model will inevitably vary by country. As figure C demonstrates, this new model also indicates that existing firms can be a significant source of start-ups. More importantly, the context in which an entrepreneurial sector can operate is made explicit. This model will help achieve the primary objective of the GEM model, namely an understanding of how the entrepreneurial process operates and the contribution it makes to economic growth.

Figure 40 The GEM Conceptual Model (The Total process)



SOURCES OF DATA

The GEM project uses three main sources of data, two of which are unique to the project:

Adult Population Survey – An extensive population survey measured the entrepreneurial behaviour and attitudes of the adult working-age population (18-64 years old). In GEM 2003, well over 100,000 individuals were surveyed across the World, with 2000 respondents in Wales. These surveys produce an unique measure of entrepreneurial activity - the **Total Entrepreneurial Activity Index (TEA)** - which is the only existing measure of entrepreneurial activity that provides a meaningful basis for international comparisons.

Key informant interviews – In the 31 GEM countries and the GEM regions of the UK, more than 1000 in depth-interviews were carried out with key informants by members of the national and regional GEM teams. One-hour face-to-face interviews were conducted with 36 Welsh experts, covering each of the nine framework conditions. In addition, each expert completed a brief structured questionnaire involving standardised assessments of important aspects of the Welsh entrepreneurial sector. All open-ended discussions with the key informants were recorded and transcribed to allow for a qualitative content analysis, allowing the Welsh GEM team to capture issues and trends that fell outside the areas discussed in the structured questionnaires.

National economic data – For all national teams involved in the GEM study, extensive economic data was collected from sources such as the OECD, United Nations, as well as other international research initiatives such as the World Competitiveness Yearbook and the Global Competitiveness Report. In Wales, comparable data (where available) was collected from a variety of national and regional sources such as Labour Market Trends, Office for National Statistics and NOMIS (National On-line Manpower Information System).

As a result of this enormous data collection exercise, it has been possible to provide a detailed illustration of entrepreneurial activity in 31 nations. More importantly in Wales, it continues to give us the opportunity, unlike any other study of entrepreneurship, to benchmark ourselves against the most prosperous and entrepreneurial countries in the World.

APPENDIX B

GEM 2003 CO-ORDINATION TEAM, NATIONAL TEAMS AND SPONSORS

Unit	Institution	Members	Financial Sponsor
GEM Project Directors	Babson College London Business School	William D. Bygrave Michael Hay	Ewing Marian Kauffman Foundation
GEM Project Co-ordinator	Babson College London Business School	Paul D Reynolds	Anonymous Foundation Fellow
GEM Co-ordination Team	Babson College London Business School	Paul D. Reynolds William D. Bygrave Marcia Cole Paul D Reynolds Erkko Autio Michael Hay Stephen Hunt Isabel Servais Natalie DeBono Michelle Hale Caroline Johns Kristin Bekkeseth Nancy Chin Anwen Garston Michel Mouchiroud Bolo Olufunwa Emily Ng Shashank Pattekar Jagriti Patwari Ingvild Rytter Charles Conrad Uy Steven Haslett, Consultant Charles Palit, Consultant	Raymond Family Business Institute
Family Business Special Topic	Alfred University Oregon State University	Carol Wittmeyer Mark Green	

Team	Institution	Members	Financial Sponsor
Argentina	Center for Entrepreneurship IAE Management and Business School Universidad Austral	Silvia Torres Carbonell Hector Rocha Florencia Paolini	IAE Management and Business School HSBC Private Equity Latin America
Australia	Australian Graduate School of Entrepreneurship, Swinburne University of Technology	Kevin Hindle Susan Rushworth Ann Copeland	Westpac Banking Corporation
Belgium	Vlerick Leuven Gent Management School, Universiteit Gent	Sophie Manigart Bart Clarysse Hans Crijns Dirk De Clercq Nico Vermeiren Frank Verzele	Vlerick Leuven Gent Management School Steunpunt Ondernemerschap, Ondernemingen en Innovatie (Vlaamse Gemeenschap)
Brazil	IBQP - Instituto Brasileiro da Qualidade e Produtividade no Paraná	Fulgêncio Torres Viruel Marcos Mueller Schlemm Simara Maria S. S. Greco	IBQP - Instituto Brasileiro da Qualidade e Produtividade no Paraná SEBRAE- Serviço Brasileiro de Apoio às Micro e Pequenas Empresas
Canada	École des Hautes Études Commerciales de Montréal (HEC-Montréal) University of British Columbia (UBC)	Nathaly Riverin Louis-Jacques Filion Daniel Muzyka Ilan Vertinsky Aviad Pe'er Oana Branzei	Chaire d'entrepreneurship Macleán Hunters, HEC Montréal Développement Économique Canada, Québec; Industry Canada, Small Business Policy Branch; The W. Maurice Young Entrepreneurship and Venture Capital Centre; The Social Sciences and Humanities Research Council of Canada
Chile	ESE - Universidad de Los Andes	Alfredo Enrione Jon Martinez Alvaro Pezoa Gerardo Marti Nicolas Besa David Kimber	ESE Business School - Universidad de los Andes; ADIMARK; ING (formerly known as 'Internationale Nederlanden Group'); Price Waterhouse Coopers; Banco de credito e inversiones

Team	Institution	Members	Financial Sponsor
China	Tsinghua University Babson College	Jian GAO Zhiqiang CHEN Yuan CHENG Robert ENG Yanfu JIANG Biao JIA Tan LI Fang LIU Qung QUI Zhenglei TANG Jianfei WANG Jun YANG Henjun XU	National Entrepreneurship Research Center of Tsinghua University; Asian Institute of Babson College
Croatia	SME's Policy Centre - CEPOR Zagreb and Faculty of Economics; University of J. J. Strossmayer, Osijek	Slavica Singer Sanja Pfeifer Natasa Sarlija Suncica Oberman	Faculty of Economics, University of J.J. Strossmayer; Osijek Open Society Institute; Croatia Ministry of Crafts, Small and Medium Enterprises, Zagreb; SME's Policy Centre - CEPOR Zagreb
Denmark	University of Southern Denmark	Mick Hancock Torben Bager Lone Toftild Thomas Schoett Kim Klyver	Erhvervs- og Boligstyrelsen; Ernst & Young (Denmark); IRF - Industriens Realkreditfond; Danfoss; Vækstfonden; FUHU; Boersen; Tuborgfonden
Finland	Helsinki University of Technology	Erkko Autio Pia Arenius Anne Kovalainen	Ministry of Trade and Industry; National Technology Agency Tekes
France	EM Lyon	Olivier Torres Isabel Servais Aurélien Eminent	Chaire Mérieux Entreprendre
Germany	University of Cologne	Rolf Sternberg Ingo Lueckgen	KfW Bankengruppe Ernst & Young
Greece	Foundation for Economic and Industrial Research (IOBE)	Stavros Ioannides Takis Politis	Greek Ministry of Development; IOBE Sponsors
Hong Kong;	The Chinese University of Hong Kong; Shenzhen Academy of Social Science	Bee-Leng Chua David Ahlstrom Kevin Au Siu-Tong Kwok Cheung-Kwok Law Chee-Keong Low Shige Makino Hugh Thomas Le Zheng Wang Weili Dong Xiaoyuan	Trade and Industry Department, SME Development Fund, Hong Kong Government SAR; Asia Pacific Institute of Business, The Chinese University of Hong Kong Chinese Executives Club, Hong Kong Management Association

Team	Institution	Members	Financial Sponsor
Iceland	Reykjavik University	Agnar Hansson Ludvik Eliasson Guðrún Mjöll Sigurðardóttir Halla Tomasdóttir Gylfi Zoega Rognvaldur Saemundsson	Reykjavic University; Central Bank of Iceland; The Confederation of Icelandic Employers; New Business Venture Fund; Prime Minister's Office
Ireland	University College, Dublin	Paula Fitzsimons Colm O'Gorman Frank Roche	Enterprise Ireland; Intertrade Ireland
Italy	Bocconi University	Guido Corbetta Alexandra Dawson Ugo Iassini	Bocconi University
Japan	Keio University; University of Marketing & Distribution Sciences	Tsuneo Yahagi Takehiko Isobe	Monitor Company
New Zealand	New Zealand Centre for Innovation & Entrepreneurship; UNITEC Institute of Technology	Alex Maritz Anton de Waal William D. Bygrave (Babson College) Dean Prebble Debbie Rolland Greg Wilson Helen Mitchell Howard Frederick John Blackham, Xsol Ltd John Thompson (University of Huddersfield) John Webster Judi Campbell Matt Twomey Peter Carswell Prue Cruickshank Rt. Hon. Jenny Shipley, Former Prime Minister of New Zealand Shelley Eden Simon Peel Tim Boyd-White Vance Walker Yunxia Zhu	UNITEC Institute of Technology; New Zealand Centre for Innovation and Entrepreneurship; School of Management & Entrepreneurship; School of Communication
Norway	Bodø Graduate School of Business	Lars Kolvereid Svenn Are Jenssen Gry Agnete Alsos Eirik Pedersen Maiken Johansen Bjørn Willy Åmo Erlend Bullvåg Elin Oftedal	Ministry of Trade and Industry; Bodø Graduate School of Business; Kunnskapsparken AS Bodø; Center for Innovation and Entrepreneurship; Innovation Norway

Team	Institution	Members	Financial Sponsor
Singapore	National University of Singapore Entrepreneurship Centre	Poh Kam Wong Finna Wong Lena Lee Yueng Ping Ho	Economic Development Board of Singapore; National University of Singapore
Slovenia	Institute for Entrepreneurship and Small Business Management, Faculty of Economics & Business, University of Maribor	Miroslav Rebernik Karin Širec - Rantaša Polona Tominc Miroslav Glas Viljem Pšeničny	Ministry of Education, Science and Sports; Ministry of the Economy; Small Business Development Centre; Chamber of Crafts of Slovenia; Finance - Slovenian Business Daily
South Africa	Graduate School of Business, University of Cape Town	Mike Herrington John Orford Eric Wood	Liberty Group; Standard Bank of South Africa; South African Breweries; Khula Enterprise Finance
Spain	Instituto de Empresa	Alicia Coduras Paloma Lopez Rachida Justo Ignacio de la vega	NAJETI Group; Instituto de Empresa
	Catalonia Unit Universidad Auonoma	Jose M Veciana Enric Genesca Yancy Vailant David Urbano	Institut d'Estudis Regionals i Metropolitans de Barcelona
	Andalucia Unit Universidad de Cadiz	Jose Ruiz Navarro Jose Aurelio Medina Garrido José Daniel Lorenzo Gómez	Consejería de Empleo y Desarrollo Tecnológico (Junta de Andalucía)
	Extremadura Unit Xavier de Salas Fundacion	Ricardo Hernandez J. Carlos Diaz	Sofiox; Sodiex; Caja Rural de Extremadura Foundation; Los Santos de Maimona
Sweden	ESBRI Entrepreneurship and Small Business Research Institute	Magnus Aronsson Helene Thorgrimsson	Confederation of Swedish Enterprise; Swedish Agency for Innovation Systems (VINNOVA); & Swedish Business Development Agency (NUTEK); Swedish Institute for Growth Policy Studies (ITPS)
Switzerland	University of St. Gallen (KMU - HSG) IMD; HEC-Lausanne Switzerland	Thierry Volery Benoit Leleux Georges Haour Bernard Surlemont Diego Chaantrain	KTI / CTI; KMU - HSG; IMD

Team	Institution	Members	Financial Sponsor
The Netherlands	EIM Business & Policy Research	Sander Wennekers Niels Bosma Guido Brummelkamp Marco Mosselman Maarten Overweel Helen Stigler Roy Thurik	Dutch Ministry of Economic Affairs
Uganda	Faculty of Commerce, Makerere University Business School	Thomas Walter Waswa Balunywa Peter Rosa Arthur Sserwanga Stefanie Barabas Rebecca Namatovu	European Union; Bank of Uganda; Spear Motors Ltd; Makerere University Business School
United Kingdom	London Business School	Rebecca Harding Niels Billou Michael Hay	Small Business Service; Barclays Bank; Work Foundation; South East of England Development Agency; One North East; InvestNI; Entrepreneurial Working Party; Ernst & Young
United Kingdom, Northern Ireland Unit	Kingston University Economic Research Institute of Northern Ireland Invest NI	Mark Hart Maureen O'Reily Carol Keery	Invest NI
United Kingdom, Scotland Unit	University of Strathclyde Heriot Watt University	Jonathan Levie Colin Mason Wendy Mason Laura Galloway	Hunter Centre for Entrepreneurship
United Kingdom, Wales Unit	North East Wales Institute University of Glamorgan	Dylan Jones-Evans David Brooksbank	Welsh Development Agency
United States	Babson College	William D. Bygrave Paul D. Reynolds Maria Minniti Marcia Cole	Ewing Marion Kauffman Foundation
Venezuela	Instituto de Estudios Superiores de Administración (IESA)	Gaston Arevelo Roberto Vainrub	GrupoMercanti Fundacion IESA

TEAMS PARTICIPATING IN GEM 2002

Team	Institution	Members	Financial Sponsor
Hungary	University of Pecs University of Baltimore (USA)	Laslo Szerb Zolton Acs Atila Varga	University of Pecs; Ministry of Economic Affairs; University of Baltimore (USA); REORG Gazdasagi es Penzugyi Rt
India	Indian Institute of Management, Bangalore	Mathew J. Manimala Malathi V. Gopall Mukesh Sud Ritesh Dhar	N.S. Raghaven Centre for Entrepreneurial Learning; IIM Bangalore
Israel	Tel Aviv University	Miri Lerner Yehushua Hendeles	HTMS - The High-Tech School at the Faculty of Management, Tel Aviv University; Faktor; The Evens Foundation
Korea	Soongsil University	Yun Jae Park Hyun Duck Yoon Young Soo Kim	BK21 Ensb Program
Mexico	ITESM-EGADE	Marcia Campos Elvira E. Naranjo Oriego	EGADE; ITESM Graduate School of Business Administrations and Leadership
Taiwan (Chinese Taipei)	National Taiwan University	Chen-en Ko Jennifer Hui-ju-Chen Siu-te Sung Chien-chi Tseng	Small and Medium Enterprise Administration, Ministry of Economic Affairs
Thailand	College of Management Mahidol University (CMMU)	Brian Hunt Thanaphol Virasa Sirin Chachitsophon Rossukhon Numdeang Sunapee Leardviriyasak	College of Management Mahidol University

TEAMS PARTICIPATING IN GEM 2001

Team	Institution	Members	Financial Sponsor
Portugal	Faculdade de Economia da Universidade Nova de Lisboa	Aaugusto Medina Jose Neves Adelino Jose Mata Joao Silveria Lobo Mark Spinoglio Jack Tyndall Emanuel Oliveira	IAPMEI – Instituto de Apoio as Pequenas e Media; Empresas e ao Investimento; BPI – Baco Portugues de Investimento SONAE