



GLOBAL ENTREPRENEURSHIP MONITOR

2005 Executive Report



Global Entrepreneurship Monitor

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Founding and Sponsoring Institutions

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Although GEM data were used in the preparation of this report, their interpretation and use are the sole responsibility of the authors.

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Preface to GEM Phase 2

This is the seventh-annual Global Entrepreneurship Monitor (GEM) cross-national assessment of entrepreneurial activity. Started in 1999 with 10 participating countries, the project has expanded to include 35 countries in 2005. Over the years national teams from 43 countries have contributed to the project. A GEM consortium assessment and planning meeting is held in January of each year and more than 150 scholars from the various national teams collaborate with the coordination team in the collection of the data and the development of the project.

GEM is a major research project aimed at describing and analyzing entrepreneurial processes within a wide range of countries. In particular, GEM focuses on three main objectives:

- To measure differences in the level of entrepreneurial activity between countries
- To uncover factors determining the levels of entrepreneurial activity
- To identify policies that may enhance the level of entrepreneurial activity

GEM's contribution to the knowledge and understanding of the entrepreneurial process is unique since, to date, no other data set exists that can provide consistent cross-country information and measurements of entrepreneurial activity in a global context.

Clearly, a project of GEM's scale and scope is an ongoing work in progress and it requires continuous improvements with respect to both the quality of the data and the way the data are interpreted.

In 2005, GEM Phase 2 was initiated.

Thanks to the knowledge and experience accumulated in the past seven years, as well as the input provided by many scholars in the last few months, the GEM project has undergone a significant amount of change and improvement, with much more planned for the coming year. Although the changes are numerous and range from very broad to very detailed, they can be roughly summarized into two categories:

- Changes related to the collection and documentation of the data
- Changes related to the use and interpretation of the data

Extensive changes are being implemented with respect to the collection, harmonization, and documentation of the data. One of the comparative strengths of the GEM project is its unique ability to provide comparable data across countries. The quality of the data is, as a result, paramount. The statistical characteristics and properties of the entire data set are being assessed and significant attention is being paid to the data collection procedures with the aim of increasing response rates and the overall quality of the samples.

Extensive changes are also being implemented with respect to the use and interpretation of the data. In the past, GEM has focused on the study of early-stage entrepreneurial activity. Entrepreneurship, however, is a complex and multifaceted phenomenon. Although GEM will continue collecting data and documenting the behavior of potential entrepreneurs, its data provide a broad range of information on many of the various phases of the entrepreneurial process. This year's Executive Report analyzes the existence and characteristics of established business owners; the degree of innovativeness, competitiveness, and growth expectations of early-stage and established business owners; and the existence and characteristics of social environments conducive to entrepreneurship.

Overall, GEM's unique ability to provide information on the entrepreneurial landscape of countries in a global context makes its data a necessary resource for any serious attempt to study and track entrepreneurial behavior worldwide. Most important, GEM's renewed vision will allow researchers to further increase their ability to inform policy makers and make a difference in our economies.

GEM would not have been possible without the support and encouragement of Babson College and London Business School, its two funding institutions. New developments, and all national reports, can be found at www.gemconsortium.org.

Dr. Maria Minniti
GEM Research Director

This report constitutes the seventh-annual assessment and review of the state of entrepreneurship in countries participating in the GEM project. Since its inception in 1999 by scholars at Babson College and London Business School, GEM has developed into one of the world's leading research consortiums concerned with improving the understanding of the relationship(s) between entrepreneurial activity and national economic growth. To this end, the project has, from the start, been designed as a multinational research program providing annual assessments of the entrepreneurial sector for a range of countries.

Participating Countries in 2005

Asia and Oceania

Australia, China, Japan, New Zealand, Singapore, and Thailand

Africa and the Middle East

South Africa

Europe

Austria, Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Netherlands, Norway, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom

North America

Canada, Jamaica, Mexico, and the United States

South America

Argentina, Brazil, Chile, and Venezuela

This report divides the 35 GEM countries into two clusters (middle-income and high-income) based on their per capita GDP and their GDP growth rate.

Key Findings in 2005

The Scope of Entrepreneurial Activity

There is strong variation across countries both in the frequency and the quality of entrepreneurial activity. Middle-income countries tend to exhibit higher percentages of individuals starting a business than high-income countries.

With respect to early-stage entrepreneurial activity, countries such as Venezuela (25%), Thailand (20.7%), and New Zealand (17.6%) exhibit very high rates of individual involvement compared to other countries such as Hungary (1.9%), Japan (2.2%), and Belgium (3.9%).

Established business owners prevalence rates also vary strongly among countries. At the lower end of the scale, there is South Africa (1.3%), Mexico (1.9%), and Hungary (2.0%), whereas the highest rates are found in Thailand (14.1%), China (13.5%), and New Zealand

(10.8%).

The chance of the individual entrepreneur surviving in the market for longer than 42 months varies significantly across countries.

Early-stage entrepreneurs in high-income countries are, on average, more likely to survive in the market and become established business owners than early-stage entrepreneurs in middle-income countries.

The ratio of opportunity-driven to necessity-driven business owners is higher in high-income countries than in middle-income countries.

Evidence suggests a systematic relationship between the prevailing start-up motive in a country and the chance of new business survival. Countries that primarily exhibit opportunity-driven entrepreneurship seem to show a lower share of early-stage business failures than countries with higher shares of necessity-driven entrepreneurship.

Higher growth rates of GDP per capita in middle-income countries are mirrored in the higher innovativeness and growth potential of entrepreneurial activity in these countries.

In all countries, the majority of businesses offer products or services that are not new to most customers, and only a small fraction claim that what they offer is new to all customers. Not surprisingly, early-stage entrepreneurs claim more often to offer innovative products than do established entrepreneurs.

Most entrepreneurs say that they expect to face many competitors in their market. Not surprisingly, this share is higher for established business owners (65%) than for early-stage entrepreneurs (about 55%). Only about 10% of early-stage entrepreneurs and 6% of established business owners say that they have no competitors.

Both early-stage entrepreneurs and established business owners in middle-income countries claim—more often than their counterparts in high-income countries—to be using technologies that were not available a year ago. This makes perfect sense, as middle-income countries are less developed technologically, and therefore have more room and more opportunities to upgrade and modernize.

The majority of businesses shows either no or only limited growth potential in terms of new jobs creation. Middle-income countries exhibit a significantly higher share of individuals who are engaged in a business venture with growth potential. This is mirrored in higher growth rate of GDP per capita in these countries and in their higher relative innovativeness.

The sectoral distribution of early-stage entrepreneurs and established business owners is comparable. However, middle-income countries show a larger share of consumer-oriented business activity, while high-income countries show a share of activities in business services that is almost twice as high as in the other groups.

Entrepreneurial Capacity

The age distribution of people involved in entrepreneurial activity follows an inverted U-shape curve. Early-stage entrepreneurial activity is most prevalent in the age group of individuals 25 to 34 years old. Established business ownership peaks among those 45 to 54 years old.

Men are more likely to start a business than women. In no country are women more active in starting and owning businesses than men. In both country clusters the gender gap exists for early-stage entrepreneurial participation and established business ownership.

Participation rates of people currently starting a business in both country clusters are highest among working people. Of those, more than 70% of early-stage entrepreneurs and more than 80% of established business owners work full-time in their own business.

In both clusters, people with post-secondary education or graduate school experience are more involved in early-stage entrepreneurial activity or as established business owners in the middle-income countries. In high-income countries, individuals in the lowest educational attainment category are just as likely to be established business owners as people with post-secondary schooling. This suggests that the educational profile of entrepreneurs has changed over time.

In both clusters, individuals with a higher income are more likely to be involved in early-stage entrepreneurial activity. However, higher income levels are much more common among established business owners in high-income countries than in the middle-income group. This suggests that high income may be the result of successful entrepreneurship.

In 2005, “The International Year of Microcredit,” it was estimated that approximately 40% of the world’s poorest people were being reached by microcredit.

Classic venture capital investment increased for the first time since the year 2000, when the Internet bubble burst.

The United States continues to dominate venture capital investment in high-tech companies. For example, six times as much classic venture capital was invested in the U.S.A. as in all the European nations combined.

Allowing for size of GDP, Sweden led the nations in the amount of new venture capital allocated for future investments in high-tech companies, followed by the United States and Norway.

In general, individuals who are involved in entrepreneurial activity at any stage tend to be more confident in their own skills, are more likely to know other entrepreneurs, are more alert to the existence of unexploited opportunities, and are less likely to let fear of failure prevent them from starting a new venture.

However, women across the globe are less optimistic and less confident in their entrepreneurial skills and are more concerned about failure.

Implications for Policy

The creation of appropriate institutions conducive to the development of markets is the fundamental responsibility of governments interested in promoting entrepreneurship in their countries.

The principal role of government in this regard lies in providing political and macroeconomic stability. Peace and stability are necessary conditions for the development of an entrepreneurial society.

In all countries, governments need to remove barriers to competition, review the provision of services with respect to efficiency and effectiveness, promote fiscal responsibility, and ensure transparency of the law and a clear legal framework for property rights and regulatory oversights.

In the global economy, a policy agenda focusing on promoting entrepreneurship must focus on the progressive liberalization of global markets. Since entrepreneurship is typically at the cutting-edge of new market development and technological innovation, trade restrictions tend to penalize entrepreneurs more than other groups.

Finally, since “one size does not fit all,” in order to be effective, entrepreneurship programs must be adapted and tailored to prevailing national circumstances.

1. A Framework for Analyzing the Entrepreneurial Landscape

As stated in the Preface, GEM focuses on three main objectives:

- To measure differences in the level of entrepreneurial activity between countries
- To uncover factors determining the levels of entrepreneurial activity
- To identify policies that may enhance the level of entrepreneurial activity

In light of these objectives, GEM takes a broad view of entrepreneurship and focuses on the role played by individuals. After all, people start new firms, and people determine the entrepreneurial attitude of established firms, regardless of size.

Clearly, entrepreneurship is a complex phenomenon and can be found in a variety of settings and situations. Thus, no single measurement, no matter how precise, can capture the entrepreneurial landscape of a country.¹ As a result, beginning with this report, GEM takes a holistic approach to the study of entrepreneurship and provides a comprehensive (though by no means exhaustive) set of measurements aimed at describing several aspects of the entrepreneurial make-up of a country. Readers with differing interests will want to focus particularly on some of them. It should be kept in mind, however, that looking at only one aspect of the entrepreneurial landscape may be misleading.

The basic distinction is between the point where the individual operates along the cycle of the entrepreneurial process, and the characteristics of his or her actions. Someone who is just starting a venture and trying to make it in a very competitive market is an entrepreneur even in spite of not having high-growth aspirations. On the other hand, a person may be an established business owner who has been in business for quite a number of years and still be innovative, competitive, and growth minded. This person is also an entrepreneur. Following Kirzner's approach (1973, 1979), GEM views entrepreneurship as an aspect of human action in which all individual-based acts of arbitrage are, to various degrees, expressions of entrepreneurial attitudes, and provide an umbrella under which a wide variety of entrepreneurial characteristics, such as motivations, innovativeness, competitiveness, and high-growth aspirations, can be systematically and rigorously studied (Koppl and Minniti 2003).

Within this context, the GEM data collection process covers the life cycle of the entrepreneurial process and

looks at individuals at the point when they commit resources or start a business (nascent entrepreneurs); when they own and manage a new business that has paid salaries for more than three months but less than 42 months (new business owners); and when they own and manage an established business that has been in operation for more than 42 months (established business owners).²

For GEM, the payment of any wages for more than three months to anybody, including the owners, is considered to be the "birth event" of actual businesses. Thus, the distinction between nascent entrepreneurs and new business owners depends on the age of the business. Businesses that have paid salaries and wages for more than three months and less than 42 months may be considered *new*.³ When considered together, nascent entrepreneurs and new business owners may be viewed as indicators of early-stage entrepreneurial activity in a country. Readers interested in the process of new venture creation and those who view entrepreneurship as being mainly associated with newness should focus their attention on these measurements (Gartner 1989, Lumpkin and Dess 1996).

Business owners who have paid salaries and wages for more than 42 months are classified as "established business owners." Their businesses have survived the liability of newness. Beginning with this report, GEM will analyze the characteristics and behaviors of this very important group. In fact, much can be learned from comparing early-stage and established business owners. Readers who are interested in measuring survival rates, or those who view entrepreneurship as being mainly associated with smaller businesses, should focus their attention on these measurements. It should be noted that, because of its focus on individuals rather than firms, GEM's "established businesses" are only those still containing at least one founding owner-operator. This may cause GEM data to suggest prevalence rates lower than those suggested from other statistics on registered firms.⁴

The percentage of a population engaged in the various life-cycle stages of owner-operated businesses is clearly a primary and fundamental indicator of a country's entrepreneurial activity. If no one engages in start-ups, then clearly there can be no entrepreneurial activity. However, as mentioned earlier, it is not only important to know the quantity of people who start businesses and own/manage established ones, but it is also important to know what motivates them to do so, and what characteristics the businesses possess.

With respect to motivation, GEM classifies business owners as being either necessity-driven or opportunity-driven. The difference between these classifications is that some people start new businesses due to opportunity recognition, and others do so because of the lack of better job alternatives. This distinction is, of course, more useful for the study of early-stage entrepreneurs, more than 90% of whom can be classified into one of these two groups.

With respect to the characteristics of business ownership that can be viewed as “entrepreneurial” regardless of the age of the business, there exists wide consensus that growth expectations and innovativeness are fundamental aspects of the entrepreneurial process. Schumpeter (1934) focuses on innovation and the role of entrepreneurship as an act of creative destruction that, by introducing new products and processes, increases productivity and promotes economic growth. Hart (2003) stresses that, for policy purposes, entrepreneurship should be viewed primarily as an expression of novelty and dynamism. GEM defines three aspects of

an innovation’s potential value: product novelty, competitor differentiation, and use of technology. GEM also assesses the growth and aspirations of businesses by looking at their employment and expansion plans.

Finally, the quantity and quality of entrepreneurial activity taking place in a country is a function of the entrepreneurial capacity of that country. Assessing such capacity requires assessing the characteristics of a country’s most important resource: its people. GEM looks at the socioeconomic characteristics of populations as well as their subjective perceptions and expectations about the entrepreneurial environment.

To summarize, this year’s GEM report will discuss both early-stage and established business owners and, for both groups, will analyze and compare characteristics such as prevalence rates, motivations, innovativeness and growth expectations, socioeconomic traits, and subjective perceptions, thereby providing a broad and multi-faceted description of the entrepreneurial landscape in a global context.

2. One Size Does Not Fit All: High-Income versus Middle-Income Countries

Traditional analyses of economic growth tend to focus on large corporations and neglect the role played by newer and smaller firms. Unlike other studies, GEM takes a comprehensive approach and considers the economic contribution of all businesses within a country. Specifically, GEM views the national economic growth and the aggregate level of economic activity in a country as being associated with newer and smaller firms as well as established firms. Small and new firms generate innovations, fill market niches, and increase competition, thereby promoting economic efficiency. By considering the complementary nature of economic activity among different groups of firms, GEM links a nation's economic activity to the interplay of established, new, and small firms. This perspective gives a clearer understanding of why entrepreneurship is vital to the whole economy. Figure 1 is a synthetic representation of GEM's conceptual model with respect to economic growth.

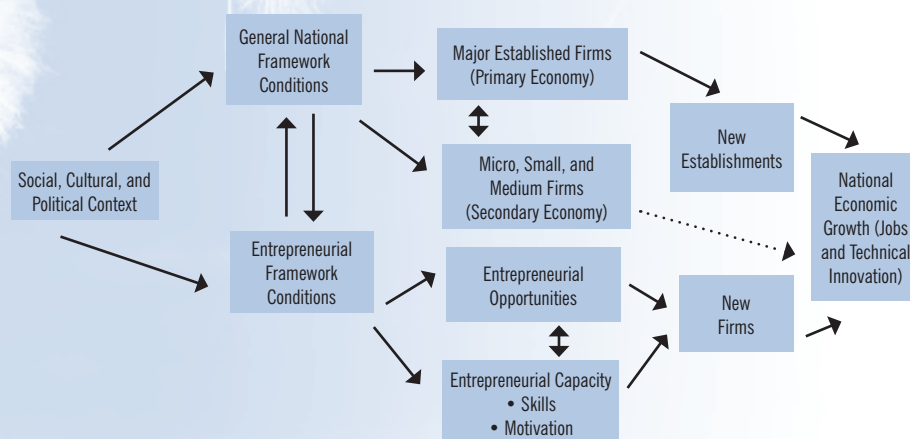
Of course, the relationship between entrepreneurship, large firms, and macroeconomic activity is complex. In particular, different levels of development determine the environment in which entrepreneurial decisions are made and, as a result, determine the type, quality, and quantity of entrepreneurship in a country. In turn, the type, quality, and quantity of entrepreneurship contribute (in a way not yet quite known) to the growth and development of a country. Thus, a "virtuous cycle" characterizes the relationship between entrepreneurship and aggregate economic activity. Over time, the availability of longitudinal GEM data will allow researchers to analyze the causal link between entrepreneurship and economic growth and the exact role played by smaller and newer firms with respect to the competitiveness and productivity of a country.

In the meantime, much can be learned about the entrepreneurial process and related policy issues by using cross-country data to make sense of the ways different levels of development influence the type, quality, and quantity of entrepreneurship.

Several studies, as well as the 2004 GEM Global Report, have shown the existence of a systematic relationship between the per capita GDP of a country, its economic growth and its level and type of entrepreneurial activity (Acs et al. 2005). Countries with similar per capita GDP tend to exhibit similar levels of entrepreneurial activity, while significant differences exist across countries with different GDP per capita levels. Consistent evidence emerges from the analysis of 2005 GEM data. At low levels of per capita income, the entrepreneurial sector provides job opportunities and scope for the creation of new markets. As per capita income increases, the emergence of new technologies and economies of scale allows larger and established firms to satisfy the increasing demand of growing markets and to increase their relative role in the economy. This increase in the role of large firms is usually accompanied by a reduction in the number of new firms, since a growing number of people find stable employment in large industrial plants. As further increases in income are experienced, however, the role played by the entrepreneurial sector increases again, as more individuals have the resources to go into business for themselves in an economic environment that allows the exploitation of opportunities. In high-income economies, through lower costs and accelerated technology development, entrepreneurial firms enjoy a newly found competitive advantage (Acs et al. 2005).

As in 2004, this year's GEM Global Report continues to analyze the entrepreneurial landscape of the participating countries by categorizing them into homogenous groups based on their per capita GDP. Unlike last year, however, whether a country is classified as low-, middle-, or high-income will depend on its GDP level compared to the world, not to other GEM countries. This is important because one of the main goals of the GEM project is to provide benchmark information for countries with similar characteristics worldwide, whether or not they participate in the project.

Figure 1. The GEM Conceptual Model



To accurately classify countries into groups, a cluster analysis was conducted to divide the countries that participated in GEM 2005 into groups based on their GDP per capita and their real GDP growth rate in 2005.⁵ The results of the cluster analysis are presented in Table 1. The cluster analysis reveals two main groups of countries: The first cluster consists of 13 countries from South America, Eastern Europe, and Africa. All of them exhibit relatively high GDP growth rates and middle per capita GDP levels. In fact, the average GDP per capita in this group is only USD 6,252, whereas their average level of GDP growth is 4.5%. The second cluster contains 22 countries. All of them exhibit high per capita GDP levels, but comparatively lower GDP growth rates. This cluster contains the G7/8 countries and most member states of the European Union, plus Australia and New Zealand. The average GDP per capita for this group is USD 38,722 and their average growth rate is 2.6%.

It is noteworthy that the average values of per capita GDP and GDP growth rates are significantly different among the two clusters at above 99% confidence, whereas the variation within each cluster is relatively small.⁶

The following sections of the report compare the entrepreneurial activity and the entrepreneurial capacity of these two groups of countries. Throughout the report, it will become clear that countries in each group also share certain characteristics, such as their demographic profile and the innovativeness of their average business start-ups.⁷ Section A3 in the Appendix shows that GDP clusters may also be useful for the analysis of some clustering across countries based on geographical location or institutional history. For simplicity, the remainder of the report will refer to high-income countries and middle-income countries.

Table 1. Country Clusters

COUNTRY CLUSTER 1 – MIDDLE-INCOME, HIGH-GROWTH			COUNTRY CLUSTER 2 – HIGH-INCOME, LOW-GROWTH		
	2005 Real GDP per capita	2005 % Real GDP growth		2005 Real GDP per capita	2005 % Real GDP growth
Argentina	4,380	6.0	Australia	33,629	2.6
Brazil	4,124	3.7	Austria	39,292	2.1
Chile	6,272	6.1	Belgium	37,730	2.1
China	1,411	4.0	Canada	34,028	2.8
Croatia	7,801	3.8	Denmark	49,182	2.2
Hungary	10,978	3.7	Finland	39,098	3.1
Jamaica	3,388	2.5	France	35,727	2.0
Latvia	6,559	7.3	Germany	35,075	0.8
Mexico	6,771	3.7	Greece	21,017	3.0
Slovenia	17,606	4.0	Iceland	52,063	5.4
South Africa	4,698	4.0	Ireland	50,303	4.8
Thailand	2,665	5.6	Italy	31,874	1.2
Venezuela	4,627	4.6	Japan	37,566	0.8
			Netherlands	38,320	1.5
			New Zealand	26,291	2.8
			Norway	61,852	3.7
			Singapore	26,481	4.0
			Spain	27,074	2.8
			Sweden	42,392	3.0
			Switzerland	52,879	1.2
			United Kingdom	38,098	2.6
			United States	41,917	3.6
N = 13			N = 22		
Average GDP per capita, current prices, in USD = 6,252			Average GDP per capita, current prices, in USD = 38,722		
Average real GDP growth 2005 = 4.5%			Average real GDP growth 2005 = 2.6%		
Source: World Economic Outlook Database (July 2005), http://www.imf.org					

3. The Scope of Entrepreneurial Activity

EARLY-STAGE ENTREPRENEURIAL ACTIVITY AND ESTABLISHED BUSINESS OWNERSHIP

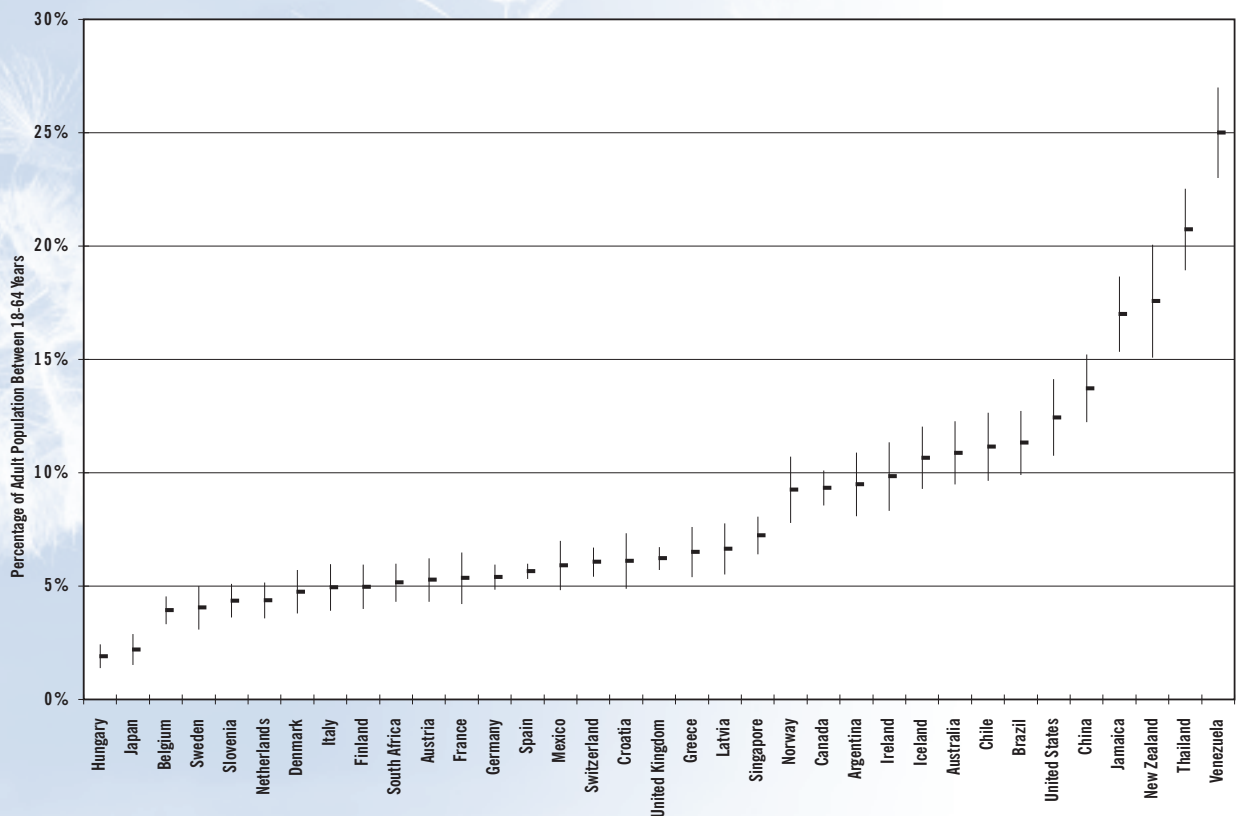
GEM estimates the level of involvement in early-stage entrepreneurial activity by calculating the sum of nascent entrepreneurs and new business owners.⁸

- Nascent entrepreneurs are those individuals, between the ages of 18 and 64 years, who have taken some action toward creating a new business in the past year. To qualify for this category, these individuals must also expect to own a share of the business they are starting and the business must not have paid any wages or salaries for more than three months.
- Owner-managers of firms are classified as new business owners if the entrepreneurs report that they are active as owner-managers of new firms that have paid wages or salaries for more than three months, but less than 42 months.

The sum of these two measurements allows GEM to calculate the prevalence rates of early-stage entrepreneurial activity in each country.⁹ This measurement was formerly called the TEA index.

Figure 2 shows the prevalence of early-stage entrepreneurial activity in the 35 participating countries in 2005. The vertical bars in the chart display the 95% confidence intervals.¹⁰ A confidence interval is provided because the GEM survey does not include the entire adult population of a country. If the survey would cover the entire adult population in each country, the actual rate of entrepreneurial activity would have a 95% probability of falling along the vertical bar around the estimated points. The length of the bar is a reflection of the sample size in each country: Small samples lead to wider vertical bars, and vice versa. Figure 2 shows wide variations in early-stage entrepreneurial activity across countries. Some countries—such as Venezuela (25%), Thailand (20.7%), and New Zealand (17.6%)—exhibit very high rates of individuals participating in early-stage entrepreneurial activity. On the other side of the spectrum are countries with very low participation rates, such as Hungary (1.9%), Japan (2.2%), and Belgium (3.9%). Countries that exhibit overlapping vertical bars are not significantly different in their participation rates. For example, Sweden, Slovenia, the Netherlands, Denmark, Italy, Finland, South Africa, Austria, France, and Germany all have comparable (and relatively) low levels of participation in early-stage entrepreneurial activity. Among the more active countries, Norway, Canada, Argentina, Ireland, Australia, Iceland, Chile, Brazil, and the United States show comparable levels of early-stage activity.

Figure 2. Early-Stage Entrepreneurial Activity by Country (TEA Index) 2005



In addition to those individuals who are currently involved in the early-stages of a business, there are also many individuals who have been owning and managing a business for a longer time. These individuals are included in the established business owner index that captures the percentage of individuals in a population that have been owning and managing a company that has paid wages or salaries for more than 42 months. Figure 3 shows the prevalence rates of established business owners across countries in 2005. As before, the vertical bars represent the 95% confidence interval.

Established business owners prevalence rates also vary strongly among countries. At the lower end of the scale are countries like South Africa (1.3%), Mexico (1.9%), and Hungary (2.0%). The highest rate of established business owners is found in Thailand (14.1%), followed by China (13.5%), New Zealand (10.8%), Greece (10.5%), and Brazil (10.1%). A number of countries exhibit comparable levels of established business owner rates. For example, Denmark, the United States, Singapore, Argentina, Latvia, the United Kingdom, Japan, Belgium, and the Netherlands all show established business owner prevalence rates of about 5%.

It is worth noting that there is some similarity in the order of countries for early-stage and established business ownership prevalence rates, but there is no complete match. For example, Thailand and New Zealand show up at the top of the ranking for both measures, while Japan scores very low in early-stage entrepreneurial activity but ranks in the middle group of countries for established business owners. These observations have an important implication: The ratio of early-stage to established entrepreneurs varies among countries. That is, the chances that early-stage entrepreneurs will be successful, in the sense of surviving in the market, vary significantly among countries and, as a result, having high early-stage rates of entrepreneurship is not a sufficient condition for high rates of established business ownership.

Figure 3. Established Business Ownership by Country 2005

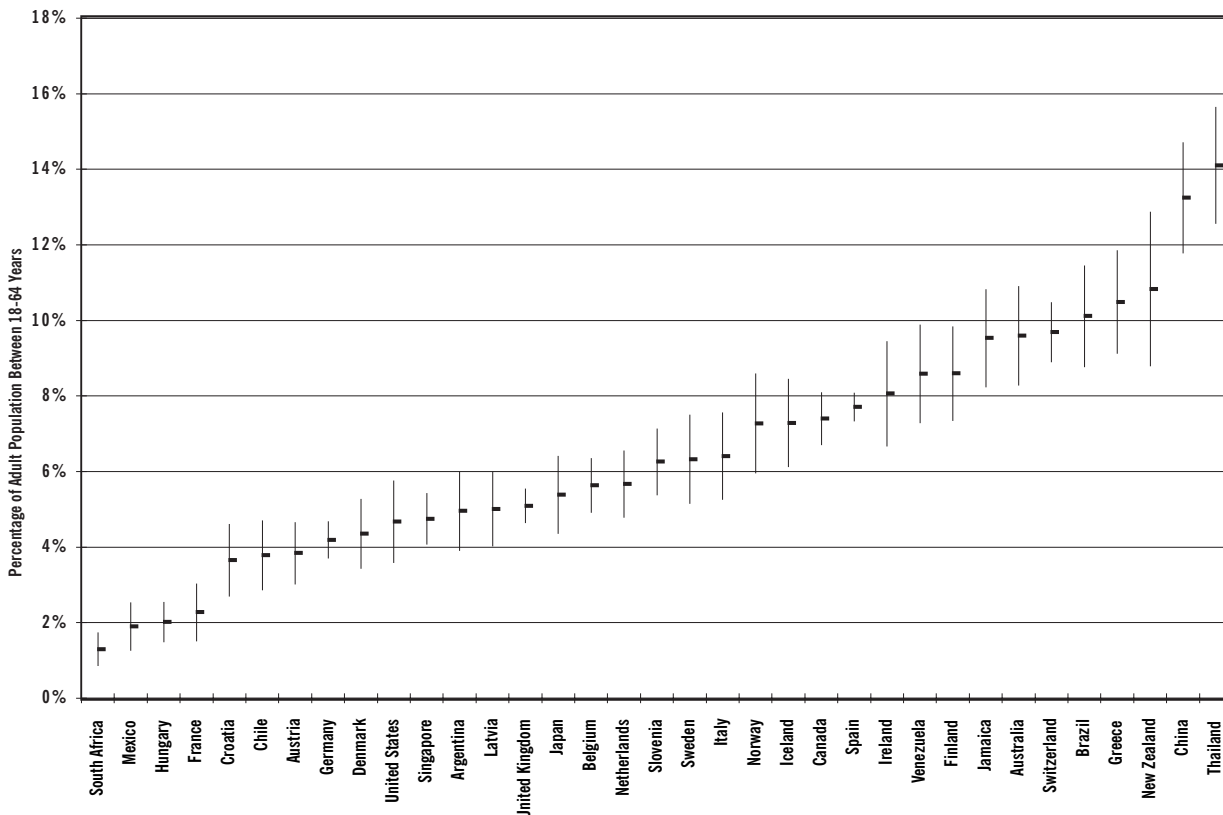


Table 2. Prevalence Rates of Entrepreneurial Activity Across Countries 2005

	NASCENT ENTREPRENEURIAL ACTIVITY	NEW BUSINESS OWNERS	EARLY-STAGE ENTREPRENEURIAL ACTIVITY	ESTABLISHED BUSINESS OWNERS	OVERALL BUSINESS OWNERS	NUMBER OF OBSERVATIONS
	(Nascent + New)*			(Nascent + New + Established)		
Argentina	5.90%	3.90%	9.50%	5.00%	14.10%	1,746
Australia	6.50%	4.70%	10.90%	9.60%	20.40%	2,002
Austria	3.00%	2.40%	5.30%	3.80%	8.80%	2,197
Belgium	2.90%	1.20%	3.90%	5.60%	9.40%	4,047
Brazil	3.30%	8.20%	11.30%	10.10%	21.40%	2,000
Canada	6.60%	3.60%	9.30%	7.40%	16.60%	5,519
Chile	6.00%	5.30%	11.10%	3.80%	14.40%	1,733
China	5.60%	9.40%	13.70%	13.20%	26.70%	2,109
Croatia	4.10%	2.50%	6.10%	3.70%	9.70%	1,555
Denmark	2.40%	2.40%	4.80%	4.40%	8.80%	1,968
Finland	3.10%	1.90%	5.00%	8.60%	13.50%	2,010
France	4.70%	0.70%	5.40%	2.30%	7.50%	1,603
Germany	3.10%	2.70%	5.40%	4.20%	9.40%	6,577
Greece	5.20%	1.60%	6.50%	10.50%	16.90%	2,000
Hungary	1.10%	0.80%	1.90%	2.00%	3.80%	2,878
Iceland	8.50%	2.70%	10.70%	7.30%	17.60%	2,002
Ireland	5.70%	4.70%	9.80%	8.10%	17.70%	1,541
Italy	2.90%	2.30%	4.90%	6.40%	11.30%	1,793
Jamaica	10.50%	6.70%	17.00%	9.50%	26.40%	2,031
Japan	1.10%	1.10%	2.20%	5.40%	7.40%	1,931
Latvia	4.20%	2.80%	6.60%	5.00%	11.50%	1,964
Mexico	4.60%	1.40%	5.90%	1.90%	7.60%	1,885
Netherlands	2.50%	1.90%	4.40%	5.70%	9.40%	2,706
New Zealand	9.40%	10.00%	17.60%	10.80%	28.20%	938
Norway	4.40%	5.20%	9.20%	7.30%	15.60%	1,562
Singapore	3.90%	3.70%	7.20%	4.70%	11.90%	3,876
Slovenia	3.00%	1.40%	4.40%	6.30%	10.10%	3,016
South Africa	3.60%	1.70%	5.10%	1.30%	6.00%	2,736
Spain	2.40%	3.40%	5.70%	7.70%	13.20%	18,953
Sweden	1.70%	2.50%	4.00%	6.30%	10.20%	1,717
Switzerland	2.60%	3.70%	6.10%	9.70%	15.40%	5,456
Thailand	9.70%	13.10%	20.70%	14.10%	34.80%	2,000
United Kingdom	3.40%	2.90%	6.20%	5.10%	11.20%	9,167
United States	8.80%	5.20%	12.40%	4.70%	16.20%	1,530
Venezuela	18.80%	7.50%	25.00%	8.60%	33.10%	1,856
Average	5.00%	3.90%	8.40%	6.60%	14.80%	108,604

* This measure corresponds to the old Total Entrepreneurial Activity (TEA) Index.

Table 2 provides an overview of the different stages of entrepreneurial activity measured by GEM. The early-stage prevalence rate (or TEA index) is the combined count of nascent entrepreneurs and new business owners, while the overall rate of entrepreneurial activity is the count of early-stage plus established entrepreneurs. A small number of individuals qualify for more than one of the entrepreneurial stages because they are involved in more than one venture. The combined early-stage index and the overall index count these individuals only once.¹¹ According to Table 2, Thailand (34.8%) and Venezuela (33.1%) are the countries with the highest rate of overall entrepreneurial activity, while Hungary (3.8%) marks the low end of the scale.

Table 3 compares the prevalence rates of the different stages of entrepreneurial activity among the two clusters of countries. The overall participation rate (both early-stage and established entrepreneurs) is higher among individuals surveyed in middle-income countries. However, there is an important difference between early-stage and established entrepreneurial activity: While the middle-income cluster leads in early-stage entrepreneurial activity (nascent entrepreneurs, new business owners, and the early-stage ratio), the cluster of high-income countries shows a higher rate of established business owners. The differences in prevalence rates between the two country clusters are statistically significant at above 99% confidence.

This suggests that the ratio of established to early-stage entrepreneurs also varies significantly among country groups. Table 4 shows this ratio for all 35 countries in this sample. This ratio can be interpreted as a proxy for the survival chances of early-stage entrepreneurs in a country, under the assumption that both the early-stage rate and the established business owners rate remain constant over time.¹² The higher the ratio of established business owners to early-stage entrepreneurs, the higher are the approximated chances of early-stage entrepreneurs succeeding with their business venture in the sense of surviving in the market for longer than 42 months. Obviously, both the ratio and the rank of the countries reported in Table 4 are sensitive to sampling issues and must be interpreted with caution. Yet, a simple pattern seems to emerge: While a few highly developed countries with relatively low early-stage entrepreneurial activity appear at the top of the ranking (Japan, Finland, Greece, Switzerland), the low end of the ranking is taken by countries that belong to the cluster of middle-income countries (South Africa, Mexico, Chile, and Venezuela).

Table 5 consolidates the results presented in Table 4 and shows that early-stage entrepreneurs in high-income countries are on average more likely to make the transition to become established business owners. In other words, they are more likely to survive in the market for 42 months than early-stage entrepreneurs in middle-income countries. The difference in transition ratios among the two country clusters is statistically significant at 99%.

Table 3. Differences in Prevalence Rates Across Country Clusters

	NASCENT ENTREPRENEURIAL ACTIVITY	NEW BUSINESS OWNERS	EARLY-STAGE ENTREPRENEURIAL ACTIVITY	ESTABLISHED BUSINESS OWNERS	OVERALL BUSINESS OWNERS
			(Nascent + New)*		(Nascent + New + Established)
Middle-Income Cluster	5.90%	4.70%	10.00%	6.10%	15.60%
High-Income Cluster	3.50%	3.20%	6.40%	6.80%	12.70%
Significance of Equal Means	0	0	0	0	0
Number of Observations	108,604	108,604	108,604	108,604	108,604

* This measure corresponds to the Total Entrepreneurial Activity (TEA) Index.

Table 4. Transition Ratios

**ESTABLISHED
BUSINESS OWNERS / EARLY-STAGE ENTREPRENEURS**

	Ratio	Rank
Argentina	0.52	29
Australia	0.88	15
Austria	0.73	22
Belgium	1.43	7
Brazil	0.89	14
Canada	0.79	18
Chile	0.34	33
China	0.96	12
Croatia	0.60	27
Denmark	0.92	13
Finland	1.73	2
France	0.42	30
Germany	0.78	20
Greece	1.61	3
Hungary	1.06	11
Iceland	0.68	23
Ireland	0.82	16
Italy	1.30	9
Jamaica	0.56	28
Japan	2.45	1
Latvia	0.75	21
Mexico	0.32	34
Netherlands	1.30	10
New Zealand	0.62	26
Norway	0.79	19
Singapore	0.66	25
Slovenia	1.44	6
South Africa	0.25	35
Spain	1.36	8
Sweden	1.56	5
Switzerland	1.60	4
Thailand	0.68	24
United Kingdom	0.82	17
United States	0.38	31
Venezuela	0.34	32
Average	0.92	

Table 5. Country Cluster Differences in Transition Ratios

	MEAN RATIO ESTABLISHED ENTREPRENEURS / EARLY-STAGE ENTREPRENEURS	MEAN COUNTRY RANK OF RATIO
Middle-Income Cluster	0.67	23.5
High-Income Cluster	1.07	14.7
Significance of Equal Ranks According to Mann-Whitney-U Test	0.014	

ENTREPRENEURIAL MOTIVATION

The GEM survey allows for differentiation according to the reasons that motivate entrepreneurial behavior. In the GEM framework, individuals start a business for two main reasons:

- They want to exploit a perceived business opportunity (opportunity entrepreneurs)
- They are pushed into entrepreneurship because all other options for work are either absent or unsatisfactory (necessity entrepreneurs)

GEM identifies both groups by asking all

respondents involved in entrepreneurial activity whether they are involved to take advantage of a business opportunity or because they have no better employment alternative. A few respondents cannot be unambiguously coded since they are involved in business for both reasons. In most countries, however, nearly all individuals can be sorted into one of the two categories.¹³ The vast majority of early-stage entrepreneurs across the world claim that they are attempting to take advantage of a business opportunity. Yet, Figure 4 shows that there is also variation across countries in the balance of start-up motives. The highest percentage of opportunity-driven early-stage entrepreneurial activity is found in New Zealand and the Netherlands. At the low end of the scale are Croatia and Brazil.

Figure 4. Opportunity- to Necessity-Based Early-Stage Entrepreneurship

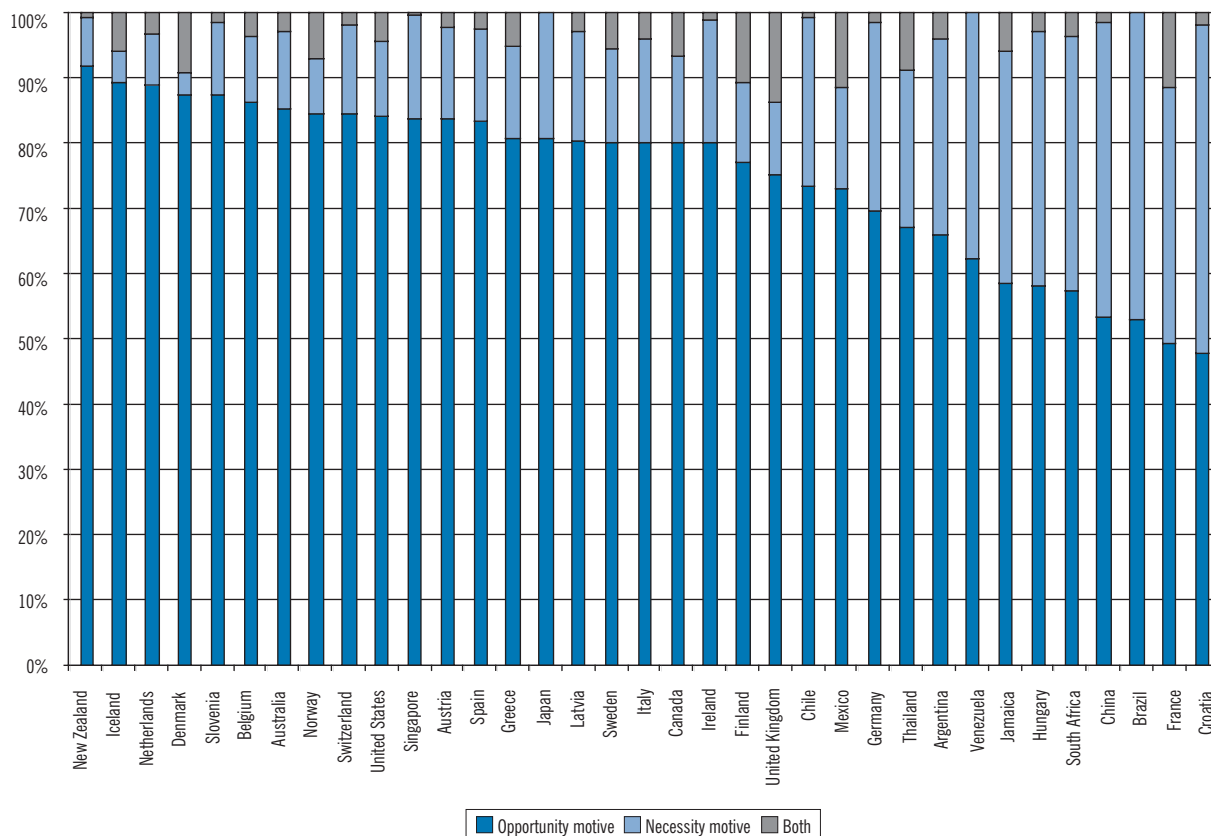


Table 6. Ratio of Opportunity- to Necessity-Based Early-Stage Entrepreneurship by Country

	RATIO EARLY-STAGE OPP/ EARLY-STAGE NEC	RANK
Argentina	2.2	27
Australia	7.1	9
Austria	5.9	15
Belgium	8.7	6
Brazil	1.1	34
Canada	6.0	13
Chile	2.8	24
China	1.2	33
Croatia	0.9	35
Denmark	27.4	1
Finland	6.3	11
France	1.3	32
Germany	2.4	26
Greece	5.7	16
Hungary	1.5	30
Iceland	18.2	2
Ireland	4.2	22
Italy	5.0	19
Jamaica	1.7	28
Japan	4.2	23
Latvia	4.9	20
Mexico	4.7	21
Netherlands	11.5	4
New Zealand	12.7	3
Norway	9.8	5
Singapore	5.3	18
Slovenia	7.8	7
South Africa	1.5	31
Spain	5.9	14
Sweden	5.6	17
Switzerland	6.1	12
Thailand	2.8	25
United Kingdom	6.7	10
United States	7.2	8
Venezuela	1.6	29
Average	5.9	

Not surprisingly, Table 6 shows that Denmark, Iceland, and New Zealand also exhibit the most favorable ratio of opportunity to necessity-driven early-stage entrepreneurship. In general, countries that exhibit healthy and diversified labor markets or stronger safety nets, in terms of social welfare provisions, show a more favorable ratio of opportunity to necessity-driven motives.¹⁴ An explanation for this is that people living in such countries have more alternative income options available, which limits the pressure to start a business out of necessity. In other words, individuals living in countries with a diversified labor market and strong unemployment care are more likely to choose business opportunities with favorable prospects only, if they start a business at all.

Table 7 shows that the ratio of opportunity- to necessity-based motives for starting a business is more favorable in the cluster of high-income countries. The difference in the distribution of this ratio between the two country clusters is statistically significant at above 99% confidence. This supports the pattern observed above: There are qualitative differences in the types of businesses started in high-income and

middle-income countries.

Interestingly, there is also a significant positive correlation between the ratio of opportunity to necessity entrepreneurship and the transition rates from early-stage to established entrepreneurship.¹⁵ In other words, countries that primarily exhibit opportunity-driven entrepreneurship show a lower share of early-stage business failures. This suggests that there may exist a systematic relationship between the motivation to start a business and the chance of succeeding. For example, in countries with relatively low income and low levels of social security, high ratios of necessity entrepreneurship (e.g., Croatia, China, Brazil, and South Africa) are observed. In these countries, given the lack of viable alternatives, people may be starting businesses even though the prospects of their ventures may not be very favorable. In contrast, people in countries with high-income levels and strong social security systems (e.g., Japan, Sweden, and Switzerland) are not as likely to start a business with bad prospects. This is reflected in the lower overall rates of early-stage activity in these countries and the lower ratio of necessity-based entrepreneurship.

Table 7. Country Cluster Differences in Opportunity- to Necessity-Based Early-Stage Entrepreneurship

	MEAN RATIO EARLY-STAGE OPP/ EARLY-STAGE NEC	MEAN COUNTRY RANK OF RATIO
Middle-Income Cluster	2.67	26.5
High-Income Cluster	7.87	13.0
Significance of Equal Ranks According to Mann-Whitney-U Test	0.000	

INNOVATIVENESS AND GROWTH EXPECTATIONS

Entrepreneurs are alert individuals who perceive and exploit profit opportunities. In addition to contributing toward market efficiency, entrepreneurs introduce innovations by offering new and unique products or services. As a result, innovative entrepreneurs are also one of the main links between entrepreneurship and economic growth. A new business idea may be considered truly innovative if it is perceived as new by customers, faces no direct competition, and is using a technology or process that is new to the market. To measure innovativeness and growth expectations, GEM asks entrepreneurs and business owners how they evaluate the newness of their product or service, the competition they face, and the novelty of their technology. Of course, it is important to remember that innovativeness and growth expectations are context-specific and that what is innovative in one country may not necessarily be innovative in another. Globalization erodes, to some extent, these differences. Yet, most newer and entrepreneurial businesses target national markets and, as a result, benefit and suffer more than others from the condition of their local economy.

Figure 5 compares the newness of the products and services among early-stage entrepreneurs and established business owners in the two country clusters. The majority of businesses offer products or services that are not new to customers, and only a small fraction claim that what they offer is new to all customers. Not surprisingly, early-stage entrepreneurs claim more often to offer innovative products than established entrepreneurs, while the latter say more

frequently that their products are not new to any customer. The significance test shows no differences in this pattern between the two country clusters. In other words, entrepreneurs in both country groups are approximately equally innovative with respect to the products and services they offer to their customers.

This suggests that entrepreneurs offering very innovative products and services are relatively rare in all countries, independent of the average level of per capita income in that country.

Figure 6 shows that most entrepreneurs also say that they expect to face many competitors in their market. Not surprisingly, this share is higher for established business owners (65%) than for early-stage entrepreneurs (about 55%). Only about 10% of early-stage entrepreneurs and 6% of established business owners say that they have no competitors. The difference between early-stage entrepreneurs and established business owners may partially reflect a higher innovative potential of those who are just starting out with a new business idea, but it may also reflect overly optimistic expectations of early-stage entrepreneurs that are based on a limited knowledge of the market they plan to enter or have just entered. Early-stage entrepreneurs in the high-income cluster are slightly more optimistic about the expected level of competition in their markets than their counterparts in middle-income countries. Yet, established business owners in the two country clusters show no significant difference in their evaluation of the degree of competition they are facing. In other words, early-stage entrepreneurs in high-income countries perceive themselves to be more successful in finding market niches with little or no competition than their counterparts in the middle-income cluster.

Figure 5. Newness of Products by Country Clusters

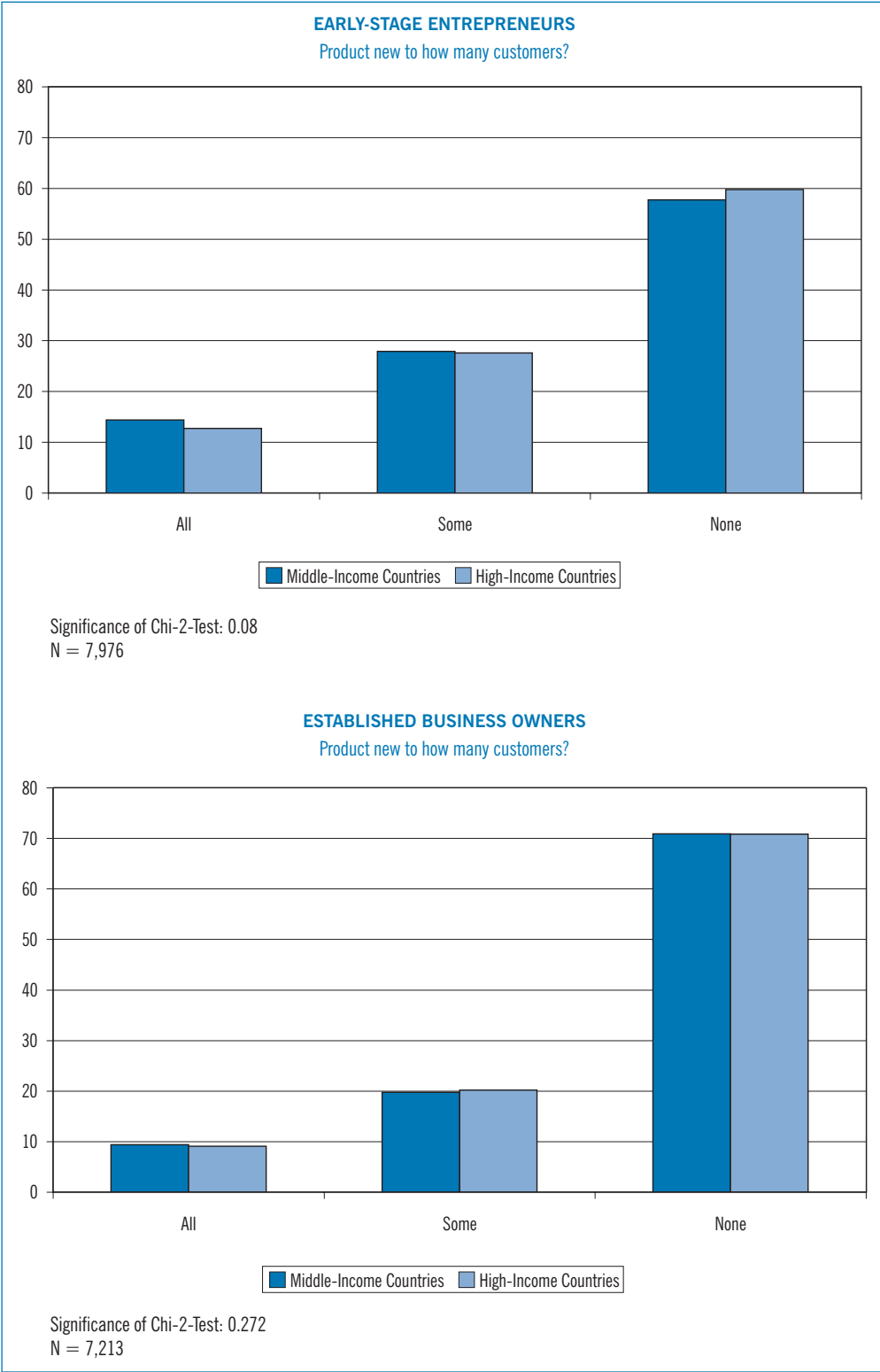
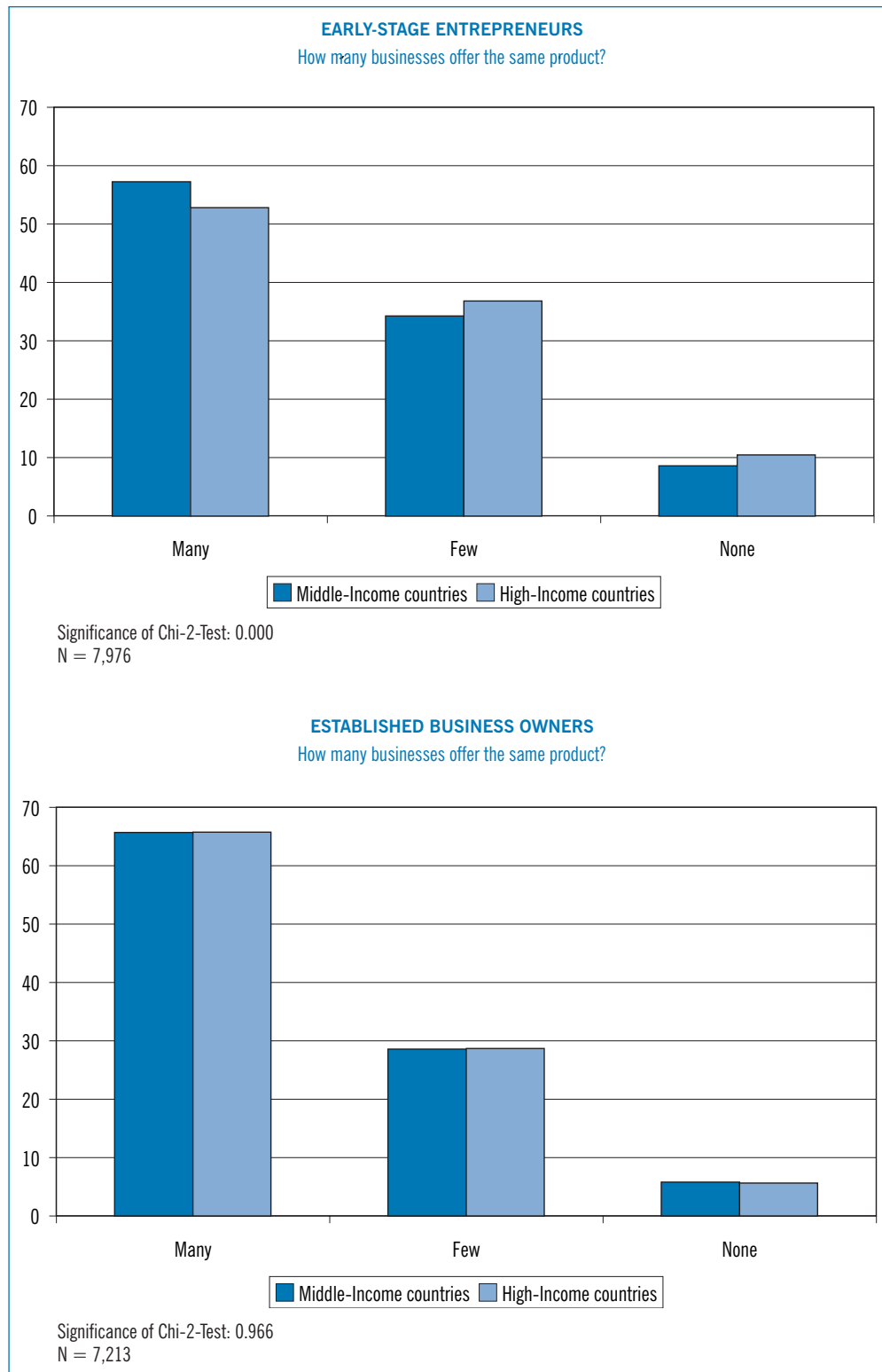


Figure 6. Intensity of Expected Competition by Country Clusters



Another important indicator of the innovativeness of a business concerns the technologies and production processes it uses. Usually, new technologies and processes are associated with a better utilization of resources, higher quality of routine tasks, and higher productivity. Companies that use innovative technologies and processes can often offer qualitatively superior and/or cheaper products, thereby enjoying higher growth potential. Figure 7 shows significant differences in the use of new technologies between the two country groups. Both early-stage entrepreneurs and established business owners in the middle-income country cluster claim to be using the latest or newer technologies more often than their counterparts in the high-income country cluster. This might sound surprising, as most new technologies are still being developed in the wealthy and highly industrialized countries. However, the result makes perfect sense once novelty is interpreted in a relative sense: starting from a comparatively lower level, middle-income countries have more room and opportunities to upgrade and modernize their technologies. Some of the technologies that are already standard and common knowledge in the industrialized countries can still be novel for firms producing in less-developed economies. This does not limit, but rather enhances, the growth potential these new technologies offer in markets that are not yet highly developed.

To summarize, Figure 8 presents a compound index of the growth potential of early-stage entrepreneurs and established business owners. The index aggregates the individual responses regarding the novelty of the product, the expected level of competition, and the newness of the technology. The growth potential is highest for those firms that use the latest technology, expect no competition and offer a product or service that is new to all customers. At the other extreme, the growth potential is lowest for those entrepreneurs who enter an existing market with high competition

and an established technology. Essentially, these businesses imitate existing business ideas and have more limited growth potential. Yet, they contribute to the economy by increasing the level of competition and forcing markets to be more efficient.

Not surprisingly, early-stage entrepreneurs have, on average, a higher growth potential than established business owners. Yet, the majority of businesses show either no growth potential or only limited growth potential. Highly innovative firms with high-growth potential in their market are very rare. Comparing the growth potential between the two country clusters, middle-income countries exhibit a significantly higher share of individuals who are engaged in a business venture with growth potential. As suggested earlier, these technologies do not necessarily need to be novel in an absolute sense. It is sufficient if they are new to the particular regional market where they are being introduced. As a result, entrepreneurs in the middle-income countries are more likely to use technologies that are new to their market. This result is interesting in two ways:

- The higher growth rate of GDP per capita in these countries is mirrored in the higher innovativeness and growth potential of entrepreneurial activity in these countries.
- The diffusion of new technologies from high-income to middle-income countries is crucial for the “catch up” process since it allows for the upgrading of technologies and leads to higher GDP growth rates (Barro and Sala-I-Martin 1997).

Overall, the issue of innovativeness and growth expectations is crucial for the well-being of people. As a result, in addition to the analysis above, this report presents a Focus Insert on High Expectation Entrepreneurship.

Figure 7. Newness of Technology or Process by Country Clusters

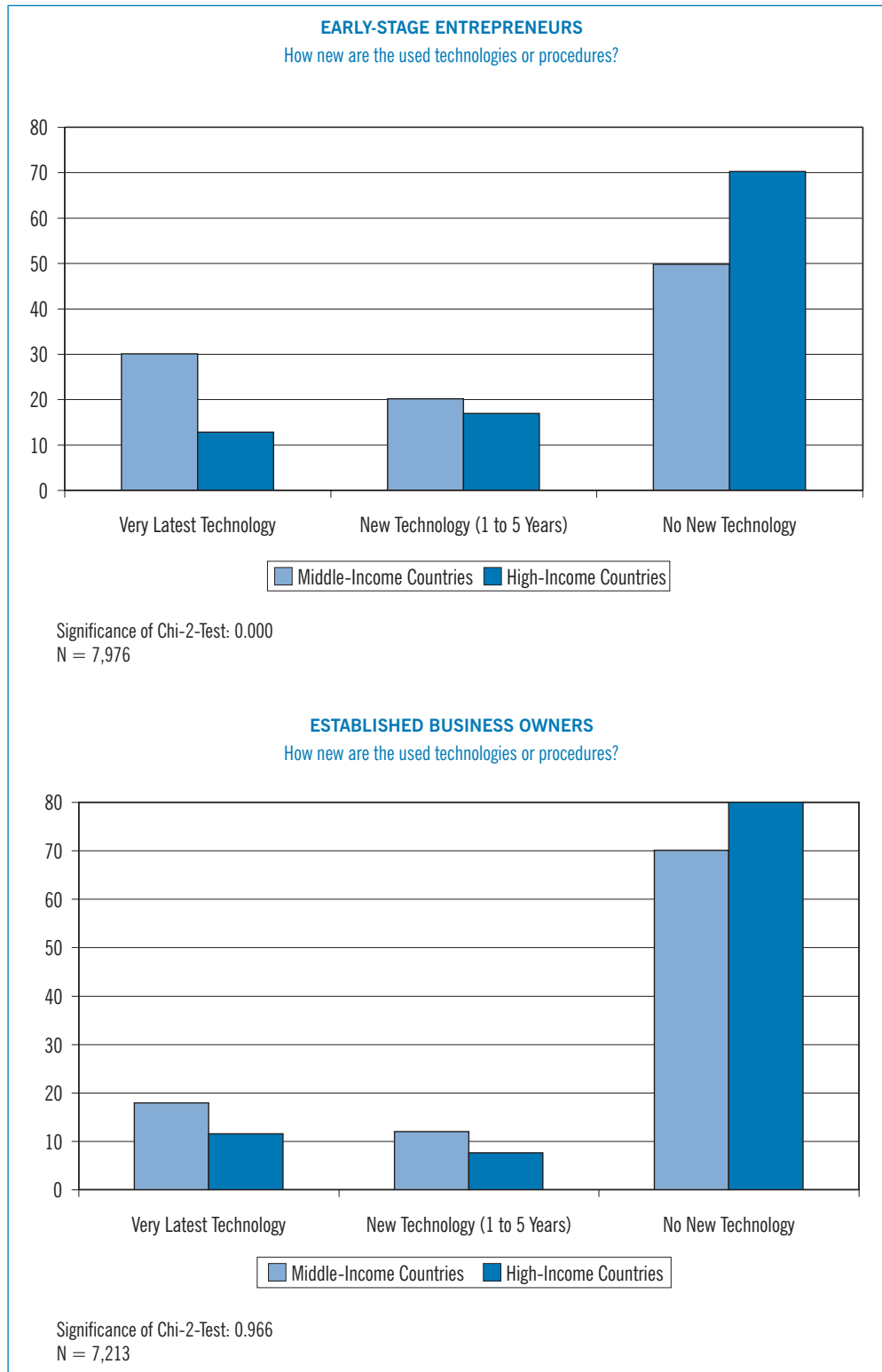
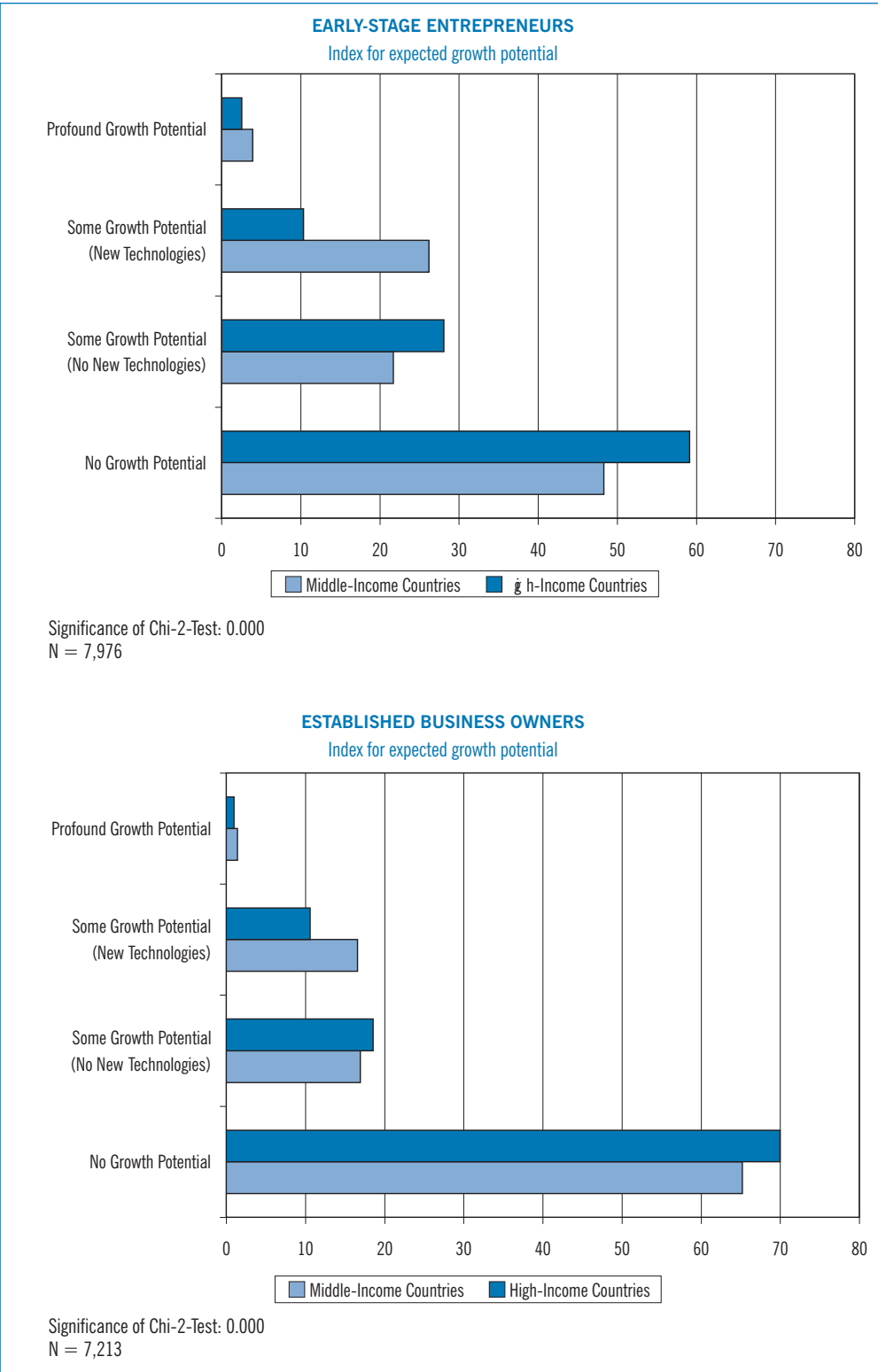


Figure 8. Compound Index of Growth Potential by Country Clusters



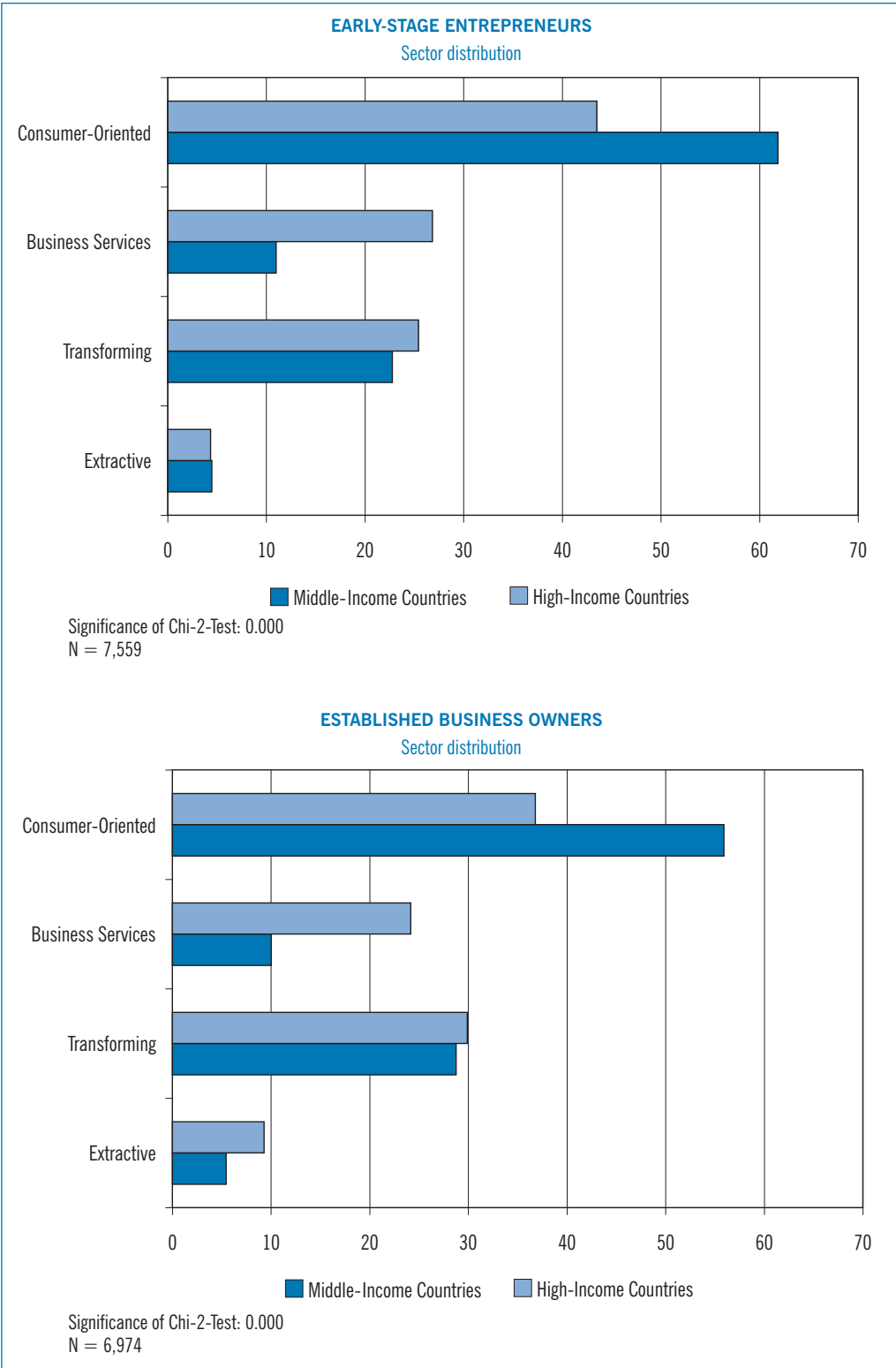
SECTORAL DISTRIBUTION

To analyze the sectors in which people attempt to start businesses and compare their distribution with those of established business, GEM codes activity according to the International Standard Industry Codes (ISIC).¹⁶ These codes identify more than five hundred different types of activity, which GEM consolidates under four main headings for ease of analysis. These sectoral groups are:

- **Extraction:** agriculture, forestry, fishing, and mining (extraction of products from the natural environment)
- **Transformation:** construction, manufacturing, transportation, and wholesale distribution (physical transformation or relocation of goods and people)
- **Business Services:** where the primary customer is another business
- **Consumer-Oriented:** where the primary customer is a physical person (e.g., retail, restaurants and bars, lodging, health, education, social services, and recreation)

Figure 9 shows that the largest share of entrepreneurs and established business owners are active in consumer-oriented activities, while extractive activities exhibit the smallest share. The sectoral distribution of early-stage entrepreneurs and established business owners is comparable. However, significant differences exist between the two country clusters. Middle-income countries show a larger share of consumer-oriented business activity, while high-income countries exhibit a share of activities in business services that is almost twice as high as in the other group. This pattern makes clear that there is a link between the income level of a country and the distribution of its business activities across sectors. As countries progress in their development, entrepreneurial activity shifts away from consumer-oriented services, such as retail, and moves toward business services such as consulting, maintenance of computer networks, or advertising. The higher ratio of business services in high-income countries can be related to the availability of highly educated and qualified people that are able to provide business services. In addition, countries that are more advanced in their economic development also tend to have more companies that have the financial resources and the need to demand such services.

Figure 9. Sectoral Distribution of Entrepreneurial Activity by Country Clusters



4. Entrepreneurial Capacity

The decision to start a new business is a complex, multi-layered process, contingent to a large extent on the context in which the decision is taken. The previous sections show the importance of the economic environment for entrepreneurial decisions. The aggregate level of entrepreneurial activity of a country, however, is crucially influenced also by its entrepreneurial capacity. And the entrepreneurial capacity of a country depends on its people. After all, people start businesses and people are the source of entrepreneurial behavior within established organizations of all sizes.

GEM data provide a rich source of information with respect to the entrepreneurial capacity of a country which, in addition to its economic and demographic profile, allows researchers to study social norms and psychological variables. In fact, GEM data show that, when making decisions with respect to their employment, individuals also consider a set of subjective perceptions about their environment that they form based on the presence of role models, confidence in one's skills and ability, risk propensity, and alertness to unexploited opportunity. This section draws a profile of the socioeconomic and perceptual characteristics of entrepreneurs around the world.

DEMOGRAPHIC AND ECONOMIC FACTORS INFLUENCING ENTREPRENEURIAL BEHAVIOR

Scholars of entrepreneurship in a variety of disciplines agree that age, gender, work status, education, income, and access to financing are all significant socioeconomic factors in a person's decision to start a business. The following is an analysis of the relationship between each factor and the behavior of both early-stage and established entrepreneurs in the global context.

Age

Figure 10 illustrates the entrepreneurial prevalence rates by age groups in the two country clusters. The age distribution of early-stage entrepreneurs is comparable between high-income countries and middle-income countries. In particular, early-stage entrepreneurial activity is most prevalent in the age group of individuals 25 to 34 years old, whereas people above 55 years of age are least likely to start a business. Thus, the age distribution of people involved in entrepreneurial activity follows an inverted U-shape curve (Levesque and Minniti, in press).

Figure 10. Entrepreneurial Activity by Age Cohorts and Country Clusters

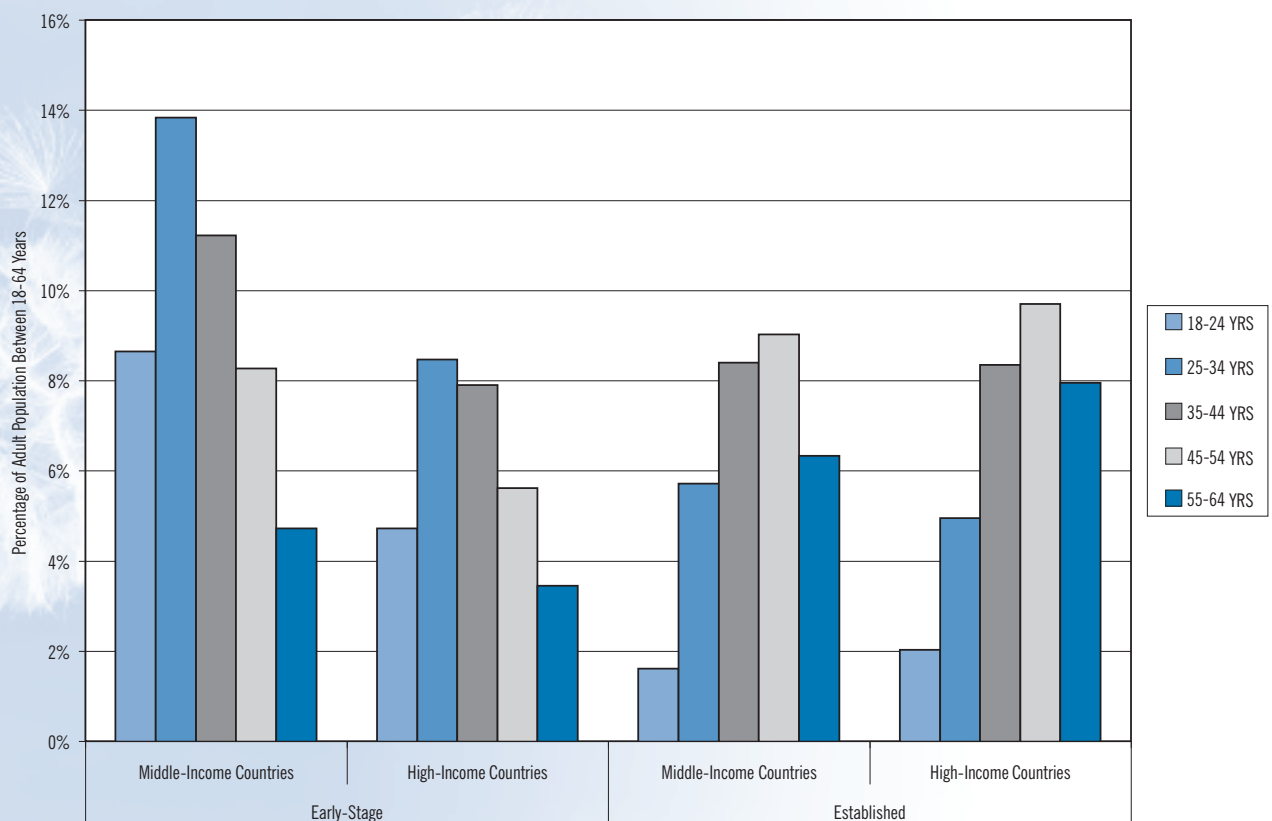


Figure 11. Entrepreneurial Activity by Gender and Country Clusters

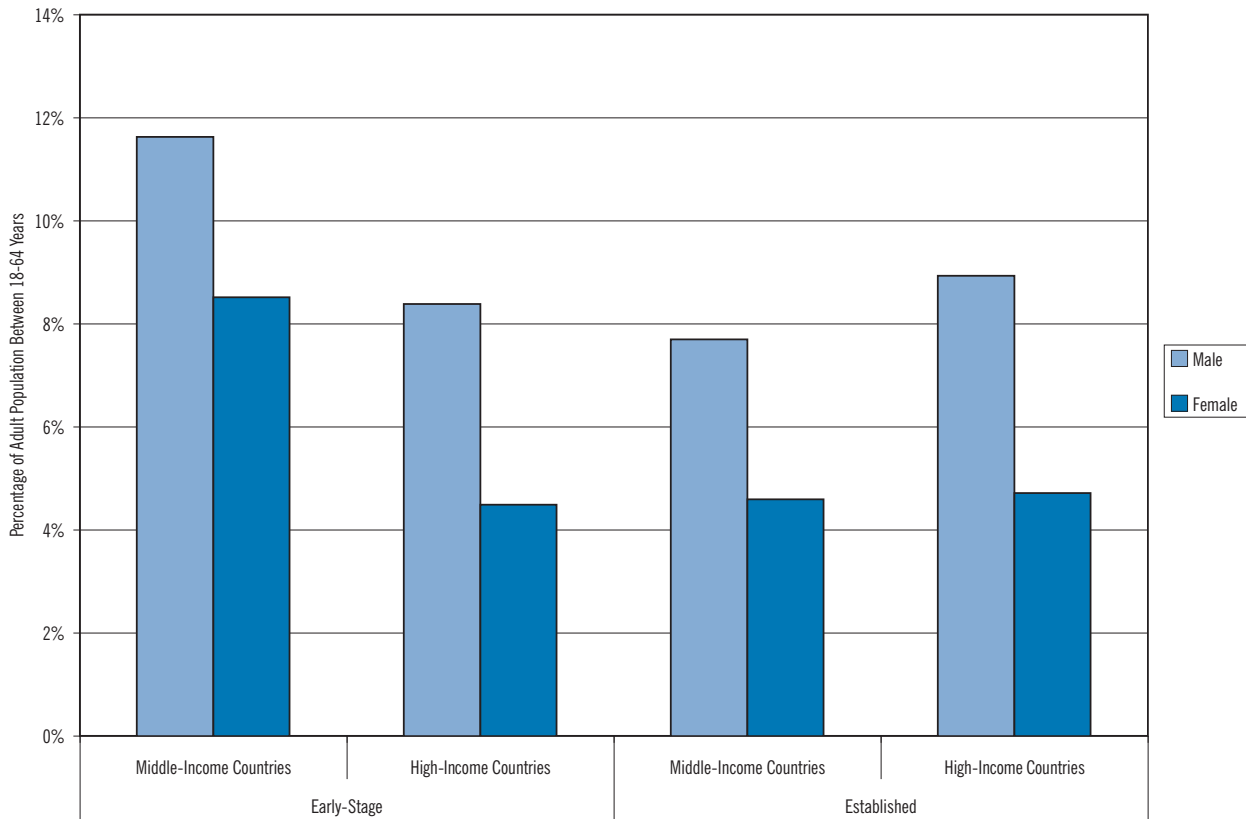
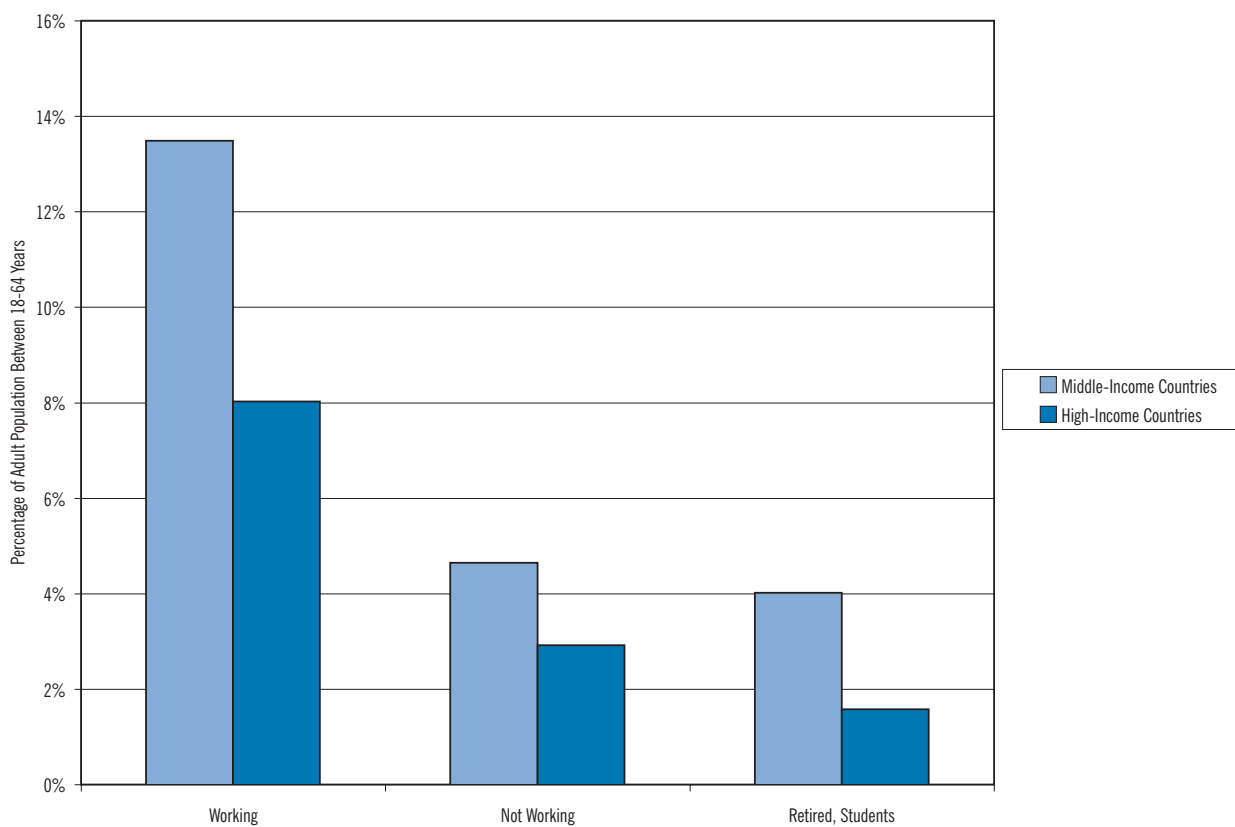


Figure 12. Early-Stage Entrepreneurial Activity by Work-Status and Country Clusters



The age distribution of established business owners is also comparable between the two country groups. Yet, not surprisingly, established business owners are, on average, older than early-stage entrepreneurs. The distribution still has an inverted U-shaped pattern, but the peak occurs among those 45 to 54 years old, whereas individuals 18 to 24 years old are least likely to be established entrepreneurs. This is because people are more likely to remain business owners in more mature age brackets only if their businesses are successful.

The robustness of the age profile of entrepreneurs across country groups suggests that the age distribution of a population has immediate implications for the expected level of entrepreneurial activity of a country. In the long run, demographic change can influence the entrepreneurial capacity of a country. And an aging population, like the ones found in several Western European countries, may have negative implications for the prevalence of business start-up activities.

Gender

In general, men are more likely to start a business than women. In no country are women more active in starting and owning businesses than men. However, significant differences exist in the size of the gender gap between countries.

Figure 11 (page 33) shows that the gender gap exists for both early-stage entrepreneurial participation and established business owners, and in both country clusters. Yet, the gender gap is more pronounced in high-income countries than in middle-income countries. This is partially due to higher shares of female necessity-driven entrepreneurial activity in middle-income countries where women have reduced access to established labor markets. Also, in richer countries, larger companies and public employment are more likely to offer healthcare and significant support for working mothers, thereby tilting women's incentives away from start-ups and self-employment.¹⁷

Work Status

Figure 12 shows that participation rates of people currently starting a business in both country clusters are by far the highest among working people, either full-time or part-time. Participation rates in early-stage entrepreneurial activity are much lower among people who are currently not working (e.g., due to unemployment), or who are not actively participating in the labor market because they are either students or retired. These patterns are quite similar between the two country clusters, except that the participation rates of not-working people are higher in the middle-income countries. This is likely because the lack of safety

nets and social welfare for unemployed people forces them into starting businesses. This evidence is in fact consistent with the higher share of necessity-based entrepreneurship in middle-income countries shown in Table 7.

Entrepreneurs may distribute their time between their own business, leisure-time, and possibly a regular wage job. As a result, not all entrepreneurs must work full-time in their own business. Figure 13 shows the ratio of early-stage entrepreneurs and established business owners who work full-time or part-time in their own business. More than 70% of early-stage entrepreneurs and more than 80% of established business owners work full-time in their own business. Part-time entrepreneurship is consequently less frequent. However, more than 25% of early-stage entrepreneurs and almost 20% of established business owners work only part-time in their own business. The higher share of full-time employment among established business owners suggests that a significant number of people increase the involvement in their venture over time and as the business becomes successful. Interestingly, the time allocation pattern does not differ very much between the two different country groups.

Education

The educational background of individuals influences both their chances in the regular labor market and their potential for starting a business, and people with more education usually have better job alternatives. As a result, the relationship of education and entrepreneurial activity is complex and varies between countries. Education data have been standardized across countries by the GEM team to enable comparability.

Figure 14 shows the relationship between educational attainment and entrepreneurial activity among individuals in the two country clusters. In both clusters, people with post-secondary education or graduate school experience are more involved in early-stage entrepreneurial activity. A similar pattern emerges for established business owners in the middle-income countries. Yet, the distribution is somewhat different for established business owners in high-income countries. Here, individuals in the lowest educational attainment category are just as likely to be established business owners as people with post-secondary schooling. A possible explanation for this could be that the educational profile of entrepreneurs in highly developed countries has changed over time, and that younger and highly educated individuals are now starting high-tech businesses.

Household Income

A systematic relationship between household income and entrepreneurial activity can also be expected. For early-stage entrepreneurs, the availability of income has a two-edged effect. On the one hand, a high income from a wage job limits the incentives to start a business. On the other hand, a high income might help a potential entrepreneur to finance his or her business venture. For established business owners, the reported income levels are more likely to be a result than a precondition of entrepreneurial activity because many established entrepreneurs work full-time in their own businesses (see Figure 13).

Figure 15 shows that in both country groups, individuals with a higher income are more likely to be involved in early-stage entrepreneurial activity. Yet, the differences among the income groups are less pronounced in the middle-income cluster. Once again, this is intuitively consistent with the higher rates of necessity-driven entrepreneurship found in these countries.

The prevalence of established business ownership shows a different pattern for the two country clusters.¹⁸

Higher income levels are much more common among established business owners in high-income countries than in the middle-income group. Again, this suggests that there are differences in the type and quality of businesses between these two clusters.

Access to Financing

A large quantity of research has shown the importance of financing for entrepreneurial decisions. Among various topics, extensive documentation exists on the importance of financial constraints on entrepreneurial decisions (Evans and Jovanovic 1989, Kihlstrom and Laffont 1979), and on the importance of venture capital, especially in high-income countries (Shepherd et al. 2003, Zacharakis and Shepherd 2005). GEM data provide important insight on the role and structure of financing for entrepreneurial activity with respect to many sources of funds, such as self-financing and the role of informal investors that, because of the lack of comparable cross-country data, have been previously neglected. A detailed discussion of financing issues and entrepreneurial activity can be found in the Focus Insert on Financing Entrepreneurial Companies.

Figure 13. Entrepreneurs Working Full- or Part-Time at Their Own Business by Country Clusters

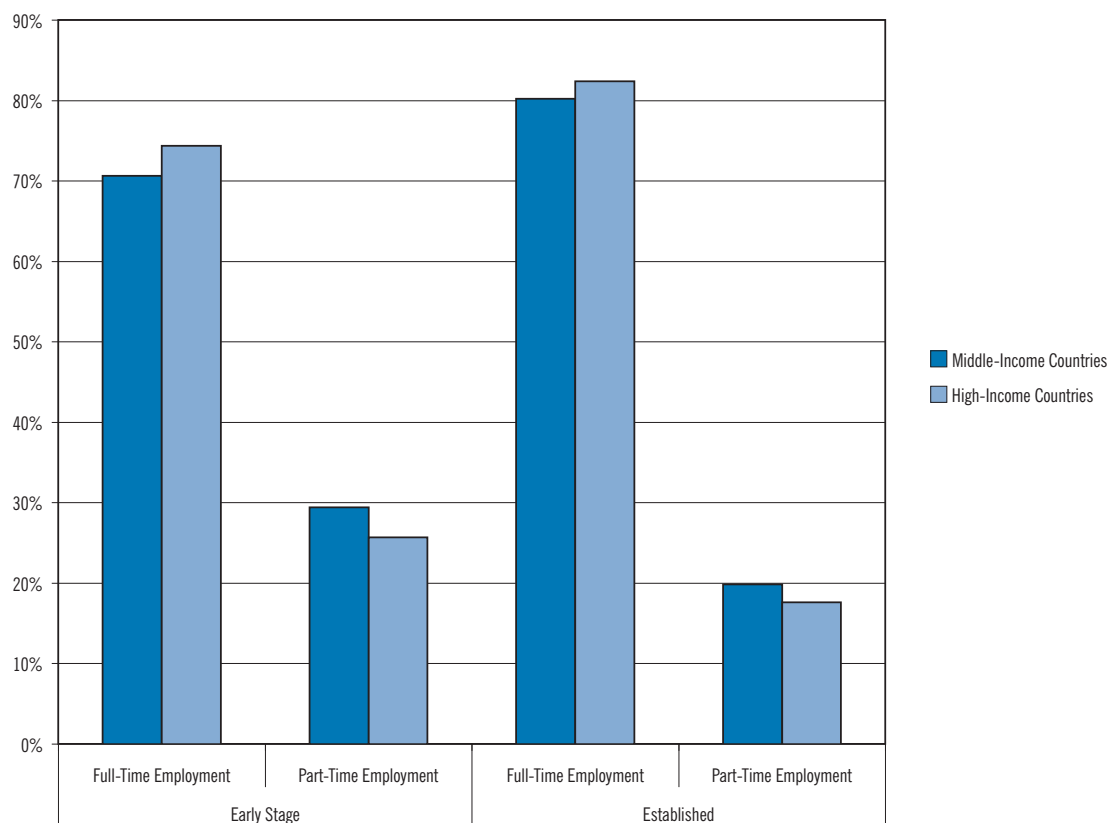


Figure 14. Entrepreneurial Activity by Education and Country Clusters

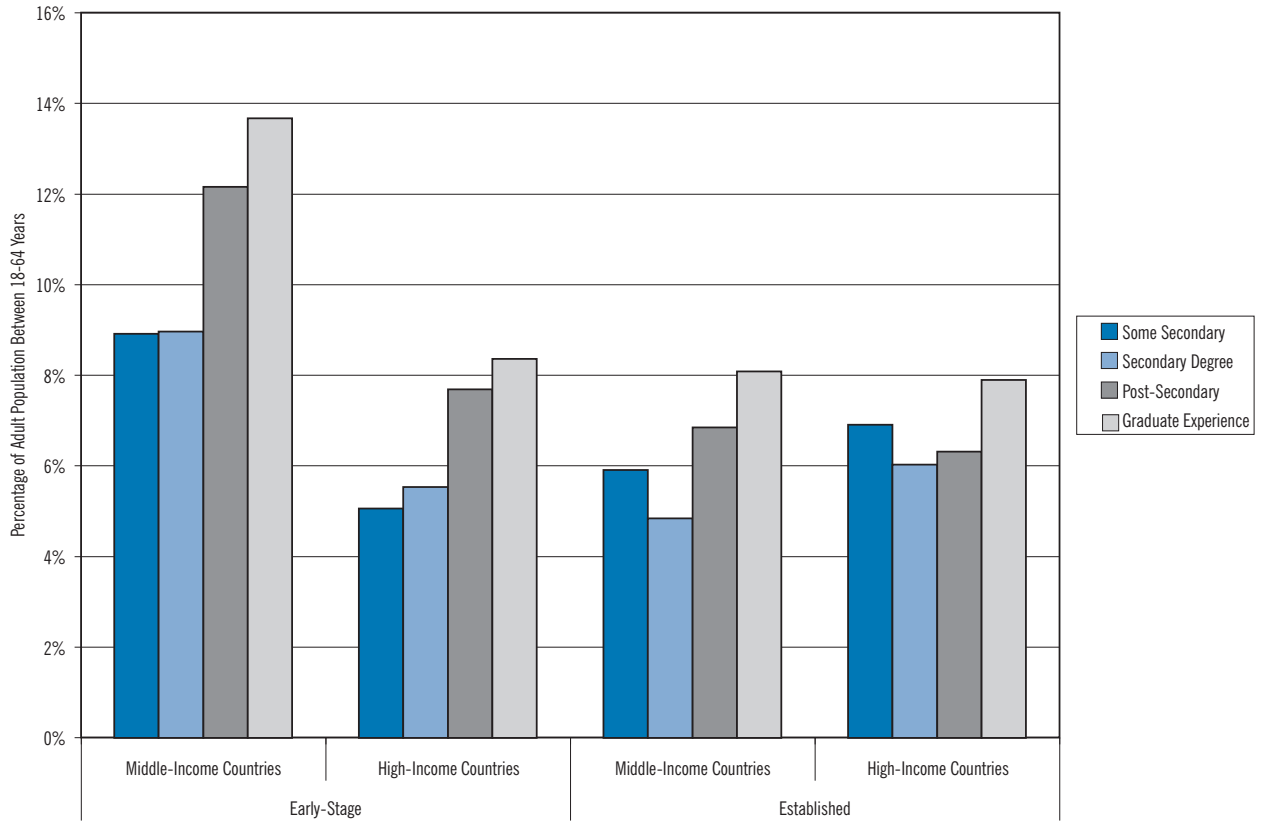
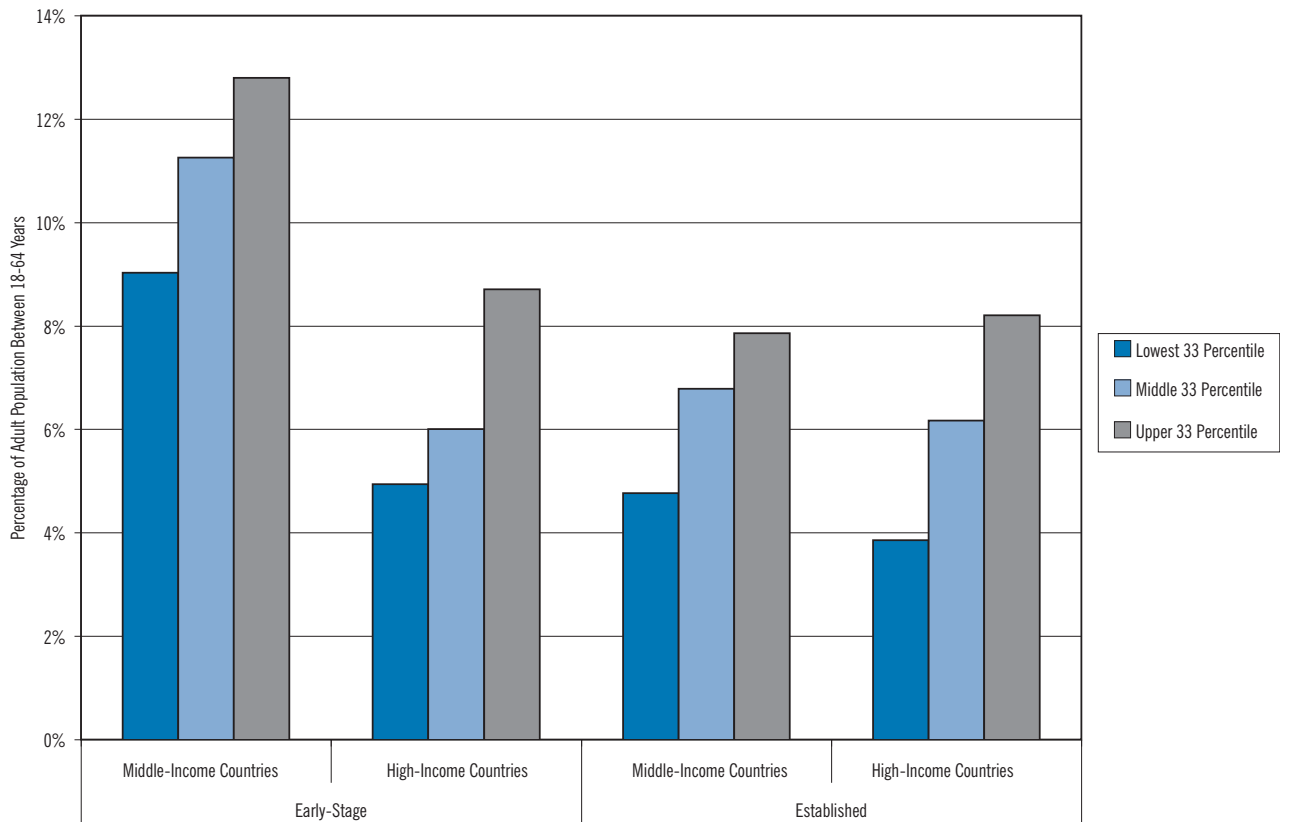


Figure 15. Entrepreneurial Activity by Household Income and Country Clusters



FACTORS INFLUENCING PERCEPTIONS ABOUT THE ENTREPRENEURIAL ENVIRONMENT

At the beginning of the business venturing process, the potential entrepreneur does not know yet if he or she will be able to succeed. In most cases, the person does not even know the exact chances of success or failure. Consequently, the decision to actually start a business, that is, to invest personal resources and time, involves uncertainty that requires the individual to make judgments about the expected outcomes. These judgments are influenced by various things, including self-assessment, attitudes (such as optimism or pessimism), perceptions of the environment, and information the potential entrepreneur does or does not receive.

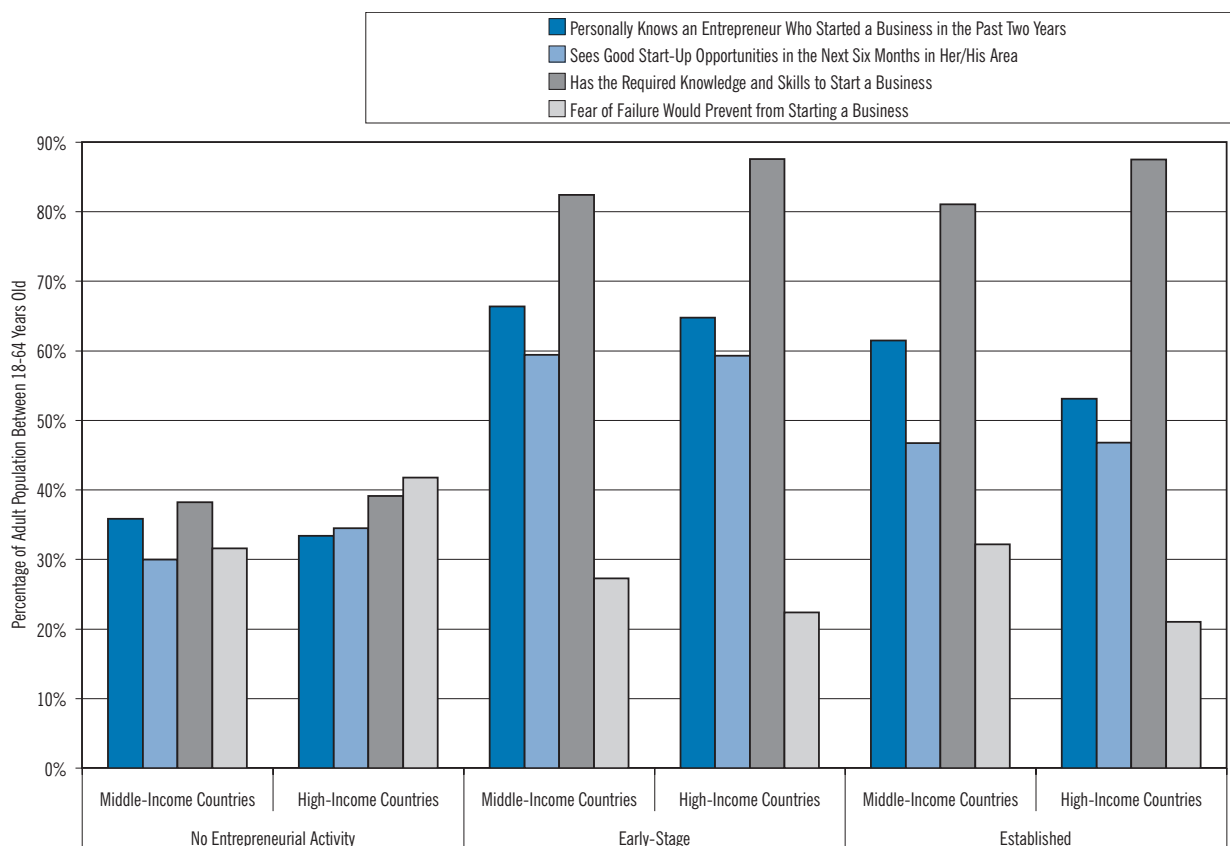
In this report, four items are discussed that contribute significantly to shaping an individual’s entrepreneurial “mindset” (Arenius and Minniti 2005, Koellinger et al. 2005). The items correspond to four yes or no questions asked of all respondents during the survey. The questions are:

- Do you know someone personally who started a business in the past two years?
- In the next six months will there be good opportunities for starting a business in the area where you live?
- Do you have the knowledge, skills, and experience required to start a new business?
- Would fear of failure prevent you from starting a new business?

Figure 16 shows the percentage, by country cluster, of people who answered “yes” to each of the questions. Also, the percentage of “yes” answers is shown for the population not involved in entrepreneurial activity, for early-stage entrepreneurial activity, and for established business owners.

Several observations emerge from Figure 16. First, there are clear differences in both country clusters and for all four variables among people who are involved in entrepreneurial activity (whether early-stage or established) and people who are not. In general, individuals who are involved in early-

Figure 16. Factors Influencing Perceptions About the Entrepreneurial Environment



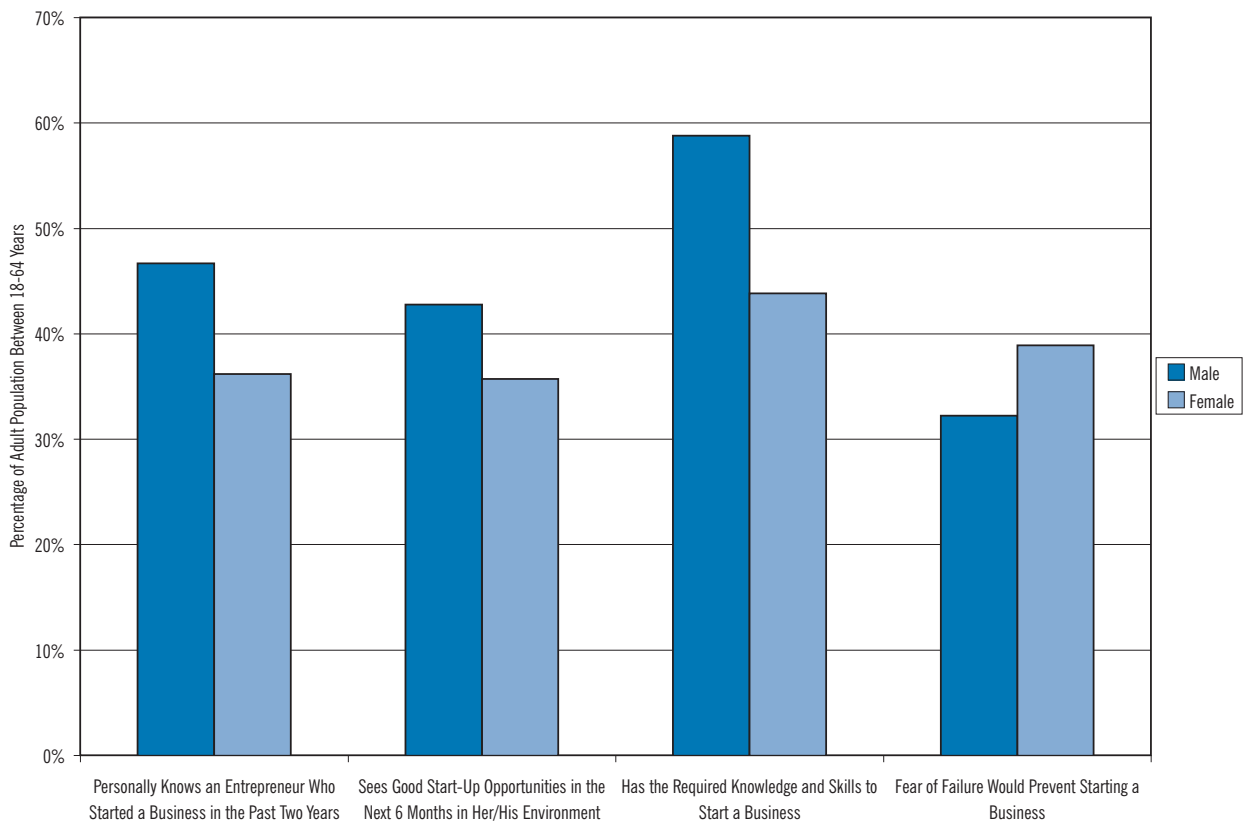
stage or established businesses tend to be more confident in their own skills, more likely to know other entrepreneurs, more alert to the existence of unexploited opportunities, and less likely to allow the fear of failure to prevent them from starting a new venture. Since GEM uses cross-section data rather than time-series data, it is not possible to establish unequivocally the direction of causality between these variables. Some existing evidence, however, suggests that over-confidence, and alertness to unexploited opportunities may contribute positively to a person's decision to start a new business (Koellinger et al. 2005; Minniti 2005).

Fear of failure shows an interesting pattern. In fact, the rate of fear of failure among people who are not active in entrepreneurship in high-income countries is higher than in middle-income countries. This reflects the fact that, in middle-income countries, more people are driven to starting a business by necessity and are, therefore, less sensitive to the possibility of failing. When only those who are, in fact, involved in entrepreneurship are considered, people in higher-income countries show higher tolerance for failure. This reflects the fact that people in those countries have more options available and better safety nets.

Also, when considering possible differences between early-stage entrepreneurs and established entrepreneurs, Figure 16 shows that the perceptions of unexploited opportunities are more positive among early-stage than established entrepreneurs in both country clusters. In fact, they should be expected to be more optimistic than established entrepreneurs. Interestingly, the values presented in Figure 16 represent subjective and, therefore, possibly-biased perceptions. In other words, there is not a necessary correlation between the actual skills possessed by a person and the self-assessment of his or her abilities. Nevertheless, those with more optimistic perceptions are, in fact, more likely to start a new business.

Finally, Figure 17 shows pronounced differences between women and men in all four items. Women across the globe are less optimistic and less confident in their entrepreneurial skills and are more concerned about failure. The reasons for such differences are not clear and much research is currently being conducted on this important topic (Minniti and Nardone, forthcoming). Overall, the lower values exhibited by women for these variables are consistent with the lower participation rates of women in early-stage entrepreneurial activity shown in Figure 11.

Figure 17. Factors Influencing Perceptions by Gender



5. Implications for Policy Makers

The GEM project provides a comprehensive description of entrepreneurial activity around the globe. This, in turn, is intended to provide a platform for debate concerning policy implications and best practices. There are some very general policy principles that influence entrepreneurship in the same way in all countries, regardless of income level. Specifically, though not exclusively, these principles concern the role played on the entrepreneurial landscape by institutions and globalization.

The institutions that entrepreneurs operate in—political, legal, and cultural—directly influence their activity and hence the level of economic development of the country. The underlying logic is that institutions, understood as the formal and informal rules governing human behavior, provide a framework that guides activity, removes uncertainty and makes the actions of others predictable. Formal and informal institutions influence the behavior of individuals of all cultures and traditions. While peace and stability increase people's incentives and ability to exploit new opportunities, war and uncertainty reduce the expected value of new ventures and, as a result, dwarf people's entrepreneurial spirit.

As Baumol (1993) indicates, the institutional environment of a society will determine the relative payoffs attached to various opportunities. As such, the institutional environment is crucial in fostering entrepreneurial activity. Entrepreneurs are present in every country and every cultural setting. The institutional environment will direct the activities of these entrepreneurs. Thus, when it comes to entrepreneurship, the creation of institutions conducive to entrepreneurial activity such as property rights, monetary stability, respect and enforcement of the rules of law, legal and financial transparency, market openness, and a fair competitive environment is the fundamental responsibility of government (Boettke and Coyne 2006).

In recent years, a particularly important aspect of the entrepreneurial landscape has become countries' attitudes toward external market openness, usually referred to as globalization. Globalization is an important element of entrepreneurship because the economic gains from international trade can enhance entrepreneurial incentives.¹⁹ In an economy open to international competition, entrepreneurs can seek out new market opportunities while, at the same time, meeting the highest global standards. This competitive element of globalization is perhaps the single most important impulse leading to the creation of new value for the economy. Also, globalization has significantly increased the integration of financial markets among countries by allowing capital availability to flow to promising and previously unavailable opportunities. Finally, globalization has forced large corporations, threatened by market erosion, to adjust in an entrepreneurial manner and develop creative new strategies of differentiation and cost reduction. Thus, a policy agenda focusing on promoting entrepreneurship must support the progressive liberalization of global markets. Of course, market adjustments do not always occur smoothly and governments should also support entrepreneurship by managing the adjustment to market changes in their economies.

In addition to these general principles, the expanded view of entrepreneurship provided this year confirms that when it comes to policy, one size does not fit all (Acs et al. 2005). That is, effective policy strategies with respect to entrepreneurship need to be tailored to the local context and depend on what aspect of its entrepreneurial portfolio a country wishes to enhance. It is useful to consider policy implications and examples of specific programs implemented in various countries by income clusters.

POLICY IMPLICATIONS FOR HIGH-INCOME COUNTRIES

For high-income countries, the goal is to maintain competitiveness and sustain innovation rates. In countries where innovativeness is very important, the strength and ease of technology transfers, advanced entrepreneurship education and networking opportunities, and significant amounts of early-stage funding are crucial. Significant changes in demographics should also be seriously addressed. Indeed, these concerns have been at the core of many programs implemented in high-income countries.

In many OECD countries, government initiatives to facilitate business survival and growth already focus on technological innovation and growth through export. In Austria, for example, the program AplusB includes a set of centers that funds innovative, technology-oriented spin-offs from the academic sector and provides professional support for scientists in the process of turning a good idea into a viable business. Their activity involves both counseling and assistance during the actual start-up phase, as well as establishing the idea of entrepreneurship more firmly in academic theory and practice. In Finland, the government has identified supporting high-tech ventures through technology incubators as one of the policy vehicles to promote economic growth. Within this context, a development project for incubators supporting new technology-based firms has been established and a number of policy measures have been aimed at promoting knowledge-intensive and/or technology-based innovation and their commercialization.

As highlighted previously when discussing the role of institutions, another important requirement to maintaining a sustainable amount of innovation is the connection between entrepreneurs and public servants, who often do not share the same incentives and information, and the alignment of public and private interest with respect to market incentives. Within this context, in Australia, the pipeline support concept developed by the State Government of Queensland has been especially effective. The Queensland Capital Raising Pipeline is based on a private/public partnership model whereby the government primarily performs the coordination role of private providers. First, State Development Centres provide client counseling and investment-ready education. Second, networks of volunteers and group mentors introduce businesses to private finance and support networks. Third, overseas linkages are created through a phase called Going Global. The policy-making team also extends these linkages into other areas of government policy and programs to transfer promising businesses into the Capital Raising Pipeline.

In Singapore, to cite another example, the 2002 subcommittee on Entrepreneurship and Internationalization under the Economic Review Committee has recommended setting up a single public agency that coordinates efforts to develop entrepreneurship in Singapore. This has led to the formation of the Action Community for Entrepreneurship (ACE) with four programs in the areas of culture, financing, internationalization, and regulations. Some ACE programs have been very successful, such as the ACE BlueSky Event. This event consists of monthly private/public sector dialogues and networking sessions and is well regarded by the entrepreneurship community for the opportunities provided to entrepreneurs to build contacts and to learn from more experienced entrepreneurs.

Much need exists in high-income economies for changes in the higher-education system to place more emphasis on advanced entrepreneurship education and networking. These issues are particularly important for women and younger and less-experienced entrepreneurs. In Spain, for example, the SME's General Direction of Policy has successfully promoted a Web-based project that allows entrepreneurs to perform an auto-diagnostic and learn whether they are prepared to face internationalization. The system gives recommendations, information, and access to training programs related to this area. The availability of entrepreneurship education and the establishment of networks appear particularly important and successful for women entrepreneurs (Minniti et al. 2005). This is confirmed by efforts in the United States, where the Women's Business Ownership Act of 1988 has led to federal seed funding of Women's Business Centers throughout the country. Such Women's Business Centers have proven to be significant sources of nascent entrepreneurship. (Goldwyn et al. 2005).

In general, programs aimed at promoting a culture of entrepreneurship appear to be successful, especially if implemented at the local level. In New Zealand, for example, the successful Enterprise Culture and Skills Activities (ECSA) Fund has been designed to support the development of a culture of enterprise and business success. It consists of an annual contestable fund for projects that aim at developing enterprising skills and attitudes among New Zealanders. The focus is on seed funding and piloting new and innovative approaches. Young people are a specific target of this fund; however, eligible projects may encourage an entrepreneurial attitude in any group of New Zealanders.

The availability of early-stage financing is another crucial issue. In high-income countries, this is particularly true for high-tech, high-potential new

businesses that tend to be more capital-intensive and riskier than less-innovative ones. In Belgium alone, quite a few initiatives have been taken by the government aiming at bridging the equity gap. An example of such initiatives is the Arkimedes fund. Although only in operation since 2005, the fund has raised 110 million euros in the form of shares or bonds. Both shares and bonds are guaranteed by the regional government so that individuals will at least get 90% of their initial investment back. Among other available financial programs, the National Life Finance Corporation (NLFC) of Japan, a government-affiliated financial institution working with newly started companies and very small companies, has created a successful program for start-up loans. NLFC's services include consultation on business and financial issues for start-ups from the planning stages through the first year of operations. In fiscal year 2004, the number of loans extended by NLFC for newly established businesses (including start-ups and businesses in operation for less than one year) totalled 27,624 and amounted to ¥171.4 billion. It is estimated that NLFC contributes to creating over 100,000 new jobs every year.

Several high-income countries, such as those of Western Europe, will also have to pay close attention to their demographic dynamics and the weakness of sub-regional labor markets. This calls for revisions in immigration laws and for strengthening incentives to attract women and young people to start entrepreneurial ventures. In Italy, for example, the government has created a national agency for the development of businesses and the attraction of investments (Sviluppo Italia). Its two main goals are to develop self-employment among young people and in the less-developed areas of the country. Sviluppo

Italia intervenes mainly by providing training, investments, and contributions to running expenses. Since 1986, Sviluppo Italia has assisted in the creation of 1,656 new businesses, 90% of which are in the South of the country where unemployment rates are significantly higher and the entrepreneurial sector smaller than in the rest of Italy.

Finally, fiscal regimes are often indicated as important determinants of entrepreneurial activity, especially in high-income countries. Interviews conducted by the Irish GEM team with field experts identified the fiscal regime as a prominent factor of the entrepreneurial landscape of Ireland. Because of the reduction in corporate taxes to 12.5% and capital gains tax to 20%, together with a lowering of the standard and top rates of income tax to 20% and 42% respectively, the profitability of Irish entrepreneurial firms has increased substantially. In Japan, on the other hand, the Angel Tax System, created in 1995 as a tax exemption for personal investors, was used by only 226 angels over a period of 10 years.²⁰

To summarize, in high-income countries the focus should be on developing a highly innovative entrepreneurial sector and on supporting high value-added new companies that have the potential to grow and to develop internationally. Much need exists in those economies for changes in the higher education system that will place more emphasis on technology commercialization and create more connection between scientific and management education. Finally, several high-income countries will have to pay close attention to their demographic dynamics and to problems in their own labor markets.

POLICY IMPLICATIONS FOR MIDDLE-INCOME COUNTRIES

For middle-income countries, as they move from being technology-adopting countries to technology-creating countries, it is important to maintain a viable entrepreneurial sector and an entrepreneurial culture. In these countries, a strong commitment to entrepreneurship education is important because it will be necessary to educate the population about entrepreneurship, especially in elementary and secondary schools. There is a need to instill fundamental aspects of the entrepreneurial culture, as well as the need for the celebration of role models and the development of formal and informal investors. In addition, financial constraints and the lack of a clear definition of property rights appear particularly important for many middle-income economies.

Indeed, the interdependence of clearly defined property rights and flows of financing capital have been at the core of many government programs in middle-income countries. In Venezuela, for example, the lack of clearly established property rights has led to cases of land expropriation and, as a result, has generated significant concern among entrepreneurs and investors, especially for those whose ventures require investing in land and real estate. The Venezuelan government has been somewhat effective, however, in creating some institutions providing financing to specific constituencies, such as *Banco de la Mujer* (Women's Bank).

Similarly, one of the biggest problems facing Jamaican businesses today is the lack of investment capital. Many Jamaicans feel that there is corruption in the public sector that has a strong negative influence on investment rates. In an attempt to reduce these fears, the Jamaican government has begun offering a wide range of incentives including tax holidays, and has initiated actions intended to encourage foreign investment and to provide major benefits for foreign investors, such as the Industrial Incentives Act, the Export Industries Encouragement Act, and the Hotel Incentives Act. Additionally, since the liberalization of exchange controls in September 1991, investors are free to repatriate capital without prior approval from the Bank of Jamaica.

As another example, with respect to financing, the *Juro Zero* (Zero Interest) program created in Brazil has been designed to foster high-growth potential businesses. It is an initiative of FINEP, an agency of the Brazilian Ministry of Science and Technology, whose purpose is to finance scientific and technological research and projects. The program provides financial support to SMEs based on innovative technologies and provides two improvements in relation to similar products: 1) absence of interest rates, and 2) reduction of covenant restrictions. Also, in Mexico, among the most successful of the many programs created by the government are those that grant small sums of money (usually less than USD 3,000) and target specific groups of potential entrepreneurs, such as women in rural areas.

In Argentina, a credit program of the municipal government of the City of Buenos Aires has been created to strengthen regional development, and the establishment of innovative and high-potential businesses, as key drivers of sustainable economic growth. Accepted applicants receive credit at 0% interest rate, payable only after two years, but must be linked to universities, centers for entrepreneurship, or other business organizations promoting entrepreneurial activities, which in turn receive economic support from the government.

Finally, in Thailand in 2003, the Ministry of Science and Technology established the National Innovation Agency (NIA). The mandate of NIA is to perform as a knowledge-connecting organization and facilitate cooperation from enterprise to national level and foster linkages between different actors on the academic, technical, production, financial, investment, and management fronts. The strategic focuses of NIA are in three main areas namely bio-business (i.e., biotechnology, bio-based materials, and natural products), energy and environment, and design and branding. Its technical and business experts have been effective in working closely with industry, venture capital funds, and entrepreneurs to find the best approaches to commercialize new technologies and innovation.

Creating and maintaining an entrepreneurial culture is another crucial element for a pro-entrepreneurship agenda in middle-income countries. In South Africa in 2002, three businessmen have started a college for

bright, unemployed young people from disadvantaged backgrounds. The Community and Individual Development Association (CIDA) has won several national and international awards for innovation. The college has 1,600 students and is located in an office block in the inner City of Johannesburg. CIDA offers an accredited four-year business administration degree with a strong emphasis on entrepreneurship. It is a partnership with business—who provide funding, equipment, curriculum, and so on—and students who pay minimal fees but, in exchange, maintain and administer the campus.

Along similar lines, Impulsa is a program sponsored by the Mexican government to reach students in elementary and high schools, as well as university students. Before high school, students are taught basic economics and business concepts. Beginning in high school and university, students are asked to use their knowledge and skills to create, organize, and operate a real business. This program has special features and contents for every grade, summer courses, a business partner-for-one-day program, and simulators (markets, businesses, banks). Also, the Brazilian Projeto de Educação SEBRAE pelo Rádio (SEBRAE Education Project by Radio) is an initiative of Brazilian SMEs Support Service. The SEBRAE project aims at spreading the entrepreneurial culture among the population by radio. Since 2003, through the broadcast *A Gente Sabe, A Gente Faz*, the project has reached all over the country, with regionally tailored scripts.

As in high-income countries, the lack of a common mindset between public servants and entrepreneurs, is often one of the causes of government's ineffectiveness in middle-income countries. In an attempt to reduce transaction costs and increase transparency and

effectiveness, all government initiatives in Chile, from helping with writing a business plan to providing risk capital funds, have been consolidated in a single office with the goal of facilitating the relation between government and entrepreneurs and creating a cohort of specialized governmental employees. Also, regulations in the new Emerging Markets Stock Exchange have been simplified to facilitate new firm's IPOs and to prevent discrimination between consolidated and new firms. Similarly, as of July 2005, a one-stop shop for company registration has been established in Slovenia. This enables entrepreneurs to fulfil all legal activities for registration in one place. These registration points are found at 205 locations in Slovenia. Registration procedures take about one hour and are free of charge. In the first three months of operation, 1,600 entrepreneurs have registered this way.

Again in Slovenia, a voucher-advisory system established in 2000 has proved to be an efficient way of helping established SMEs and nascent entrepreneurs. The main service provides advice to entrepreneurs on different business issues. It is run by the Public Agency for Entrepreneurship and Foreign Investments and is sponsored by a variety of Ministries. Advisors are recruited from the network of local and regional entrepreneurship centers and selected through a bidding process. Entrepreneurs can select an advisor from a catalog that currently lists nearly 400 business counselors. Vouchers cover 50% of the advisors' hourly rate for established SMEs and 100% of the advisor's hourly rate for nascent entrepreneurs. In 2004, over one million euros was spent on the program that provided advisory support to almost 4,000 entrepreneurs and SMEs.

POLICY IMPLICATIONS FOR LOW-INCOME COUNTRIES

Unfortunately, there were no low-income countries—those that are neither innovating at home nor adopting foreign technologies—participated in this year’s study. From observation in past years, however, GEM data suggest that in those countries it is necessary to focus more on general national framework conditions and less on the entrepreneurial framework conditions as shown in the GEM conceptual model (see Figure 1). In other words, as stated in the first part of this section, governments in these countries need to focus primarily on ensuring fundamental institutional conditions, encouraging the development of active markets. In particular, low-income nations need to strengthen their small- and medium-sized sectors before focusing on the entrepreneurial framework conditions, since this is the first step toward economic growth. Thus, specific programs should be focused on existing firms rather than on individual entrepreneurs. Areas of importance include transparency, monetary stability, market openness, management assistance, and the reduction of regulatory burdens. Part of the goal should be to reduce the number of necessity entrepreneurs and to strengthen the existing small- and medium-sized businesses.

In low-income countries, a strong commitment to education and training is necessary, both at the elementary and secondary level. Those without formal education in low-income countries will end up in necessity entrepreneurs. Without education, it is difficult to secure a better-paying job. Therefore, the goal in these countries should be to reduce the existing dependence on necessity entrepreneurship for individual and family incomes to grow.

Low-income countries might also need to strengthen the conditions allowing major established firms to develop, including the rule of law, labor market flexibility, infrastructure, financial market efficiency, and management skills. Most of these conditions are necessary to attract major investments that will provide employment, technology transfers, exports, and tax revenues.

POLICY AND ENTREPRENEURIAL ACTIVITY

To summarize:

- The creation of institutions conducive to market openness and to the development of markets is the fundamental responsibility of governments interested in promoting entrepreneurship. Within this context, the principal role of government lies in providing political and macroeconomic stability. Peace and stability promote the development of an entrepreneurial society. War and uncertainty are its enemies.
- In all national income groups, governments need to remove barriers to competition, review the provision of services by the state in terms of relative efficiency and effectiveness, reduce the burden of regulation on new and developing firms, and make it easier for new and developing companies to bid for state purchases/contracts.
- A policy agenda promoting global entrepreneurship must focus on progressive liberalization of global markets. Since entrepreneurship is typically at the cutting edge of new market development, technological innovation, and the rationalization of production and cost, trade restrictions in general tend to be biased against it. The principal role of government in this regard lies in providing political and macroeconomic stability, as well as a legal framework for property rights and contracts and regulatory oversight over competition and the banking system.
- Finally, since “one size does not fit all,” effective entrepreneurship programs, such as those described above, must be adapted and tailored to prevailing national circumstances.

Focus Insert 1: High-Expectation Entrepreneurship

BY ERKKO AUTIO

General agreement exists that innovativeness is one of the main contributions of the entrepreneurial sector to economic growth. However, it is important to recognize that such benefits are not evenly distributed over populations of entrepreneurial businesses. If only a small percentage of all entrepreneurial businesses are responsible for the lion's share of economic benefits typically associated with entrepreneurial activity, then it is important to learn more about where the high-expectation businesses can be found, who is behind them, and just how important their impact is in different national contexts.

Studying high-expectation entrepreneurial activity is not easy, for the very reason that only relatively few entrepreneurs exhibit high-growth expectations. To accurately assess the importance of the high-expectation phenomenon, very large data sets are required. To date, there have been no data sets to allow for meaningful international comparisons of high-expectation entrepreneurial activity.

International comparative study of high-expectation entrepreneurs is now possible because of the accumulation of several years of GEM's adult population survey data. Between 2000 and 2004, GEM has carried out over 500,000 random-sampled interviews of adult-age populations in 44 countries. By combining this data, it is possible to study the prevalence, outcomes, and influences on high-expectation entrepreneurial activity with a reasonable degree of accuracy. In the following, comparisons are made among world regions and some individual countries in terms of the overall prevalence of high-expectation entrepreneurial activity. Then, expected job creation contributions by high-expectation entrepreneurial businesses are compared to overall entrepreneurial activity. Next it is determined

whether high-expectation entrepreneurs differ from the general population of entrepreneurs in terms of demographic characteristics as well as sector focus. Finally, a review is done regarding correlations between high-expectation entrepreneurial activity and national entrepreneurial framework conditions.

“High-expectation entrepreneurial activity” is defined as all early-stage businesses that expect to employ at least 20 employees within five years time. While this may not appear like much, growing to a size of 20 employees is not simple, as the growing business needs to attract employees as well as develop some internal division of work. Achieving the size of 20 employees means that the business is a going concern whose trading activity likely reaches beyond local vicinity. Typically, this size means that the business must have made a non-trivial investment in facilities, systems, and human resources.

The distribution of overall entrepreneurial activity in the global GEM 2000-2004 sample, by growth expectation, is shown in Figure 18. The following categories of growth expectations are used: 1) up to one employee in five years, 2) two or more employees, 3) five or more employees, 4) 10 or more employees, 5) 20 or more employees, and 6) 50 or more employees.

In total, 8.3% of the adult-age population within the GEM 2000-2004 countries participated in early-stage activity. As can be seen, most of this activity is not growth-oriented. Only 2.7% of the adult-age population expected to have five or more employees. For the growth expectations of 10+, 20+, and 50+ employees, the percentages drop to 1.6%, 0.8%, and 0.4% respectively. Thus, only some 10% of all early-stage entrepreneurial activity meets GEM's criterion for high-expectation activity.

Figure 18. Early-Stage Entrepreneurial Activity by Growth Expectation
GEM 2000 – 2004 Combined Data Set

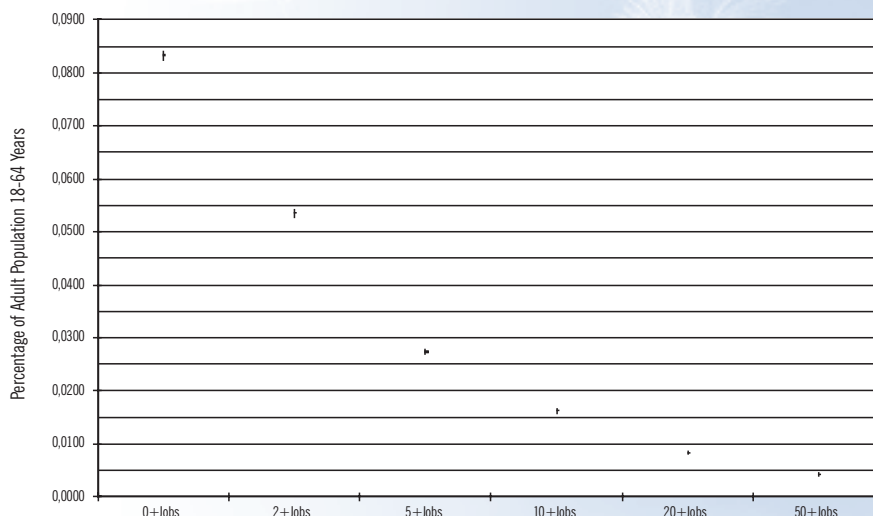


Figure 19. Early-Stage Entrepreneurial Activity by Growth Expectation in Different World Regions
GEM 2000-2004 Combined Data Set

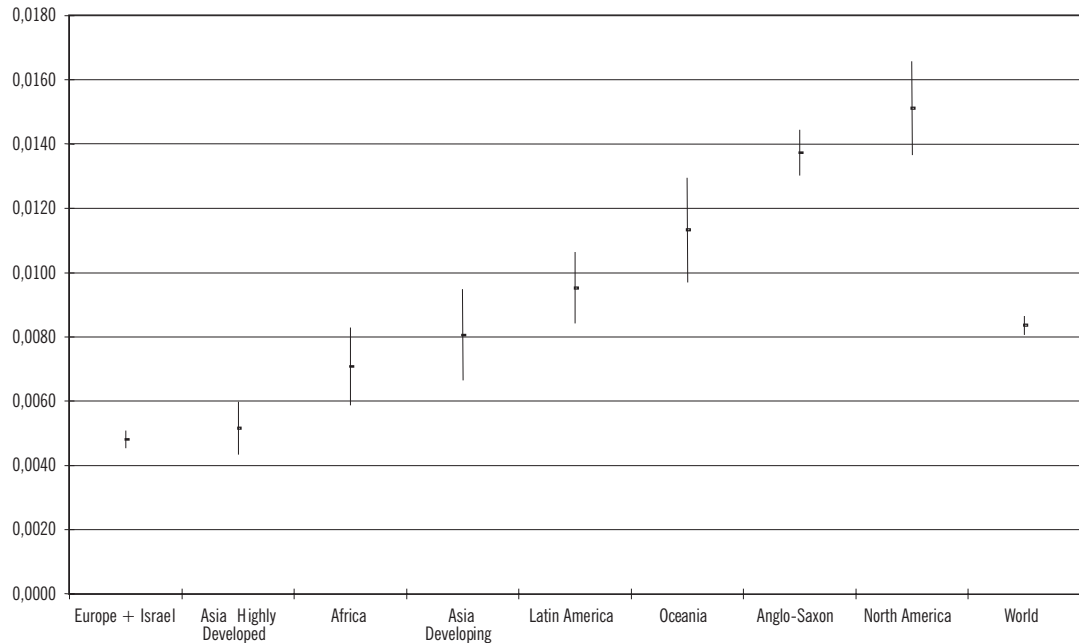


Figure 19 shows the prevalence of high-expectation entrepreneurial activity for different world regions. In this comparison, North America (United States and Canada) stands out as having the highest prevalence of high-growth potential entrepreneurial activity, with an approximately 1.5% participation rate. The participation rate is also high for Australia, Canada, Ireland, New Zealand, United Kingdom, and United States, with a 1.4% participation rate. As regions, Oceania (Australia and New Zealand) and Latin America (Argentina, Brazil, Chile, Ecuador, Mexico, Peru, and Venezuela) come next, with 1.1% and 1.0% participation rates, respectively. For Europe and highly developed Asia, the participation rate is only approximately 0.5%.

Job Creation Potential

The job creation potential of new businesses (up to 42 months old) in the world and for different world regions is shown in Table 8. It can be observed that the distributions are quite similar to one another, except for Latin America, where the share of high-expectation new businesses is considerably smaller than for other world regions. The share of high-expectation new ventures is highest in North America, where 16.9% of all new businesses expect to create 20 or more jobs in five years. The shares of high-expectation entrepreneurial activity are lowest in Africa, Latin America, and developing Asia, where 7.3 to 9.4% of all new businesses could be categorized as having high-growth expectations.

Table 8. Job Creation Expectations of New Businesses by World Region

WORLD TOTAL	N (%)	JOBS (%)	EUROPE	N (%)	JOBS (%)
0 to 1 employees	100.0 %	100.0 %	0 to 1 employees	100.0 %	100.0 %
2 or more employees	58.0 %	98.6 %	2 or more employees	67.3 %	98.9 %
5 or more employees	27.5 %	89.4 %	5 or more employees	39.9 %	92.4 %
10 or more employees	17.5 %	83.1 %	10 or more employees	23.1 %	83.8 %
20 or more employees	10.1 %	73.6 %	20 or more employees	11.4 %	71.8 %
50 or more employees	4.5 %	57.8 %	50 or more employees	4.4 %	55.9 %
ASIA DEVELOPING	N (%)	JOBS (%)	ASIA HIGHLY DEVELOPED	N (%)	JOBS (%)
0 to 1 employees	100.0 %	100.0 %	0 to 1 employees	100.0 %	100.0 %
2 or more employees	52.7 %	98.3 %	2 or more employees	76.3 %	99.1 %
5 or more employees	21.9 %	88.0 %	5 or more employees	46.7 %	92.5 %
10 or more employees	14.3 %	82.7 %	10 or more employees	29.1 %	84.1 %
20 or more employees	9.4 %	75.7 %	20 or more employees	12.5 %	68.7 %
50 or more employees	4.5 %	60.4 %	50 or more employees	4.7 %	50.9 %
NORTH AMERICA	N (%)	JOBS (%)	LATIN AMERICA	N (%)	JOBS (%)
0 to 1 employees	100.0 %	100.0 %	0 to 1 employees	100.0 %	100.0 %
2 or more employees	63.1 %	99.1 %	2 or more employees	67.9 %	98.8 %
5 or more employees	43.2 %	95.1 %	5 or more employees	34.6 %	86.0 %
10 or more employees	29.0 %	88.9 %	10 or more employees	20.6 %	75.0 %
20 or more employees	16.9 %	78.1 %	20 or more employees	7.5 %	54.8 %
50 or more employees	6.9 %	58.3 %	50 or more employees	2.2 %	37.1 %
AFRICA	N (%)	JOBS (%)	OCEANIA	N(%)	TOTAL JOBS(%)
0 to 1 employees	100.0 %	100.0 %	0 or more jobs	100.0 %	100.0 %
2 or more employees	70.4 %	99.0 %	2 or more jobs	57.8 %	98.5 %
5 or more employees	31.0 %	88.3 %	5 or more jobs	34.2 %	92.7 %
10 or more employees	14.9 %	78.9 %	10 or more jobs	20.8 %	85.6 %
20 or more employees	7.3 %	70.5 %	20 or more jobs	10.7 %	75.0 %
50 or more employees	3.4 %	61.7 %	50 or more jobs	4.5 %	60.6 %

Table 8 shows the importance of high-expectation entrepreneurial activity since, overall, some 10.1% of all new businesses expect to create nearly 75% of all new jobs.

Who Is Behind High-Expectation Entrepreneurial Activity

Figure 20 shows some demographic characteristics of high-expectation new entrepreneurs. It can be seen that high-expectation entrepreneurs tend to be male and less than 44 years old. Compared to low-

expectation entrepreneurs, they are also more often employed (79.4% against 68.4%), better educated (26.4% possess post-secondary education, compared to 11.0% of low-expectation entrepreneurs), and have higher household incomes (71.8% belonged to the top third household income bracket, as opposed to 21.4% of low-expectation entrepreneurs). In the population cell of well-educated, high-income 35 to 44 year old males, the prevalence of high-expectation entrepreneurial activity is 10 times higher than in the general population, and this population cell accounts for 13.4% of total high-expectation entrepreneurial activity.

Conclusions

High-expectation entrepreneurial activity represents only a small portion of all early-stage entrepreneurial activity, yet it explains the bulk of expected new jobs by cohorts of nascent entrepreneurs and new businesses. In fact, high-expectation entrepreneurs are responsible for creating up to 80% of total expected jobs by all early-stage entrepreneurs.

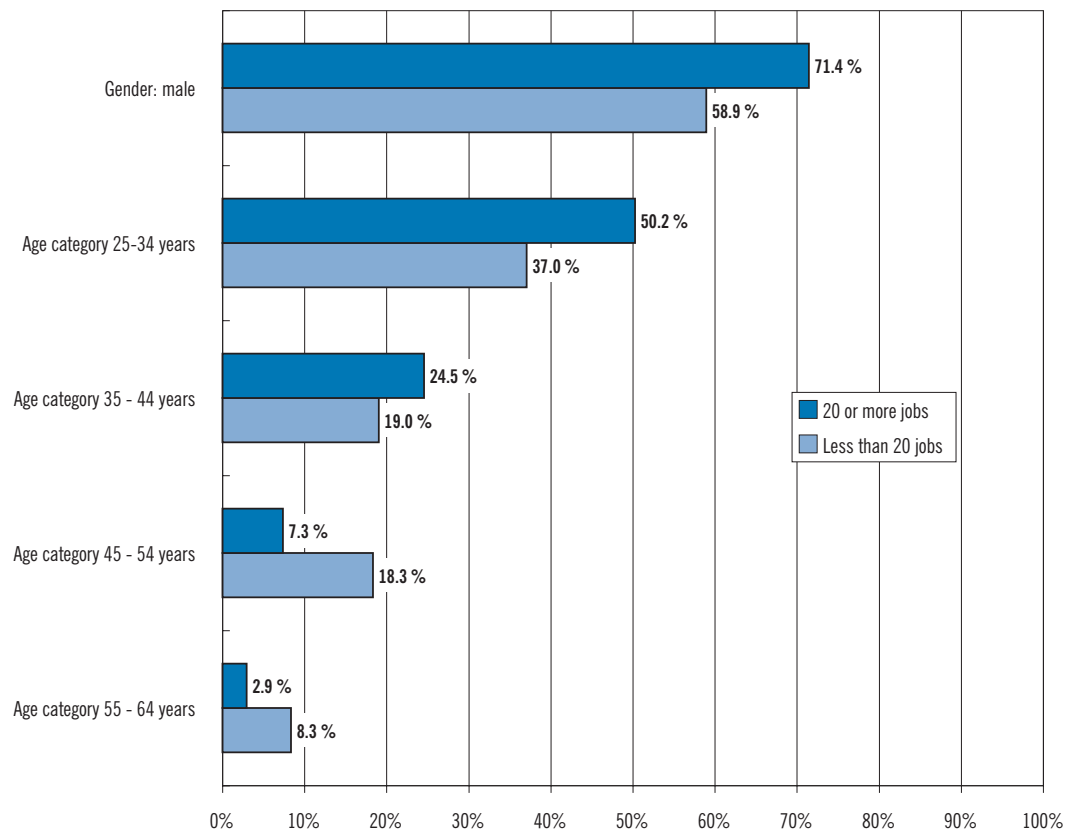
The rate of high-expectation entrepreneurial activity varies significantly among world regions and individual countries. The highest adult-age population-level participation rate in high-expectation entrepreneurial activity is observed in North America, Oceania, and other English-speaking countries. The lowest adult participation rate in high-expectation activity is observed for European and highly developed Asian countries (Hong Kong, Korea, Japan, and Singapore), where this rate is approximately 0.5%.

High household income, high education level, and opportunity motivation are most strongly associated

with high-growth expectations. Also, population cells differ significantly in terms of high-expectation entrepreneurial activity.

Additional analysis of GEM data suggests that national entrepreneurial framework conditions may have more to do with the anatomy of entrepreneurial activity (i.e., the relative share of high-expectation entrepreneurs to the overall population of early-stage entrepreneurs) than with its overall level (i.e., the population-level prevalence of high-expectation entrepreneurs). Thus, policy seems more effective in enhancing quality, rather than overall entrepreneurial activity: It may be that policies designed to encourage existing entrepreneurs' growth ambitions will prove more effective for job creation than policies designed to persuade more individuals to become entrepreneurs. In highly developed economies at least, quality seems to matter more than numbers in matters entrepreneurial.²¹

Figure 20. Comparison of High-Expectation and Low-Expectation New Businesses (Overall Sample – Demographic Characteristics)



Focus Insert 2: Financing Entrepreneurial Companies

BY WILLIAM D. BYGRAVE

There are two sources of equity financing for start-up entrepreneurs: the 4Fs (founders, family, friends, and foolhardy strangers) and professional venture capitalists. Every new business has financing from one or more of the 4Fs and in rare instances from professional venture capitalists. GEM uses adult population surveys to estimate the extent and amount of funding from informal investors composed of family, friends, and foolhardy strangers; and it uses data from venture capital associations to determine the amount and extent of classic venture capital, which is investment in seed, start-up, early-stage, and expansion-stage companies.

Classic Venture Capital

The trend in classic venture capital investment²² turned upward in 2004 for the first time since 2000 when the Internet bubble burst and wreaked havoc with the portfolios of many venture capital firms, none more so than in the United States, which is the pacesetter for investing in high-technology companies. In the United States, classic venture capital investment plunged from its all-time peak of USD 105.8 billion in 2000 to USD 18.9 billion in 2003, then rose to USD 21 billion in 2004. In Europe, the amount of classic venture capital investment increased from USD 10.2 billion to USD 12.5 billion from 2003 to 2004. The amount of classic venture capital invested as a percent of GDP is shown in Figure 21.

Classic venture capital investment increased from 2003 to 2004 in Hungary (375%), Singapore (110%), Australia (100%), South Africa (93%), New Zealand

(76%), Sweden (65%), Belgium (61%), Denmark (42%), United Kingdom (39%), Germany (37%), Spain (33%), Austria (20%), United States (16%), Canada (14%), and France (12%). It decreased in Italy (-61%), Finland (-47%), Greece (-25%), Ireland (-25%), Switzerland (-17%), Norway (-17%), Japan (-12%), and the Netherlands (-10%).

In the United States, 84.1% of venture capital is invested in high-technology companies, compared with only 20% in Europe. Much of the explanation for this big difference is that the European Venture Capital Association includes buyout capital in its overall statistics for venture capital, whereas the US National Venture Capital Association excludes buyout capital. To make valid comparisons between Europe and the United States, GEM removes buyout data from the European venture capital statistics. Figure 22 shows the amount of classic venture capital invested in high-tech companies as a percent of GDP. The United States handsly tops the GEM nations in the amount of classic high-tech venture capital investment as a percent of GDP. Relative to all the European nations combined, the United States invested six times as much classic venture capital in high-technology. The United States invested 4.6 times as much in biotech as Europe did. On the other hand, Europe invested much more than the United States in consumer-related companies. Israel (not shown in Figure 24) is in a class on its own with classic high-tech venture capital investment at a whopping 1.25% of GDP. Relative to the size of its GDP, Israel invests more than seven times as much as the United States and around 50 times as much as Europe.

Figure 21. Classic Venture Capital Investment Percentage GDP 2004

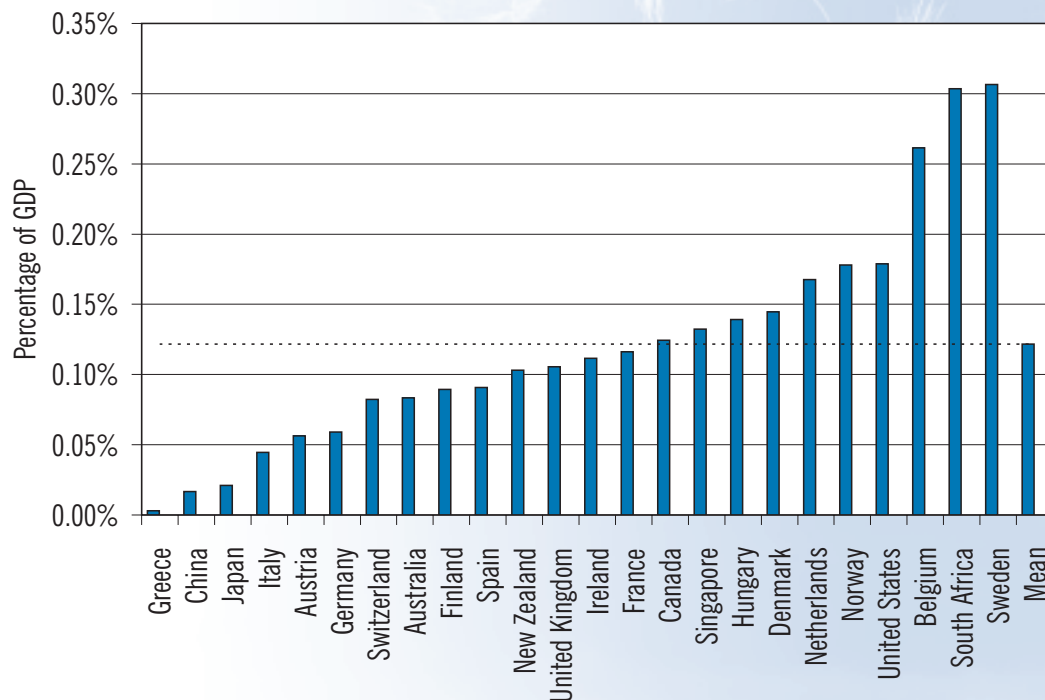
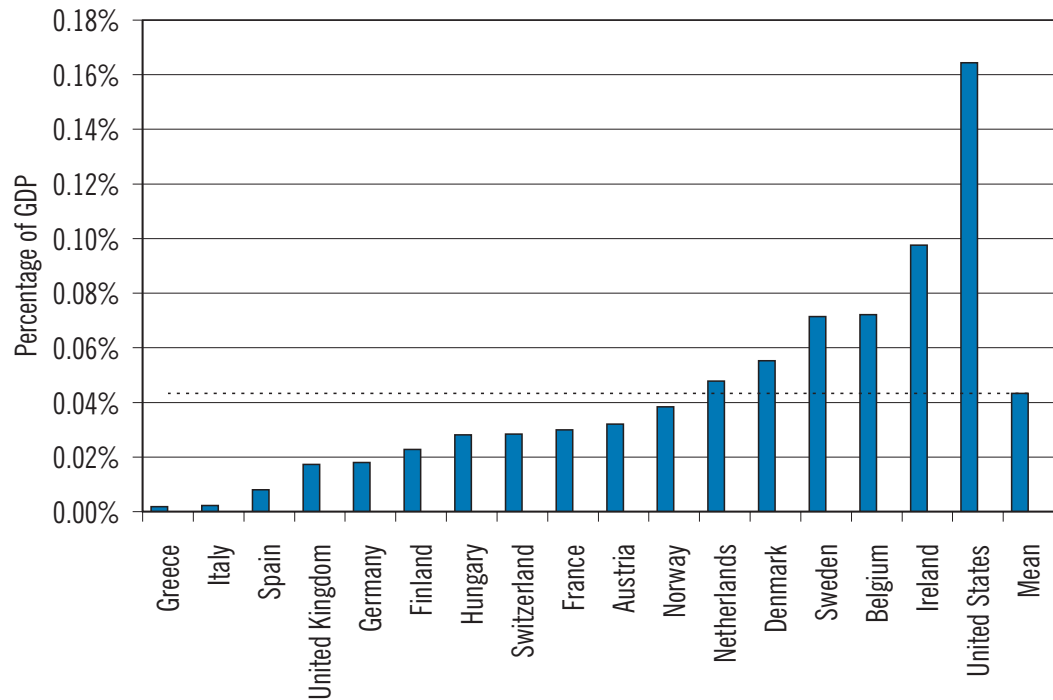


Figure 22. Classic High-Tech Venture Capital Investment in Europe and United States Percentage GDP 2004

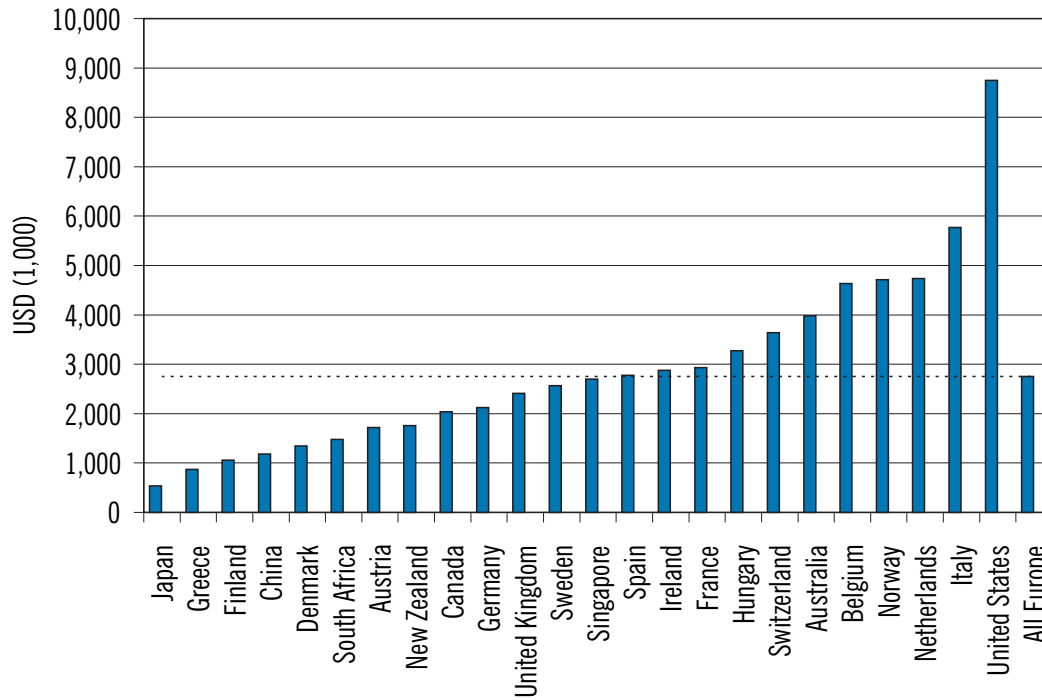


The amount of classic venture capital invested in high-technology companies is a concern of policy makers in all developed economies, which depend more and more on knowledge-based services and products. But, as pointed out in previous GEM reports, it is not only the availability of venture capital that matters, it is also how it is invested. Consider the following facts: USD 13.5 billion of classic venture capital was invested in Europe and Japan compared with USD 21 billion in the United States: it was invested in 4,577 European, 1,816 Japanese, and 2,399 US companies. Looked at another way, US companies garnered 61% of the classic venture capital invested in Europe, Japan, and the United States combined, but in number they were only 27% of the total. The average amount invested in an American company was USD 8,752,000, compared with USD 2,753,000 in a European company, and USD 537,000 in a Japanese company (Figure 23). This means that US venture capital firms invested in fewer companies than their counterparts in Europe and Japan relative to the size of the economies, but they invested much more money per company. That, in turn, means that US venture capitalists were more selective and that they invested much more money in their selections.

markets of each European country and Japan are much smaller than the US market. So how can a fledgling European or Japanese company hope to compete against its counterpart in the United States, which on average has far more funding? The venture capital differential per company explains in no small measure why American companies dominate most sectors of emerging high technologies. Just look at the Internet. In 2000, the Internet bubble burst. Many companies failed, others were forced into fire-sale mergers, investors were hammered, many jobs were lost, and doom and gloom about the Internet was pervasive. There was much hand-wringing about the incredible wastefulness of the US method of financing new industries. However, by August 9, 2005, the tenth anniversary of Netscape's Initial Public Offering, some Internet companies founded during the Internet gold rush were thriving. The market capitalization of just four of them—Google, eBay, Yahoo, and Amazon.com—was about USD 200 billion, which handily exceeded all the venture capital invested in all the US Internet-related companies through 2000. What's more, it even topped the amount raised from venture capital and IPOs combined. True, there were many more losers than winners, but five years after the bust, it is clear that the United States as a whole has already benefited mightily and the best is yet to come.

It costs as much, if not more, to do business in Europe and Japan as in the United States, and the domestic

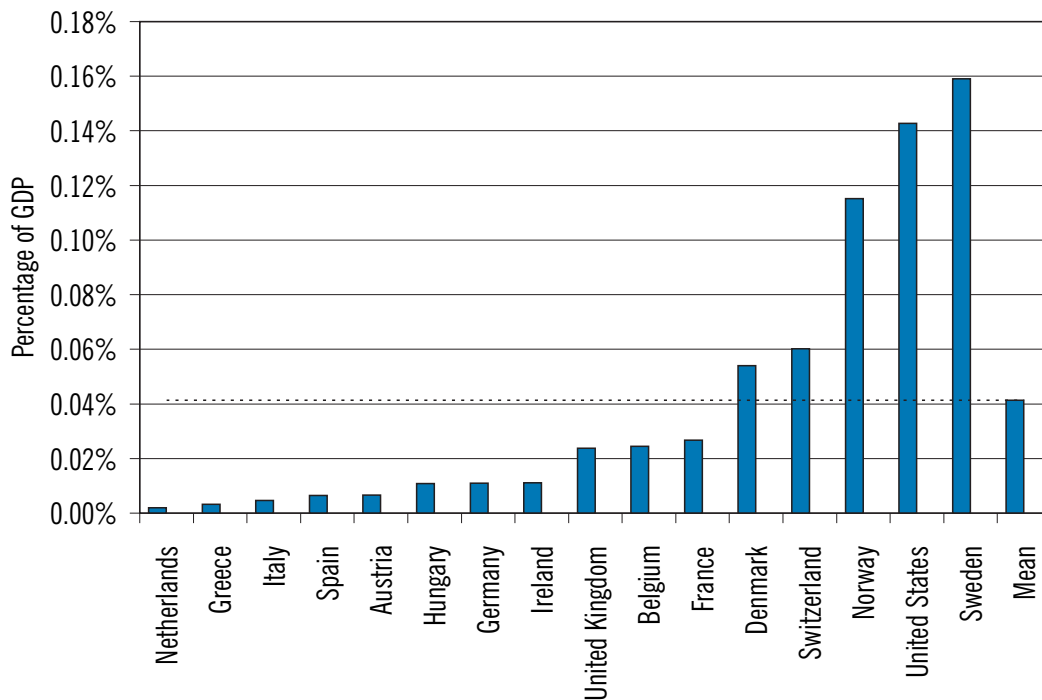
Figure 23. Classic Venture Capital Investment per Company 2004



It appears that the differential between the United States and Europe is unlikely to close very much in the next few years because the amount of classic high-tech venture capital raised in 2004 for future investment was split, with 85% for the United States and 15% for Europe. However, in a few European countries the differential with the United States might

close noticeably because, relative to GDP, Sweden raised more than the United States, and Norway raised nearly as much (Figure 24). The amount raised in Sweden in 2004 was 480% more than in 2003 and in Norway 170%, but it declined by 21% in the United Kingdom, which is the largest venture capital market in Europe.

Figure 24. Venture Capital Funds Raised Allocated to High-Tech Percentage GDP 2004



Informal Investment

As important as classic venture capital is in financing new industries—high-technology in particular—the number of companies that it funds is miniscule compared with the number funded with other sources of financing, especially informal investment. What’s more, the total amount of venture capital is less than the total amount of informal investment in every country. The average proportion of classic venture capital is 13.4% of classic venture capital and informal investment combined (Figure 25).

The prevalence rate of informal investors (excluding the founders themselves) ranges from 0.6% in Japan to 8.4% in Jamaica (Figure 26). The mean is 3.3%, which indicates that 3.3 adults per 100 are informal investors in the GEM nations.

The total amount of informal investment as a percent of GDP is shown in Figure 27. It ranges from 0.06% in Brazil to 5.2% in China. The mean amount of informal investment is 1.35% of the GDP of the GEM nations. Informal investment from family, friends, and strangers is only part of the start-up financing for new businesses—the rest comes from the founders themselves. According to other GEM data, the founders themselves on average provide 66% of the start-up financing. Hence, GEM estimates of that total start-up financing is triple the amount of informal investment; that is approximately 4% of the GDP of the GEM nations. That sizeable sum shows up in the GDP soon after it is invested because new businesses spend it to purchase goods and services.

Figure 25. Percentage of Classic Venture Capital in All Investment

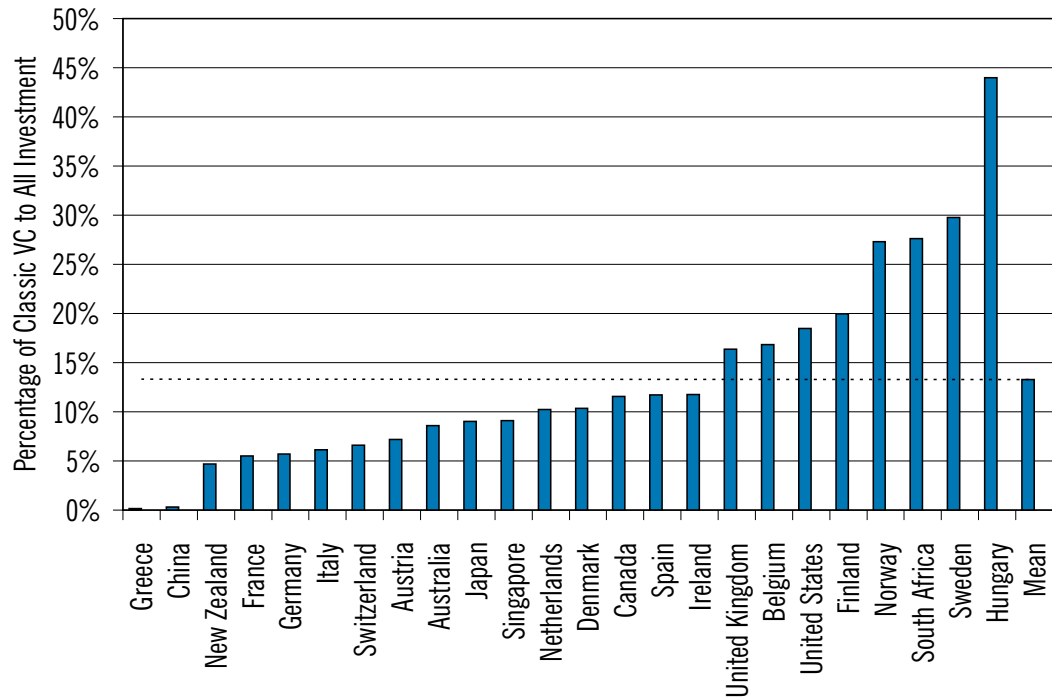


Figure 26. Informal Investor Prevalence Rate

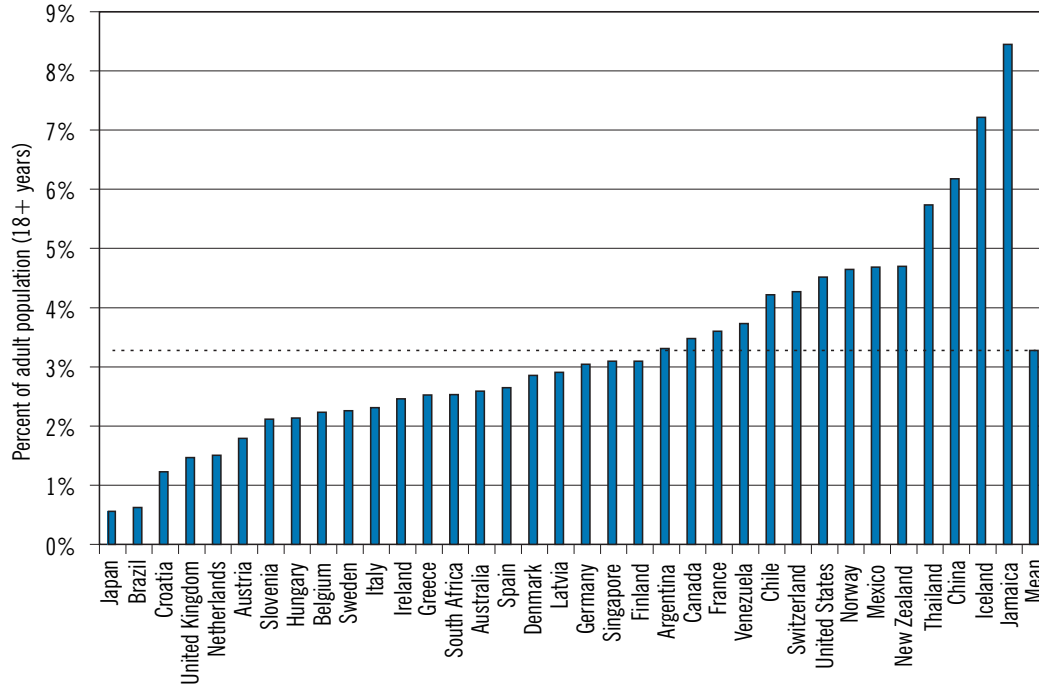
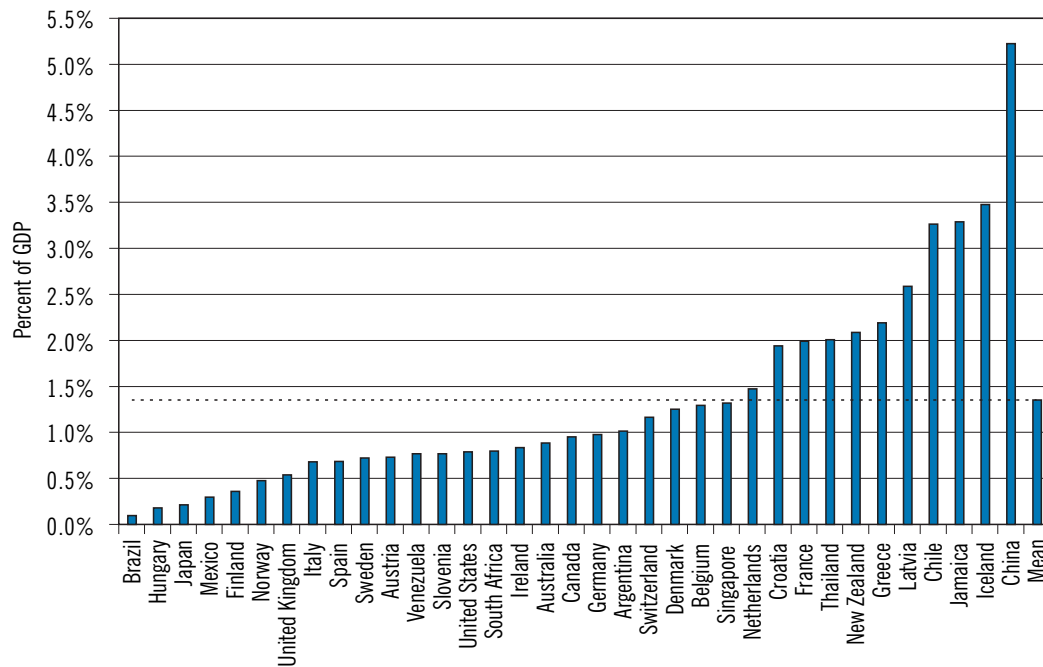


Figure 27. Annual Informal Investment Percentage GDP



THE INTERNATIONAL YEAR OF
MICROCREDIT 2005:

ENTREPRENEURIAL FINANCING FOR
THE WORLD'S POOREST

“To ‘make poverty history,’ leaders in private, public and civil-society organizations need to embrace entrepreneurship and innovation as antidotes to poverty. Wealth-substitution through aid must give way to wealth-creation through entrepreneurship.”²³ But where do nascent entrepreneurs living in poverty get any money to start a micro-business? In Africa, for instance, 600 million people live on less than USD 3 per day based on purchasing power parity. For China, the number may be 400 million, and in India, 500 million.

Conventional banking is based on the principle that the more you have, the more you can borrow. It is based on collateral, which means that a bank loan must be adequately covered by assets of the business or its owner, or in many cases both. But half the world’s population is very poor, so about five billion people are shut out from banks. For example, less than 10% of adults in many African countries have bank accounts. Even in Mexico, the number is scarcely 20%.

Microfinancing

In 1976, in the village of Jobra, Bangladesh, an economist named Muhammad Yunus, started what today is the Grameen bank. It was the beginning of the microfinance concept, which is best known for its application in rural areas of Bangladesh, but has now spread throughout the world. Yunus believes that access to credit is a human right. According to Yunus, “One that does not possess anything gets the highest priority in getting a loan.” And he practices what he preaches. Even beggars can get loans from the Grameen bank. They are not required to

give up begging but are encouraged to take up an additional income-generating activity, such as selling popular consumer items door-to-door or at the place of begging.²⁴ The bank provides larger loans, called micro-enterprise loans, for “fast moving members.” By the end of 2004, almost 300,000 Bangladeshis had taken micro-enterprise loans. The average loan was USD 344 and the biggest loan was USD 17,195 to purchase a truck. The loan recovery rate is almost 99% percent, which is remarkable because the bank relies entirely on personal trust, not collateral.

Microfinancing is now available in many nations. It is generally agreed that microfinance is a powerful tool in the fight to reduce poverty in poorer nations. One of the largest microfinance organizations in Latin America is *Compartamos* (“Let’s share” in Spanish).²⁵ It started life as a non-governmental organization, and gained its seed capital from multilateral funds. Now with more than 300,000 clients, its next plan is to convert itself into a bank so that it can take in savings and also start to offer life insurance. Its portfolio grew by 58% in 2004, and Carlos Danel and Carlos Labarthe, its joint chief executives, intend to keep that growth going. By 2008, they aim to have one million clients. *Compartamos*’s average loan is for USD 330,²⁶ and, as is typical of microcredit elsewhere in the world, only 0.6% of its loans are 30 or more days late.

Microcredit for the poorest of the poor

When the Microcredit Summit Campaign was held in 1997, its aim was “...to reach 100 million of the world’s poorest families, especially the women of those families, with credit for self-employment and other financial and business services by the year 2005.” It defines the “poorest” people as those who are in the bottom half of those living below their nation’s poverty line, or any of the 1.2 billion people in the world who live on less than USD 1 per day based on purchasing power parity. The Microcredit Summit Campaign Report 2004 provides the following data²⁷ (Table 9):

Table 9. Growth in the Implementation of Microcredit 1997-2003

YEAR	NUMBER OF INSTITUTIONS REPORTING	TOTAL NUMBER OF CLIENTS REACHED	NUMBER OF “POOREST” CLIENTS REPORTED
1997	618	13,478,797	7,600,000
1998	925	20,938,899	12,221,918
1999	1,065	23,555,689	13,779,872
2000	1,567	30,681,107	19,327,451
2001	2,186	54,932,235	26,878,332
2002	2,572	67,606,080	41,594,778
2003	2,931	80,868,343	54,785,433

Source: Daley-Harris, S, State of the Microcredit Summit Campaign Report 2004, 2004, Microcredit Summit Campaign, <http://www.microcreditsummit.org/pubs/reports/socr/2004/SOCR04.pdf>

Women accounted for 82.5% of the total number of “poorest” clients. Assuming five people per family, the 54.8 million poorest clients reached by the end of 2003 affected some 274 million family members.²⁹ Table 10 shows the relationship between the number of families living in absolute poverty in each region (i.e., those living under one dollar a day adjusted for purchasing power parity) and the number of poorest families reached in each region at the end of 2003.

It appears that in 2005—the International Year of Microcredit—the 1997 Microcredit Campaign came close to achieving its goal of reaching 100 million of the world’s poorest families. Put another way, assuming five people per family, this means that microcredit now reaches 500 million or 42% the world’s poorest people.

Table 10. Microfinancing by Region 2003

	ASIA	AFRICA & MIDDLE EAST	LATIN AMERICA & CARIBBEAN	EUROPE
Number of Poorest Families	157.8	61.5	12.1	3.5
Number reached by Microfinance	48.8	4.8	1.1	0.06
Percent Coverage	31%	7.8%	9.1%	1.7%

Source: Daley-Harris, S, State of the Microcredit Summit Campaign Report 2004, 2004, Microcredit Summit Campaign, <http://www.microcreditsummit.org/pubs/reports/socr/2004/SOCR04.pdf>

Implications

These findings have important implications for entrepreneurs, policy makers, educators, researchers, and journalists. In a nutshell, these parties should pay more attention to the critical role of self-financing and informal investment in start-up ventures; after all, if self-funding by entrepreneurs and informal investments dried up, entrepreneurship would wither and die. In every nation the amount of informal investment is greater than the amount of classic venture capital; in addition, for every new venture that starts life with classic venture capital there are more than 10,000 that start with financing only from entrepreneurs themselves, and in many cases informal investors.

Entrepreneurs. Close family members and friends and neighbors are, by far, the two biggest sources of informal capital for start-ups. Hence, entrepreneurs should look to family and friends for their initial seed capital to augment their own investments in their start-ups. Many entrepreneurs waste a lot of valuable time by prematurely seeking seed capital from business angels and even from formal venture capitalists—searches that come up empty-handed almost every time. Entrepreneurs must also understand that they themselves will have to put up about two-thirds of the initial capital needed to launch their ventures.

Policy Makers. Fewer than 0.01% of nascent entrepreneurs launch their new ventures with formal venture capital or business angel investments. But in most developed nations, formal venture capitalists

get a disproportionate amount of attention from policy makers, whereas informal investors—other than business angels—are almost ignored. Therefore, it seems as if public policy initiatives aimed at various sources of seed-stage financing are inversely related to their importance for nascent entrepreneurs raising funds to launch their ventures. It is time for policy makers to pay more attention to the start-up capital provided by entrepreneurs themselves and by informal investors and less attention to venture capital. After all, financing from entrepreneurs and informal investors pumps 3.6% into the GDP of the GEM nations, compared with only 0.1% for classic venture capital.

Educators. Entrepreneurship educators often put too much emphasis on venture capital, and perhaps business angels, as sources of funds for would-be entrepreneurs, and not enough on family and friends. Here are some examples where evidence of this can be found: new venture syllabi at leading business schools, entrepreneurship case studies, some entrepreneurship text books, and business plan competitions where participants have little chance of being prize contenders unless they target venture capitalists and business angels for their seed-stage funding.

Researchers. In recent years, research on formal venture capital has increased substantially, likewise research on business angel investing and initial public offerings, but there is little research on investing by family and friends. Again, similar to public policy, research interest in various sources of funding is inversely proportional to the importance of those sources to nascent entrepreneurs.

A1 – DATA COLLECTION

Since its inception in 1999, GEM's major activity has been the creation of a large data set and the construction of harmonized measures of entrepreneurial activity based on the conceptual model described in Figure 1. GEM collects three types of data: adult population surveys, national expert interviews, and standardized cross-national data.

Adult population survey

Representative samples of randomly selected adults, ranging in size from 1,000 to almost 27,000 individuals, are surveyed each year in each country in order to provide a harmonized measure of the prevalence of entrepreneurial activity.²⁹ The annual surveys generally take place between May and August and are based on three main elements: the sample of respondents, the interview schedule used to collect the data, and the creation of measures estimating entrepreneurship at the national level. The interview schedule consists of a set of core questions used to derive entrepreneurial activity rates and additional questions concerning the attributes and characteristics of the respondents. The interview schedule is approved by GEM national teams as a collective decision in an annual meeting held in January each year. Both survey and collection procedures are revised annually. As described in the preface, GEM is now entering its Phase 2 and more emphasis is being put on the quality of the data. As a result, several changes will be introduced in the next couple of years with respect to data-collection procedures and, especially, sampling standards.

While the research firms in each country are among the best available, virtually every data set provided by every vendor requires some adjustments and corrections. Once all separate data sets are checked and harmonized, the files are consolidated into a single data file, each respondent having a unique identification number. The GEM coordination team then processes the data set to identify people considered as entrepreneurially active and to compute other variables related to entrepreneurial activity. The GEM 2005 Executive Report is based almost entirely on the adult population survey data.

National expert interviews

Each GEM national team conducts up to 50 face-to-face interviews with experts in their respective countries chosen to represent a number of entrepreneurial framework conditions. Experts are selected on the basis of reputation and experience. In the interviews, experts express their views on national strengths and weaknesses as a context for entrepreneurship and indicate what policy or program changes they believe would enhance the level of entrepreneurship in their country. The national experts also complete a standardized questionnaire in order for GEM to obtain a quantitative measure of their opinions concerning their country as a suitable context for entrepreneurial activity. The questionnaire consists of sets of five to six related items grouped on the basis of countries and individual characteristics relevant for entrepreneurship. These data are not used in this report but were analyzed in previous reports.

Standardized cross-national data

Standardized cross-national data are obtained from international data sources such as the World Bank, the International Monetary Fund, and the United Nations. These data serve in establishing the link between national levels of entrepreneurial activity and macroeconomic conditions, as well as the impact of the state of national conditions required for establishing this link. While virtually all of the sources of these cross-national harmonized data are free, it takes some effort to annually update, organize, and describe this material to provide useful consolidated data sets for the analysis.

A2 – SAMPLE DESCRIPTION AND WEIGHTS

All countries in GEM conduct a national adult population survey. All countries use region stratification, except for very small countries like Iceland. Most countries conduct telephone surveys. In some middle-income countries where phone penetration rates are low, interviews are conducted face to face using random door-to-door procedures that also result in a representative national sample. Table A-1 summarizes some characteristics of the surveys held in each country.

Table A1 GEM National Adult Population Survey 2005 (Sample Characteristics)

	INTERVIEW PROCEDURE	SAMPLING PROCEDURE	NUMBER OF COMPLETED INTERVIEWS	REPORTED RESPONSE RATE
Argentina	Phone	Random Dial from List	2,008	66%
Australia	Phone	Random Dial from List	2,465	36%
Austria	Phone	Random Dial from List	2,000	82%
Belgium	Phone	Random Dial from List	4,000	59%
Brazil	Face-to-Face	Random Walk	2,000	91%
Canada	Phone	Random Digital Dialing	6,418	38%
Chile	Phone	Random Dial from List	2,000	23%
China	Face-to-Face	Random Walk	2,109	32%
Croatia	Phone	Random Dial from List	2,000	23%
Denmark	Phone	Random Dial from List	2,010	30%
Finland	Phone	Random Dial from List	2,010	19%
France	Phone	Random Dial from List	2,005	34%
Germany	Phone	Random Dial from List	6,577	40%
Greece	Phone	Random Digital Dialing	2,000	22%
Hungary	Face-to-Face	Random Walk	2,878	91%
Iceland	Phone	Random Dial from List	3,934	65%
Ireland	Phone	Random Dial from List	1,945	15%
Italy	Phone	Random Digital Dialing	2,001	40%
Jamaica	Face-to-Face	Random Walk	2,505	98%
Japan	Phone	Random Dial from List	1,990	100%
Latvia	Face-to-Face	Random Walk	1,964	99%
Mexico	Face-to-Face	Random Walk	2,011	74%
Netherlands	Phone	Random Dial from List	3,582	42%
New Zealand	Phone	Random Digital Dialing	1,003	29%
Norway	Phone	Random Dial from List	2,015	11%
Singapore	Phone	Random Dial from List	4,004	27%
Slovenia	Phone	Random Dial from List	3,016	20%
South Africa	Face-to-Face	Random Walk	3,237	66%
Spain	Phone	Random Dial from List	19,384	65%
Sweden	Phone	Random Dial from List	2,002	73%
Switzerland	Phone	Random Dial from List	5,456	38%
Thailand	Phone and Face-to-Face	Random Dial from List and Random Walk	2,000	21%
United Kingdom	Phone	Random Digital Dialing	11,203	24%
United States	Phone	Random Digital Dialing	2,021	43%
Venezuela	Face-to-Face	Random Walk	2,000	83%

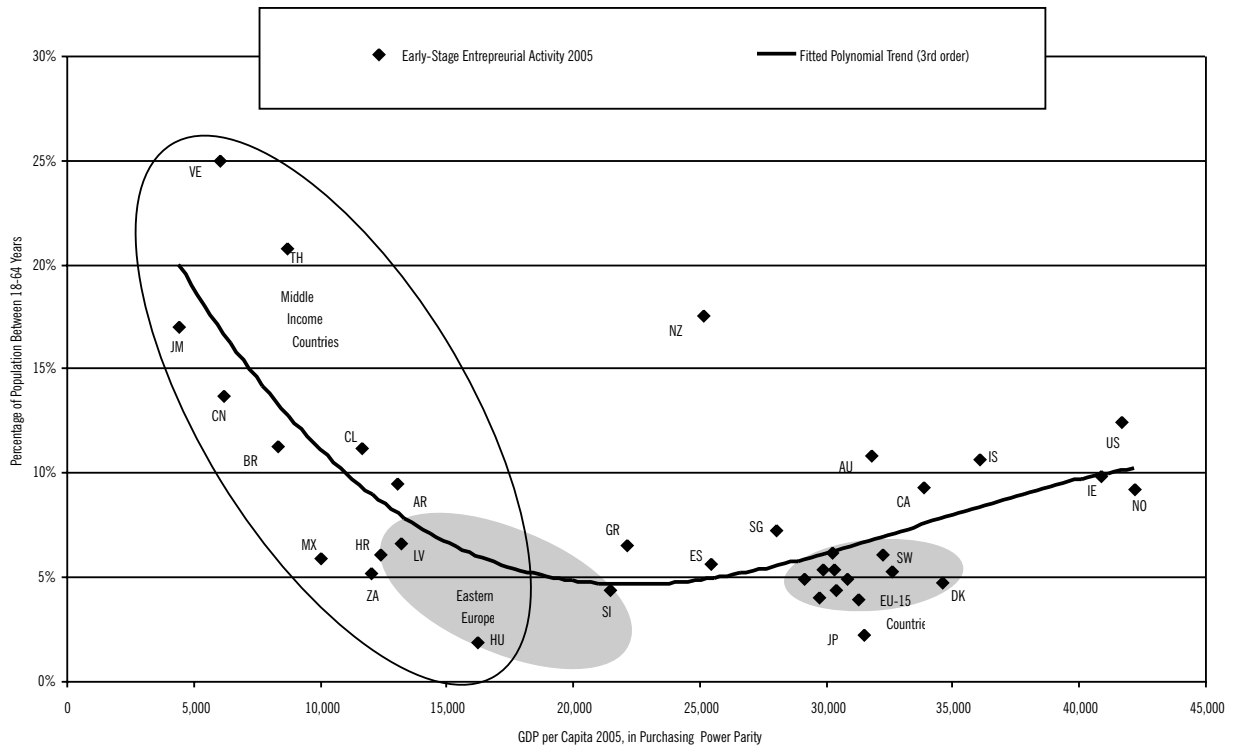
There is great variation in reported response rates (defined as the number of completed interviews relative to the number of eligible respondents). For face-to-face interviews, the response rate is typically high. For telephone interviews, the number of maximum call-backs per sample unit heavily determines the response rate. If the person in the household who is selected to answer the questions (randomly determined by next-birthday method) is not at home, call-backs will be performed until the person is reached, up to a maximum amount of call-backs. Normally, the greater the number of call-backs, the higher the response rate. As of next year, requirements for these procedures will be stricter than before in order to get all response rates to a comparable and acceptable level.

The vendors supply sample case weights for all observations, developed such that proportions of different subgroups match the most recent official data providing descriptions of the entire population of the country. The basis for weighting varies somewhat among countries. Gender and age are always involved, but other additional features might also be used

– e.g., geographic distribution, ethnic background, educational attainment, and household income. In this report, two types of weights are reflected in tables and figures. The first type is used in comparisons across countries. In obtaining these country-level results, weights were applied as described above, including features additional to age and gender for various countries. The second type of weights is used in comparisons across levels other than nations, such as country clusters. To obtain these weights, GEM applied a basis for weighting relying on gender and age only, in order to preserve uniformity within and between the groups that were investigated.

To increase confidence in the extent to which the weighted samples represent the national populations, the GEM Coordination Team adjusted all case weights for all countries using standardized estimates of the age and gender structure of each country provided by the US Census International Population Data Base. These estimates are provided on an annual basis and updated each year. The final weights are adjusted to ensure that the average value of the case weights for each country is exact.

Figure A1. Early-Stage Entrepreneurial Activity Rates and GDP per Capita



A3 – COUNTRY CLUSTERING

In this report countries have been clustered into two groups according to their performances on two factors: GDP per capita (in current prices) and GDP growth. The relevance of using clusters determined by income is depicted in Figure A1, where GDP per capita is set out against early-stage entrepreneurial activity. GDP per capita is measured in Purchasing Power Parities, to correct for differences in standard costs of living. The middle-income cluster reflects a negative relation between early-stage entrepreneurial activity and GDP per capita, while the relation for the high-income cluster is tentatively positive. The fitted polynomial line illustrates this and can be interpreted as a “stylized fact.” Figure A1 also suggests some possible geographical patterns.

There are several explanations for the negative relationship in the middle-income cluster. As described in Chapter 2, as countries grow, people enjoy more job opportunities in large established firms. As a result, everything else being the same, starting a new business may become less attractive. For these countries, a decrease in the early-stage entrepreneurial activity could possibly be caused by positive economic development. Among middle-income countries, Eastern European nations are clustered together. Because of their recent admission in the European Union and the resultant opening of their markets, it can be expected that they will move toward the EU-15 group.

In richer countries, where most people have several options in the labor market and institutions are well developed, entrepreneurship may be an attractive option for those people with financial means seeking independence. Figure A1 depicts an upward slope at the right-hand side of the chart. In this, a group of EU-15 countries move closely together, below the fitted trend line. This suggests that the group of EU-15 countries has a relatively low early-stage entrepreneurial activity rate compared to their GDP per capita. This is currently a significant concern expressed by the European Commission in its Green Paper on Entrepreneurship. The stigma of failure, the aging population, the extent of job securities and the welfare system are all possible explanations for the relatively low levels of early-stage entrepreneurial activity exhibited by many EU countries (Bosma et al. 2005).

A4 – OPPORTUNITY AND NECESSITY ENTREPRENEURSHIP

Although opportunity and necessity motives are measured, GEM researchers are aware that the current measures are not satisfactory. Many respondents are probably tempted to state that they are pursuing an opportunity rather than being involved in entrepreneurial activities because they have no other options for work, even if the latter statement describes those people best. GEM is currently reassessing this measure. New this year is that different types of opportunity motives are derived: independence, increasing income and maintaining income. Although this measure still needs some refinement, Table A2 indicates that being independent is the major driver behind opportunity early-stage entrepreneurship in high-income countries. Independence as a driver of opportunity entrepreneurship seems to be less prevalent in middle-income countries, possibly as a result of a lack of alternatives to self-employment.

A5 – A COMPARISON OF GEM MEASURES TO OTHER INTERNATIONAL STATISTICS

The best way to test the reliability of a data set is to compare it with other data sets that describe the same phenomenon. Since GEM is the only research program especially designed to retrieve harmonized data on entrepreneurial activity from primary data sources, there is not an obvious source that allows for a comparison with the GEM outcomes. Efforts to combine data gathered from national statistics agencies often suffer from differences in definitions of entrepreneurship. One of the few other international comparable data sets is the Compendia data base maintained by EIM and described in Van Stel (2005). This data set provides the number of business owners in every OECD country from 1974 onward on a biannual basis. The data set builds heavily on the OECD labor force survey but makes the required corrections where definitions are not in line with each other.

Table A2 Drivers Behind Early-Stage Opportunity Entrepreneurship

	INDEPENDENCE	INCREASE INCOME	MAINTAIN INCOME
Middle-Income Countries	42%	48%	10%
High-Income Countries	57%	32%	11%

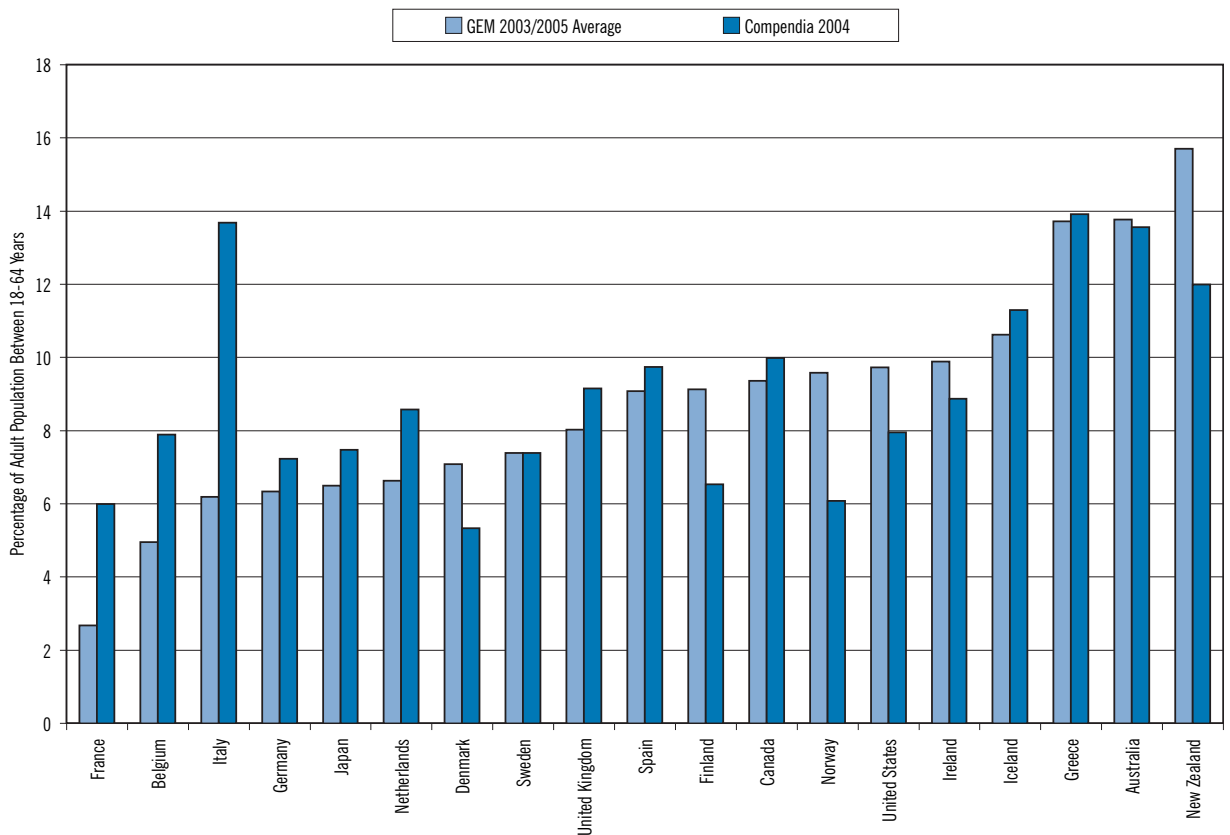
The Compendia business ownership rate includes new business ownership and established business ownership but excludes nascent entrepreneurship. Thus, in order to produce a meaningful comparison, we construct a GEM Business Ownership Rate that deviates from the two main measures described in this report, namely early-stage entrepreneurial activity and established business ownership.

- The Business Ownership Rate includes all owner-managers of firms that have paid wages or salaries for more than three months. This implies that both owner-managers of new businesses and established businesses are included.
- Business owners in agriculture are excluded, conforming to the definition of Compendia.
- The Business Ownership Rate is derived by aggregating the number of business owners relative to the population aged between 18 and 64, adopting the same procedure used when deriving early-stage entrepreneurial activity and established business ownership. Since the rates from Compendia have the labor force as denominator, a correction factor is applied to express this rate as a percentage of population aged between 18 and 64.

Figure A2 shows both measures of business ownership. When confidence intervals for the GEM business ownership rates are calculated, seven out of 20 of these intervals fit the Compendia business ownership rate. To a large extent, the gap for France can be explained by the existence of many incorporated owner/managers. These are included in the Compendia statistics but are probably not contained in the GEM measure, since many of the respondents might not feel that they are running a business in which they are owner/managers. The same argument may hold for Belgium and the Netherlands as these countries also demonstrate more business owners according to the Compendia approach. On the other hand, Denmark, Finland, and Norway have more business owners according to the GEM approach. Informal institutional rules are likely to be at the root of such differences. Also, some significant differences seem to be geographically rooted.

Another possible comparison is obtained by examining birth rates, that is, the number of expected births per 100 of existing firms. Using these ratios, where numerator and denominator both reflect firms and have equal criteria, discrepancies caused by definitional differences are expected to be reduced. Table A3 shows GEM data and compares them with

Figure A2. Business Ownership Measures: A Comparison of GEM and Compendia Data



estimates from two other sources for 11 countries. GEM birth counts are based on those reporting first salaries and wages in the year previous to each survey. There is a correction for the difference between average size of a start-up and the average size of an

existing firm. The GEM measures of new firm birth rates, given the small sample sizes and sparse details about the new firms, appear to match the official data well for 2001 and 2002.

Table A3 –National New Firm Birthrates Comparison (#/100 Firms)

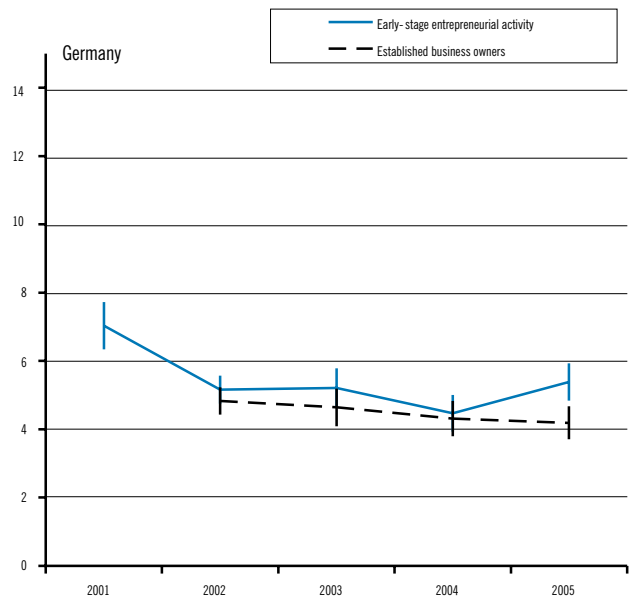
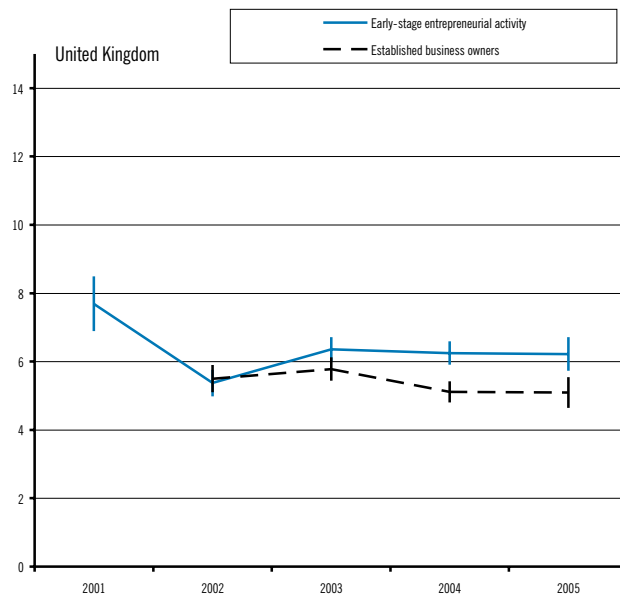
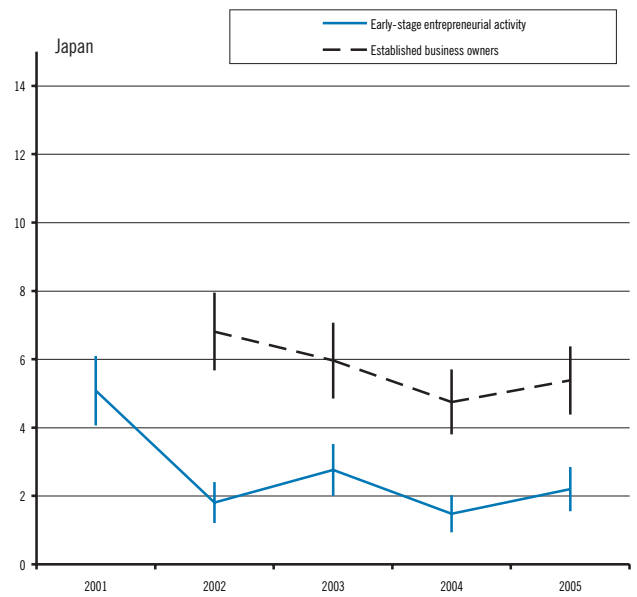
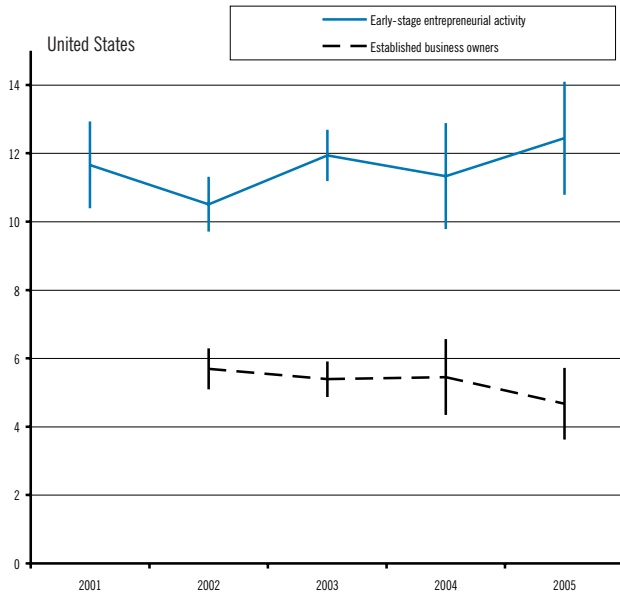
	EIM (a)	EC REPORT (b)	GEM (c)	GEM (c)
	2002	2001	2001-2002	2003-2004
Belgium	6.10%	7.00%	8.60%	6.50%
Denmark	9.90%	9.30%	9.00%	16.30%
Finland	7.90%	7.20%	7.10%	8.60%
Germany	8.90%		7.70%	13.10%
Ireland	12.00%		12.50%	9.00%
Japan	4.00%		2.40%	5.10%
Netherlands	8.40%	9.60%	11.80%	8.10%
Norway		10.10%	10.60%	15.20%
Sweden		6.60%	6.70%	6.10%
United Kingdom	12.60%	8.90%	10.40%	10.50%
United States	9.60%		11.50%	13.90%

a) EIM derived harmonized birthrates from national statistics. Firm births are defined by registered start-ups in which at least one person was active for at least one hour per week. Births include new subsidiaries. There are still some differences in definitions (Bosma and Verhoeven, 2003).

b) In the Eurostat methodology, a (registered) firm creation can be considered a firm birth if new production factors, in particular new jobs, are created. Births do not include entries into the population due to mergers, break-ups, split-off or restructuring of a set of enterprises (European Commission, 2005).

c) Firm counts are based on active firms reporting first salaries and wages in the year previous to the survey. Average 2001-2002, except for Germany (2001) and UK (2002) as these countries have very large samples in 2002 and 2003 respectively. Italy and France are not included because of their limited number of start-ups in the GEM sample in most years.

Figure A3. Patterns of Early-Stage Entrepreneurship and Established Business Ownership for Selected Countries



A6 – GEM RESULTS 2001-2005

GEM started in 1999 with 10 participating countries and expanded rapidly. Since 2001, GEM includes over 30 participating countries and there are some 20 countries that have participated every year between 2001 and 2005. This means that it is possible to look at patterns of entrepreneurial activity across nations for a five-year period. Figure A3 shows these patterns for four selected members of the G7 countries. Some structural differences between countries and some time fluctuations within countries are both visible.

There is a clear and structural contrast between the United States as an example of an “entrepreneurial” economy and Japan as an example of a “managed” economy (Audretsch and Thurik 2000). In the United States, early-stage entrepreneurial activity exceeds established business ownership, while the reverse is the case for Japan. It is also seen that while the established business ownership rate for the United States is quite similar to European countries such as Germany and the United Kingdom, early-stage entrepreneurial activity is much lower in the latter two, although the United Kingdom appears to exhibit slightly more early-stage entrepreneurial activity than Germany. This is consistent with our analysis of transition ratios presented in Table 4.

Aside from structural characteristics, the level of early-stage entrepreneurial activity depends on short-term fluctuations. The GEM 2002 data, for example, revealed a significant decrease in the early-stage entrepreneurial activity of most countries, probably following the global economic slowdown of 2001. This is also reflected in Figure A3, where all four countries’ early-stage entrepreneurial activity rates drop in 2002.

From a methodological point of view, countries in GEM that have partially changed their sampling procedures have shown year-to-year changes in their national outcomes that could not be explained from an economic perspective.

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Endnotes

- ¹ Maria Minniti gratefully acknowledges the input received from Kevin Hindle. This section, and the 2005 GEM Global Report in general, have benefited from his suggestions and from his paper forthcoming in *IJESB*.
- ² A detailed discussion of the idea and methods behind the initial phase of GEM can be found in Reynolds et al. 2005.
- ³ Most new businesses do not survive beyond three or four years. This is the main rationale for the choice of 42 months as the cut-off period. However, the choice of 42 months reflects also operational issues. According to Reynolds et al (2005), "The relevant interview question asked only the year when salary and wage payments were initiated and most surveys occurred in the summer months; so the alternatives for choosing a 'new firm age' were 1.5 years, 2.5 years, 3.5 years, etc. The shortest time frame that would provide enough cases for stable prevalence rates with a total sample of 2,000 seemed to occur at 3.5 years. Conceptually, any time period under five years seemed satisfactory so this age was considered an appropriate trade-off between conceptual and operational considerations in the early years of the project. There has been no compelling reason to adjust this criteria and a desire for a stable time series has led to its continued use. It should be considered a procedure to capture existing firms less than three or four years old."
- ⁴ It should also be noted that, unlike most other data sets, GEM data are published during the year of their collection. The 2005 GEM Report, for example, is written using data collected in 2005. Most other data sets publish data with a lag and refer to, say, "2005 data," when data have in fact been collected in previous years. This discrepancy may also explain some differences between GEM data and comparable data as the latter may not be labelled precisely.
- ⁵ Specifically, a two-step cluster analysis was conducted, using the log-likelihood distance measure.
- ⁶ It should be pointed out that the cluster analysis is influenced primarily by GDP values and much less by GDP growth rates. Nevertheless, the stability of the country clusters was checked to test the robustness of the results. Several different iterations were tried with different models and the results are robust, yielding always a two-cluster solution with similar grouping of countries. Specifically, the cluster analysis presented in the main text uses 2005 real per capita GDP at current prices and the percentage of annual real GDP growth at constant prices. The iteration generated with 2005 real per capita GDP at current prices and the percentage change of real GDP growth (2004-05) at current prices yields an identical solution. The iteration generated considering only 2005 real per capita GDP at current prices yields an identical solution except for Greece that moves into the lower income cluster. Yet, even in this case, both clusters are still significantly different in their growth rates. The iteration generated using data on per capita GDP in USD 2005 and growth yields also an identical solution except that Slovenia moves into the high-income, low-growth cluster. Given this evidence, and because middle income countries happen to exhibit a significantly higher average growth rate in all scenarios, it seems reasonable to suggest that the two-cluster solution is robust when different measures of growth and income are used and to interpret the clusters as "high-income, low-growth" countries and "middle-income, high-growth" countries.
- ⁷ It should be noted that, except for Singapore, all countries in cluster two are OECD countries, whereas Hungary and Mexico are the only OECD countries in cluster one. This suggests some homogeneity across OECD countries and, as shown in the appendix, allows the complementary use of GEM and some OECD data.
- ⁸ The 5% of respondents who qualify as both a "nascent entrepreneur" and a "new business" is counted only once.
- ⁹ The source of standardized annual population structure estimates was the US Census Bureau International Database <http://www.census.gov/ipc/www/didbnew.html>. The 18 to 64 age ranges are covered by all samples in all countries and approximate the ages for which individuals are expected to be active in the labor force.
- ¹⁰ While the prevalence rate for each country is based on weighted observations, the confidence interval displayed by the vertical bars is approximated using unweighted individual-level survey data. This asymmetry occurs because there is, to the best of our knowledge, no formula for computing confidence levels using weighted data.
- ¹¹ Hence, the early-stage entrepreneurial activity rate is smaller than or equal to nascent entrepreneurs plus new business owners and the overall rate is smaller than or equal to early-stage rate plus established business owner rate.
- ¹² In most countries, both the early-stage rate and the established rate of entrepreneurial activity fluctuate somewhat over time. This implies that the transition rate from early-stage to established activity also fluctuates over time. It is very likely that the survival chances of early-stage businesses also vary over time, in response to macroeconomic framework conditions. These fluctuations limit the extent to which the transition rate from early to established entrepreneurial activity correctly approximate the survival chances of newly founded businesses in a country at a given point in time. Thus, this proxy should be interpreted with caution.
- ¹³ This is not to say that the distinction can be done always in a clear-cut fashion. Indeed, GEM scholars are working on finding new and (it is hoped) more effective ways to collect information on entrepreneurial motivation. Section A4 in the Appendix presents a more detailed discussion of this issue.
- ¹⁴ This year's GEM data show France as an outlier. This could be due to random influences in the sample since in past years, France showed a more favorable ratio of opportunity to necessity-driven motives.
- ¹⁵ The Spearman correlation coefficient between the ranks in Table 4 and Table 6 is 0.392, which is significantly different from zero with 98% confidence.
- ¹⁶ ISIC is an international statistical standard to classify firms according to the main activity they carry out. ISIC is supported by the members of the United Nations and widely adopted and used across countries. It also corresponds with the Statistical Classification of Economic Activities in the European Community (NACE Rev.1.1). See <http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=17>.
- ¹⁷ A detailed study of women's entrepreneurship worldwide can be found in the report on women and entrepreneurship by Minniti et al. 2005 that can be downloaded at no charge from www.gemconsortium.org. Printed versions can be obtained by contacting the Center for Women Leadership (CWL) at Babson College.
- ¹⁸ It is not surprising that the higher shares of necessity entrepreneurs in middle-income countries correspond to less-favorable income situations among established business owners. Necessity entrepreneurs are more likely to select business opportunities with less-positive outlooks simply because they lack better alternatives.
- ¹⁹ This paragraph follows closely Jones (forthcoming).
- ²⁰ Possible reasons for the failure are the fact that the preferential system is applicable only to newly issued equity shares of unlisted companies that meet certain qualifications such that they must spend 10% of the total sales for research and development, and the fact that the capital loss by investment for unlisted companies can be cancelled only with the capital gain by investment for unlisted companies.
- ²¹ A detailed study of high-expectation entrepreneurship worldwide can be found in the 2005 GEM Special Report on High Expectation Entrepreneurship by Erkkö Autio. The report can be downloaded at no charge from www.gemconsortium.org. Financial support from Mazars (www.mazars.com) is gratefully acknowledged.
- ²² Venture capital data are derived from the European Venture Capital Association 2005 Yearbook, the National Venture Capital Association 2005 Yearbook, and data from national venture capital associations.
- ²³ Prahalad, C.K. *Wall Street Journal*, Commentary: Aid is Not the Answer. August 31, 2005; Page AS.
- ²⁴ Yunus, M. 2004. *Grameen Bank at a Glance*. Dhaka, Bangladesh: Grameen Bank.
- ²⁵ John Authers. Major Victories for Microfinance. *Financial Times*. May, 2005.
- ²⁶ [www.accion.org/more about microfinance](http://www.accion.org/more_about_microfinance)
- ²⁷ Daley-Harris, S., State of the Microcredit Summit Campaign Report 2004, 2004, Microcredit Summit Campaign, <http://www.microcreditsummit.org/pubs/reports/socr/2004/SOCRO4.pdf>
- ²⁸ As of November 9, 2004, 6,321 institutions were members of the Microcredit Summit Campaign's 15 councils. Of that number, 3,844 institutions from 131 countries were members of the Microcredit Summit Council of Practitioners. Data in Table 10 were collected from 2,931 institutions, which is 43% of the 6,321 institutions worldwide. Hence, the numbers in Table 10 underestimate the number of clients served throughout the world.
- ²⁹ Some paragraphs of sections A1 and A2 follow closely Reynolds, et al (2005).

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