



Global Entrepreneurship Monitor 2010 Global Report



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Executive Summary

With this report, the Global Entrepreneurship Monitor (GEM) has completed 12 annual surveys of the entrepreneurial attitudes, activities and aspirations of individuals around the world. Starting with just 10 developed countries in 1999, GEM has grown to include over 80 economies during the course of these 12 years. In 2010, over 175,000 people were surveyed in 59 economies. These 59 economies represent not only the largest sample yet, but also the most geographically and economically diverse group surveyed. Together, this group covers over 52% of the world's population and 84% of the world's GDPⁱ.

The 2010 survey shows that, in the economies analyzed, some 110 million people between 18 and 64 years old were actively engaged in starting a business. Another 140 million were running new businesses they started less than 3½ years earlier. Taken together, some 250 million were involved in what GEM defines as early-stage entrepreneurial activity. Out of these individuals, an estimated 63 million people expected to hire at least five employees over the next five years, and 27 million of these individuals anticipated hiring twenty or more employees in five years. This illustrates the contribution of entrepreneurship to job growth across the globe.

GEM takes a comprehensive snapshot of entrepreneurs around the world, measuring the attitudes of a population and the activities and characteristics of individuals participating in various phases of entrepreneurship. Also revealed are the aspirations these entrepreneurs hold for their businesses, along

with other key features of their ventures. This effort is accomplished through the collaborative work of a consortium of national teams consisting of academic researchers from across the globe. Each GEM national team oversees an annual survey of at least 2,000 adults. In addition, they consult with national experts on factors that can explain the nature and level of entrepreneurship in their economies.

GEM groups the participating economies into three levels: factor-driven, efficiency-driven, and innovation-driven. These are based on the World Economic Forum's (WEF) *Global Competitiveness Report*ⁱⁱ, which identifies three phases of economic development based on GDP per capita and the share of exports comprising primary goods.

According to the WEF classification, the factor-driven phase is dominated by subsistence agriculture and extraction businesses, with a heavy reliance on labor and natural resources. In the efficiency-driven phase, further development is accompanied by industrialization and an increased reliance on economies of scale, with capital-intensive large organizations more dominant. As development advances into the innovation-driven phase, businesses are more knowledge intensive, and the service sector expands.

GEM additionally considers geographic factors, grouping countries into six geographic regions: Sub-Saharan Africa, the Middle East and North Africa

(MENA) / South Asia, Latin America and the Caribbean, Eastern Europe, Asia/Pacific and the United States and Western Europe. With all groupings, we can compare economies across similar development levels and geographic locations. The economic and geographic groupings are shown in Table 1.

This year's survey was conducted during June and July of 2010, at a time when the world was still struggling to emerge from the 2008–2009 recession, and with the future economic stability of many nations still in question. The recession's prolonged impact was demonstrated most considerably in the continued negative or sluggish GDP growth in the developed world, while new growth engines were taking root in developing countries, particularly in Asia and

Africa. While some economies have emerged out of this crisis, others remain stuck in a morass of high unemployment, weak consumer spending and out-of-control debt loads.

For the 41 economies that participated in both the 2009 and 2010 GEM survey, a comparison of Total Early-Stage Activity (TEA) rates from 2009 to 2010 shows a mix of increases and decreases (or no change) across all three economic groups. While the number of positive and negative shifts was roughly equal in the factor-driven and efficiency-driven economies, the balance tipped slightly toward more declines in the innovation-driven group. Geographically, there are both positive and negative changes in most regions of the world.

Table 1: GEM Countries Classified by Economy and Geography

	<i>Factor-Driven</i>	<i>Efficiency-Driven</i>	<i>Innovation-Driven</i>
<i>Sub-Saharan Africa</i>	<i>Angola, Ghana, Uganda, Zambia</i>	<i>South Africa</i>	
<i>Middle East/North Africa (MENA) - South Asia</i>	<i>Egypt, Iran, Pakistan, Saudi Arabia, West Bank and Gaza</i>	<i>Tunisia</i>	<i>Israel</i>
<i>Latin America and Caribbean</i>	<i>Jamaica, Guatemala, Bolivia</i>	<i>Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, Trinidad and Tobago, Uruguay</i>	
<i>Eastern Europe</i>		<i>Bosnia and Herzegovina, Croatia, Hungary, Latvia, Macedonia, Montenegro, Romania, Russia, Turkey</i>	<i>Slovenia</i>
<i>Asia Pacific</i>	<i>Vanuatu</i>	<i>Malaysia, China, Taiwan</i>	<i>Australia, Japan, Republic of Korea</i>
<i>United States and Western Europe</i>			<i>Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States</i>

Key Overall Findings

Attitudes

Individuals in factor-driven economies tended to generally rate more positively on the attitude measures, with declining patterns exhibited with higher development levels. Some of the measures also showed geographic patterns within the three economic groupings.

In the factor-driven group, individuals in the Sub-Saharan African countries exhibited high perceptions about the presence of opportunities in their area, their capabilities for entrepreneurship and their intent to start businesses. In contrast, the MENA/South Asian countries had mostly lower perceptions on these measures. A similar geographic distinction was illustrated in the efficiency-driven group: Latin America reported high perceptions about opportunities and capabilities, while Eastern Europe was low on these measures. In the innovation group, there was a distinction between high opportunity and capability perception in the Nordic regions and lower perceptions in southern Europe.

Fear of failure showed less distinction among development levels and geographic location. Perceptions about the status and media attention of entrepreneurs, and the attractiveness of this type of career choice showed a mix on these three measures. For example, people in some economies generally believed entrepreneurs had high status; nonetheless they had little desire to pursue this career. Other economies saw entrepreneurship as an attractive career option, despite little status or attention associated with this pursuit.

Activity

Total Early-Stage Entrepreneurial Activity (TEA) includes individuals in the process of starting a business and those running new businesses less than 3 ½ years old. These rates are highest for the factor-driven economies, and decline with greater development levels. At the very highest GDP levels, however, we notice a slight upward trend in TEA levels.

In the factor-driven economies, the Sub-Saharan African countries have among the highest TEA rates, with the MENA group exhibiting relatively lower lev-

els. In the efficiency-driven group, the highest TEA rates were found in the Latin American and Caribbean economies, while lower levels were reported in Eastern Europe. Iceland, Australia and the United States showed the highest TEA rates among the innovation economies.

While the factor-driven economies have the highest TEA rates, they also have the highest proportion of necessity-driven motives, where entrepreneurs are pushed into entrepreneurship because they need a source of income. The innovation-driven group had the lowest necessity rate, but the highest proportion of opportunity-driven motives, where entrepreneurs are pulled into entrepreneurship because they recognize an opportunity that can improve or maintain their incomes or increase their independence.

Nordic countries (Netherlands, Sweden, Denmark and Iceland) showed especially high proportions of opportunity motives. A plot of improvement-driven opportunity (desire to improve incomes or increase independence) against “rule of law” (extent people have confidence in, and abide by the rules of society) shows that this motive increases with greater rule of law.

An examination of the proportion of entrepreneurial activity in the four main industry sectors shows that extraction businesses (farming, forestry, fishing and mining) are more dominant in factor-driven economies. Business services are more common in the innovation-driven economies. This is consistent with the description of development phases. Transforming businesses (manufacturing and construction), however, are equally prevalent across all three economic levels, rather than dominant in the efficiency group. Participation in the consumer-oriented sector generally decreases with higher development levels.

In each economic group, there are more entrepreneurs in the 25–34 age group than any other age range. Women’s participation in entrepreneurship relative to men ranges markedly: In the Republic of Korea there are five times more men than women entrepreneurs, while in Ghana there are fewer men than women starting businesses.

The rate of established business ownership (those running businesses more than 3 ½ years old) de-

clines with greater economic wealth. In comparison, TEA levels are higher than established business rates in the factor-driven group, but decline more steeply with greater development levels. As such, TEA levels drop below the level of established businesses for most economies in the innovation-driven phase. Stated differently, there are more nascent and new businesses than established businesses in less-developed regions, but this shifts in the advanced economies, with established firms tending to outpace nascent and new ones.

The rate of business discontinuance is highest in the factor-driven countries, with personal reasons indicated more often as a reason for discontinuing relative to the other economies. Across all the economies, however, financial issues (unprofitable businesses or problems obtaining financing) weigh most heavily in business exits.

Aspirations

The efficiency and innovation economies have similar proportions of entrepreneurs with high-growth aspirations. These levels are higher than in the factor-driven economies. Notably, the MENA and Eastern European economies, although exhibiting low TEA rates, show relatively high-growth expectations.

The innovation measures show especially high variation among the efficiency-driven economies, ranging from lower levels in Brazil and Trinidad/Tobago to high levels in Peru and Chile. Among the innovation-driven economies, there was relatively little variation on this measure.

The factor-driven economies revealed the lowest level of international customers on average. The Eastern European region generally showed a high level of internationalization. On the other hand, economies with big territories (for example: Iran, Brazil, China and Argentina) exhibited lower international orientation.

Interviews with national experts revealed insights on factors impacting the environment for entrepreneurship in the economies. Physical infrastructure and the commercial and legal infrastructure received among the most positive evaluations across the economies. Education and training in primary and secondary school and regulations impacting new

and growing firms were among the most negatively evaluated factors.

The final section of the report examines the impact of the most recent recession on entrepreneurship. Perceptions improved in more developed economies in 2010, where the recession took root starting around 2008. Fewer entrepreneurs in many of the innovation-driven economies thought it was more difficult to start a business compared to a year ago, although there were still some pessimists in the mix. In addition, fewer of these entrepreneurs felt negative effects from the global slowdown this year, and as many as one-quarter saw more opportunities compared to a year earlier.

Implications

At a time when governments are faced with the challenges of reviving their economies, they can look toward entrepreneurship as a major stimulus of new employment. With GEM as a guide, they can make comparisons across countries on a variety of aspects around entrepreneurship, deriving insights about the attractiveness of their environments for entrepreneurship. Others, like educators, can build greater awareness of entrepreneurship around the world, just as business increasingly requires cross-global understanding. This report is intended to inform such stakeholders in promoting entrepreneurship and, as such, improving employment growth and economic development worldwide.

With 59 countries participating in this year's survey, we have more economies with which to make comparisons across the three development groups, as well as enough geographic coverage to identify insights about regions. Following are some implications of the report.

- Entrepreneurship does not impact an economy simply through higher numbers of entrepreneurs. It is important to consider quality measures, like growth, innovation and internationalization.
- Economies need to enable people to start businesses when it is necessary, but they also need to encourage those attracted by opportunity to venture into entrepreneurship, even when they have other work options.

- Entrepreneurship needs both dynamism and stability. Dynamism occurs through the creation of new businesses and the exit of non-viable ones. Stability comes from providing new businesses with the best chance to test and reach their potential.
- Comparisons across both development-level and geographic groups may enhance understanding about entrepreneurship and the conditions that impact it, both within and across economies.
- Entrepreneurship in a society should contain a variety of business phases and types, led by different types of entrepreneurs, including women and under-represented age groups.
- Initiatives aimed toward improving entrepreneurship should consider the development level of the economy. With a strong set of basic requirements in place, efforts can turn toward reinforcing efficiency enhancers, and then building entrepreneurship framework conditions.
- An entrepreneurial mindset is not just for entrepreneurs. It must include a variety of stakeholders that are willing to support and cooperate with these dynamic efforts. In addition, non-entrepreneurs with entrepreneurial mindsets may indirectly stimulate others to start businesses. This indicates the value of broader societal acceptance of entrepreneurship.

1 Introduction and Background

1.1 Entrepreneurship's Role in the Global Economy

Most policymakers and academics agree that entrepreneurship is critical to the development and well-being of society. Entrepreneurs create jobs. They drive and shape innovation, speeding up structural changes in the economy. By introducing new competition, they contribute indirectly to productivity. Entrepreneurship is thus a catalyst for economic growth and national competitiveness.

GEM focuses on three main objectives:

- To measure differences in entrepreneurial attitudes, activity and aspirations among economies.
- To uncover factors determining the nature and level of national entrepreneurial activity.
- To identify policy implications for enhancing entrepreneurship in an economy.

GEM is based on the following premises. First, an economy's prosperity is highly dependent on a dynamic entrepreneurship sector. This is true across all stages of development. Yet the nature of this activity can vary in character and impact. Necessity-driven entrepreneurship, particularly in less developed regions or those experiencing job losses, can help an economy benefit from self-employment initiatives when there are fewer work options available. More developed economies, on the other hand,

can leverage their wealth and innovation capacity, yet they also offer more employment options to attract those that might otherwise become entrepreneurs. In order to maintain their entrepreneurial dynamism, they need to instill more opportunity-based motives.

Second, an economy's entrepreneurial capacity requires individuals with the ability and motivation to start businesses, and requires positive societal perceptions about entrepreneurship. Entrepreneurship should include participation from all groups in society, including women, a range of age groups and education levels and disadvantaged populations. Finally, high-growth entrepreneurship is a key contributor to new employment in an economy, and national competitiveness depends on innovative and cross-border entrepreneurial ventures.

1.2 GEM Measures

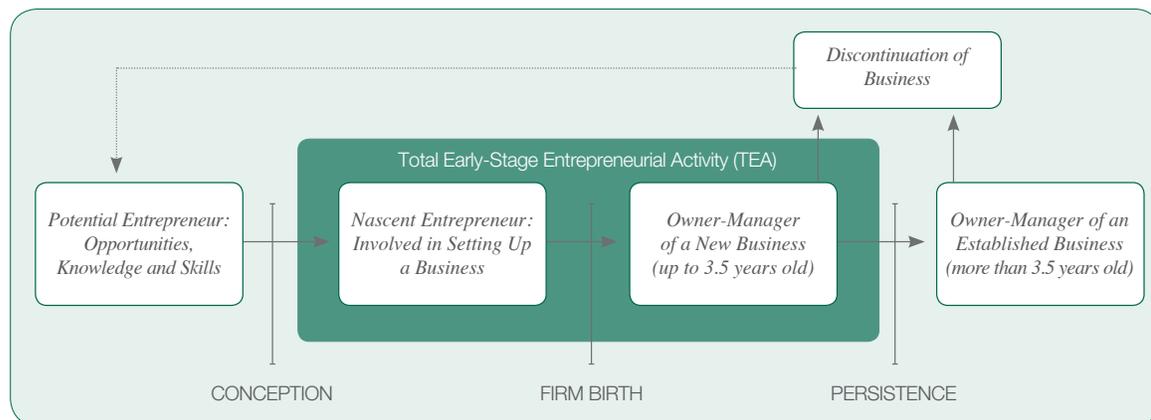
At the time of GEM's founding, traditional analyses of economic growth and competitiveness had, for the most part, neglected the role played by new and small firms in national economies, due, in some measure, to the lack of good data on this sector. This information, when available, tended to be present in only those countries at the most advanced stages of economic development. Existing

measures, such as self-employment rates, did not reflect the dynamic scope of entrepreneurship. And while most governments have long maintained records of formal business registrations, it wasn't until GEM emerged that an accurate picture could be drawn of the people, and how many of them started businesses in different corners of the world.

The main guiding purpose of GEM is to measure individual involvement in venture creation. This differentiates GEM from other data sets, most of which record firm-level data. A second aim of

GEM's research is to promote entrepreneurship as a process comprising different phases, from intending to start, to just starting, to running new or established enterprises and even discontinuing these. **Figure 1** summarizes the entrepreneurship process and GEM's operational definitions. For more information on the history of GEM, see "Background on GEM" in **Appendix 1**. For more information on the GEM methodology, visit the website at www.gemconsortium.org. The most common operational variables and their definitions are outlined in **Appendix 2**.

Figure 1: The Entrepreneurship Process and GEM Operational Definitions



Through the wealth of measures GEM tracks, we can understand which types of people are (and are not) participating in entrepreneurship. We capture both those formally registering their businesses and those running informal ones. These unregistered businesses, in fact, can compose as much as 80% of economic activity in developing countriesⁱⁱⁱ.

People launch businesses for a variety of reasons. They may be led into entrepreneurship out of necessity: the pursuit of self-employment when there are no better options for work. In contrast, their efforts may be powered by the desire to maintain or improve their income, or to increase their independence. GEM therefore assesses the motives of entrepreneurs

GEM additionally measures aspirations. These aspirations may be evident in innovative products or

services or the pursuit of customers beyond national borders. They may also include high-growth ambitions, thereby contributing more markedly to new employment in their economies.

Recognizing that entrepreneurs are driven not only by their own perceptions about starting a business, but the attitudes of those around them, GEM considers the attitudes representing the climate for entrepreneurship in a society. Entrepreneurs need to be willing to take risks and have positive beliefs about the availability of opportunities around them, their ability to start businesses and the value of doing so. At the same time, they need customers who are willing to buy from them, vendors willing to supply them and families and investors ready to support their efforts. Even positive societal perceptions about entrepreneurship may indirectly stimulate this activity.

1.3 Economic Development Level and Entrepreneurship

GEM's harmonized dataset enables comparisons of entrepreneurship activity around the globe, and within and across geographic regions. This report additionally examines groups of economies at similar development levels. Following a typology used by the World Economic Forum, GEM classifies the 59 GEM participants as "factor-driven," "efficiency-driven" or "innovation-driven" economies^{iv}. **Figure 2** illustrates the characteristics of these economic groups and the key development focus at each level.

As an economy develops, productivity increases and, consequently, so does per capita income. This is often accompanied by the migration of labor across different economic sectors. For example, labor may move from agricultural and extractive sectors to manufacturing, and then eventually to services^v. In

their early stages of development, economies typically have a higher proportion of necessity-driven activities. Here, the demand for jobs in high-productivity sectors outpaces supply. As a result, many people must create their own source of income.

With further development comes the growth of productive sectors. This increases employment capacity but leads to gradual declines in the level of necessity-driven entrepreneurship. At the same time, improvements in wealth and infrastructure stimulate opportunity-based businesses, shifting the nature of entrepreneurship activity. These ventures are more likely associated with greater aspirations for growth, innovation and internationalization. They rely, however, on the economic and financial institutions created during the developing phases. To the extent these institutions are able to accommodate and support opportunity-seeking entrepreneurship activity, innovative entrepreneurial firms may emerge as significant drivers of economic growth and wealth creation^{vi}.

Figure 2: Characteristics of Economic Groups and Key Development Focus



1.4 The GEM Model

Figure 3 illustrates the GEM model, which shows, first, the relationship between the social, cultural and political context and three sets of framework conditions. These framework conditions are modeled as impacting the attitudes of a population toward entrepreneurship, and the activity and aspirations of entrepreneurs. In turn, entrepreneurship activity, as well as the growth of established firms in the primary economy, influence economic growth.

As **Figure 3** shows, the key imperative in factor-driven economies lies in building basic requirements such as primary education, healthcare, infrastructure and so forth. Later-stage factors like entrepreneurial finance and government entrepreneurship programs are unlikely to have substantial impact if, for instance, entrepreneurs don't have good roads to transport goods or a sufficiently educated labor force from which they can recruit employees. In other words, investments in entrepreneurship-specific framework conditions may be less effective in enabling business creation if they are made at the expense of basic requirements.

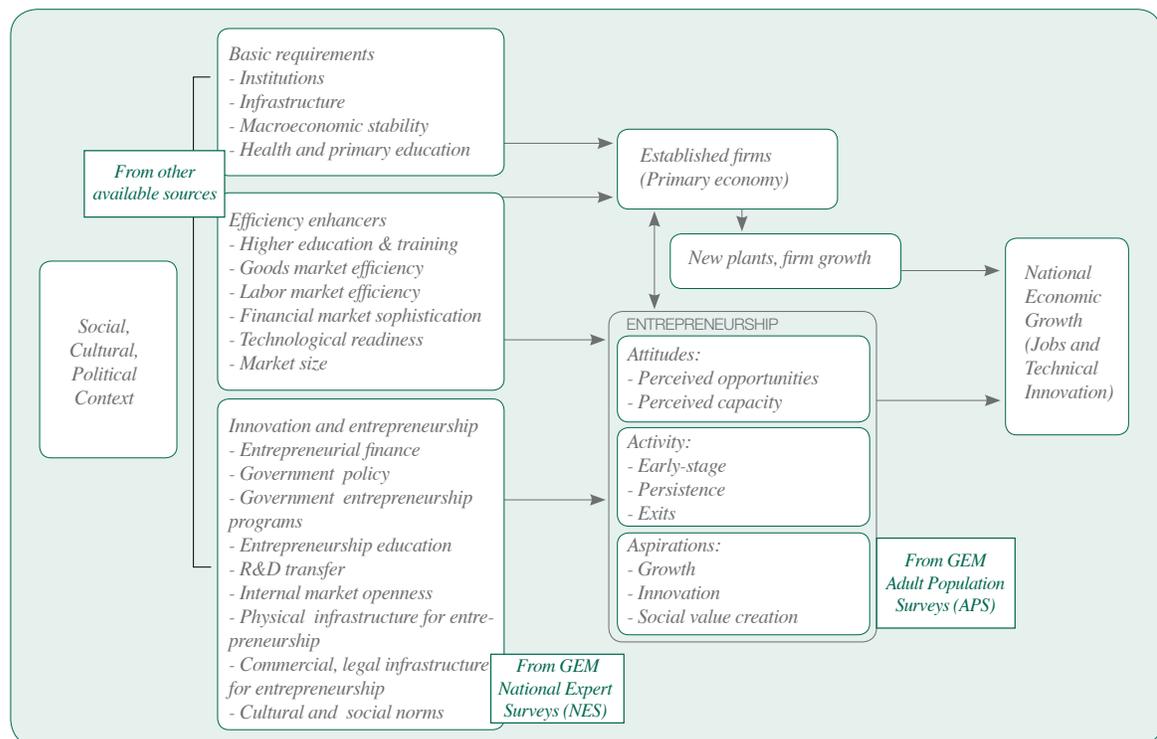
Entrepreneurs with high aspirations fare better in countries with a stable economic and political climate and well-developed institutions. This, in fact, may account for the activities of certain groups of immigrants into wealthier economies. At the same time, economic progress begets scale economies. Large firms are more efficient from a national perspective and, for many individuals, a more attractive employment alternative to necessity-based entrepreneurship.

To replace the migration of necessity entrepreneurs toward employment in large companies, efficiency-driven economies must attract more opportunity-based entrepreneurship. The second set of framework conditions represents efficiency enhancers. These are directed toward ensuring that markets

function properly. The nurturing of economies of scale can, in fact, be complemented by the emergence of growth- and technology-oriented entrepreneurs, expanding the scope of employment in a society.

Advanced economies have a relatively sophisticated foundation of basic requirements and efficiency enhancers. While these factors are essential in sustaining necessity-based entrepreneurship, they may be insufficient drivers of opportunity-based behavior. Here, knowledge is prevalent but labor is expensive. Entrepreneurship-specific framework conditions become the levers that drive dynamic, innovation-oriented behavior, while the foundation of basic requirements and efficiency enhancers needs to be maintained.

Figure 3: The GEM Model



1.5 Structure of the Report

This report reveals results of the measures of entrepreneurial attitudes, activity and aspirations from the GEM 2010 Adult Population Survey (APS). These results include comparisons of economies in the three development phases, and also comparisons of different geographic regions within each development phase. We highlight particular economies in some cases to illustrate unique findings.

This report proceeds as follows. We first examine entrepreneurial attitudes, activities and aspirations in the 59 participating economies. entrepreneurial attitudes encompass several dimensions: views about the presence of good entrepreneurial opportunities in one's area, beliefs about one's capabilities for starting a business, fear of failure, perceptions about the status of entrepreneurs and their media image, the attractiveness of entrepreneurship as a career choice and finally, intent to start a business.

With regard to entrepreneurship activity, we analyze Total Early-Stage Entrepreneurship Activity (TEA), which combines nascent and new business measures. TEA is then discussed in terms of its relationship to development level, expressed as GDP per capita, adjusted for purchasing power parity (PPP). We then describe the necessity and opportunity-driven components of TEA. Additional characteristics include the proportion of entrepreneurs operating in various business sectors, as well as age and gender factors.

The discussion then turns to established business and business discontinuance. Finally, we describe the aspirations of entrepreneurs: growth projections for their businesses, the level of innovativeness from a product, market, and competitive standpoint and the extent their customers come from outside their economy.

The final sections include an overview of results from the National Expert Survey (NES) and an analysis of entrepreneurship and the global economy in 2010. We close with a summary of key conclusions and implications.

2 A Global Perspective on Entrepreneurship in 2010

2.1 Attitudes

Entrepreneurial attitudes convey the general feelings of a population toward entrepreneurs and entrepreneurship. A society can benefit from people who are able to recognize valuable business opportunities, and who perceive they have the required skills to exploit them. Moreover, if the economy in general has positive attitudes toward entrepreneurship, this will generate cultural support, financial resources, networking benefits and various other forms of assistance to current and potential entrepreneurs.

GEM measures several indicators of attitudes: the extent to which people think there are good opportunities for starting a business and their capabilities for doing so. Also measured is fear of failure or its inverse: the level of risk individuals might be willing to assume to start a business. Perceptions about entrepreneurship are reflected in questions about the status of entrepreneurs, their media image and whether it makes an attractive career choice. Finally, GEM assesses intent to start a business in the individuals it surveys. The results are shown in **Table 2**.

Table 2: Entrepreneurial Attitudes and Perceptions in the GEM Countries in 2010 by Phase of Economic Development

	<i>Perceived Opportunities</i>	<i>Perceived Capabilities</i>	<i>Fear of Failure*</i>	<i>Entrepreneurship as a Good Career Choice</i>	<i>High Status to Successful Entrepreneurs</i>	<i>Media Attention for Entrepreneurship</i>	<i>Entrepreneurial Intentions**</i>
<i>Factor-Driven Economies</i>							
<i>Angola</i>	67.3	73.1	32.2	70.1	83.3	74.7	54.5
<i>Bolivia</i>	53.2	75.8	28.4	62.9	66.6	51.1	49.3
<i>Egypt</i>	38.8	63.4	25.3	77.7	89.5	70.5	24.3
<i>Ghana</i>	75.7	74.6	10.4	91.1	90.7	78.6	68.8
<i>Guatemala</i>	62.9	71.0	23.2	73.8	59.7	44.1	30.7
<i>Iran</i>	41.6	65.7	30.1	63.6	84.6	62.3	31.4
<i>Jamaica</i>	56.1	80.2	33.0	85.1	84.8	77.4	38.1
<i>Pakistan</i>	51.9	56.2	34.3	76.3	80.7	61.0	32.4
<i>Saudi Arabia</i>	75.8	69.3	39.0	86.8	92.3	78.0	1.0
<i>Uganda</i>	80.5	86.7	20.7	81.1	87.3	81.9	77.1
<i>Vanuatu</i>	73.6	79.6	46.9	55.6	77.6	34.3	50.5
<i>West Bank and Gaza Strip</i>	44.0	57.0	40.0	85.3	83.5	62.5	28.2
<i>Zambia</i>	81.4	77.5	12.8	69.9	71.8	72.5	67.1
<i>Average (unweighted)</i>	61.8	71.5	28.9	75.3	80.9	65.3	42.6

Continued

	Perceived Opportunities	Perceived Capabilities	Fear of Failure*	Entrepreneurship as a Good Career Choice	High Status to Successful Entrepreneurs	Media Attention for Entrepreneurship	Entrepreneurial Intentions **
Efficiency-Driven Economies							
Argentina	50.3	63.5	21.3	74.3	67.1	61.7	21.0
Bosnia and Herzegovina	38.3	62.5	27.4	76.0	63.0	47.6	16.8
Brazil	48.1	57.9	33.2	78.0	79.0	81.1	26.5
Chile	65.0	65.6	22.1	87.4	71.2	45.7	38.3
China	36.2	42.3	32.0	70.0	76.9	77.0	26.9
Colombia	68.2	65.1	27.7	88.6	75.9	66.7	41.3
Costa Rica	46.4	68.8	36.0	64.3	63.4	60.8	13.2
Croatia	23.3	53.2	31.2	67.1	49.9	41.8	7.4
Ecuador	50.3	76.6	31.2	83.1	74.0	62.6	46.3
Hungary	33.3	43.4	42.4	55.0	73.7	47.4	13.8
Latvia	29.1	50.7	39.9	58.8	64.8	57.2	21.4
Macedonia	34.3	59.7	30.9	71.3	66.2	56.0	26.7
Malaysia	40.1	24.3	45.3	55.7	68.6	88.0	5.1
Mexico	55.6	64.6	33.4	69.4	62.8	54.0	22.3
Montenegro	36.1	70.9	30.4	81.0	68.4	69.5	31.9
Peru	71.4	76.5	34.0	82.0	76.8	81.2	39.6
Romania	17.5	38.2	41.1	66.5	65.5	46.9	8.6
Russia	21.7	22.7	41.7	65.4	63.7	46.6	2.6
South Africa	40.9	44.3	29.0	77.5	77.6	78.6	16.7
Taiwan	29.6	26.4	43.8	68.4	57.5	78.2	25.1
Trinidad and Tobago	69.1	82.8	11.6	83.2	77.6	67.2	30.4
Tunisia	37.6	53.1	23.2	89.1	92.7	78.4	24.1
Turkey	36.1	54.2	25.0	71.2	76.4	61.7	19.4
Uruguay	52.1	73.3	27.7	64.8	61.8	43.3	31.8
Average (unweighted)	42.9	55.9	31.7	72.8	69.8	62.5	23.2
Innovation-Driven Economies							
Australia	45.7	53.2	35.8	57.0	68.4	70.5	8.7
Belgium	39.6	44.9	35.1	60.0	51.2	45.7	8.2
Denmark	46.4	40.7	31.5	***	***	***	5.9
Finland	51.1	39.5	28.6	46.1	86.5	71.4	5.9
France	33.9	37.3	40.5	65.2	67.9	44.7	14.2
Germany	28.5	41.6	33.7	53.1	77.1	49.0	6.4
Greece	15.9	52.2	50.9	65.6	70.2	34.5	12.8
Iceland	48.7	49.0	33.7	51.2	60.9	66.6	15.7
Ireland	22.5	49.2	33.4	51.8	81.5	61.1	6.1
Israel	35.2	41.6	46.0	61.3	73.0	56.3	14.1
Italy	24.7	42.4	36.8	69.1	69.3	37.7	4.0
Japan	5.9	13.7	32.6	28.4	52.0	58.5	2.9
Republic of Korea	13.0	29.0	32.5	67.6	71.3	61.4	10.1
Netherlands	44.8	45.5	23.8	85.4	68.6	60.9	5.5
Norway	49.8	40.4	26.6	57.8	70.7	67.2	7.6
Portugal	20.3	52.1	29.7	67.5	70.5	52.6	8.8
Slovenia	26.8	56.3	27.5	53.2	73.7	56.2	8.7
Spain	18.8	50.2	36.4	65.4	62.5	40.7	5.8
Sweden	66.1	42.4	28.9	56.9	71.6	60.8	8.5
Switzerland	33.3	43.9	27.0	64.9	76.4	50.6	6.7
United Kingdom	29.2	51.8	30.3	51.0	76.7	52.2	5.1
United States	34.8	59.5	26.7	65.4	75.9	67.8	7.7
Average (unweighted)	33.4	44.4	33.1	59.2	70.3	55.5	8.2

* Denominator: 18–64 age group perceiving good opportunities to start a business.

** Denominator: 18–64 age group that is not involved in entrepreneurship activity.

*** Data is not available

Source: GEM Adult Population Survey (APS)

The definition of entrepreneurship tends to be a moving target - even the teaching of entrepreneurship causes confusion in the definition. To start a business does not necessarily make you an entrepreneur. Entrepreneurs "create needs"; business people "satisfy needs".
Tony Falkenstein, New Zealand

Perceived Opportunities and Capabilities

People may decide to start businesses when and because they recognize—perhaps unexpectedly—specific entrepreneurial opportunities. The thought of becoming an entrepreneur may not have even occurred to them before this idea came into view. Others may decide to start ventures and undergo a search for ideas. Entrepreneurs may recognize opportunities well in advance, or just before they set up their businesses. Consequently, the perception of opportunities relative to new business starts can take many different paths.

An economy's entrepreneurial energy derives, at least in part, from individuals who perceive opportunities for launching a business in the area in which they live. These people are further encouraged by their beliefs in their capabilities for starting the types of ventures they may envisage. The quantity and quality of the opportunities they perceive, and their beliefs about their capabilities, may be affected by various conditions in their environment: for example, economic growth, culture and education. Different demographic groups may make distinct judgments about opportunities and capabilities; these may be embedded in historical, socio-economic or cultural factors.

At the same time, policy makers may seek to stimulate these attitudes. Policy programs may explicitly target groups exhibiting low perceived or actual capabilities. Thus, particular sets of national conditions may affect perceived capabilities, both directly and indirectly.

On average, individuals in factor-driven economies have higher perceptions that there are good opportunities for entrepreneurship, and that they have the capabilities to start businesses. These attitude measures tend to decline with greater development levels. This may seem counter-intuitive until we consider, for example, that individuals in different stages of economic development may have different kinds of businesses in mind.

For instance, as the activity section shows, half of the entrepreneurs in Uganda (a factor-driven economy) started businesses out of necessity, with few

having high levels of innovativeness or growth expectations. In contrast, Israel (an innovation-driven country), had a higher proportion of opportunity-driven motives and a large percentage of individuals with high levels of innovativeness and growth expectations. We could surmise that there are different perceptions about what an opportunity encompasses, and what capabilities are required, for entrepreneurship in Uganda versus Israel.

While economic development level may explain some differences in beliefs about opportunities and capabilities, there are also some interesting geographic patterns. In the factor-driven group, individuals in the sub-Saharan African countries had the highest-level perception that there were good opportunities for entrepreneurship in their area. These countries also had above average capability perceptions, with nearly 87% of the individuals surveyed in Uganda stating that they had the capabilities to start a business.

The MENA/South Asian countries in the factor-driven group had the lowest perceptions, except for Saudi Arabia, where over 75% of individuals perceived there were good opportunities. Perceptions about capabilities for starting a business were below average among the factor-driven MENA economies, although much higher than the overall average of the other two wealthier economic groups.

Notably, Latin American countries occupied all the highest levels of opportunity perception in the efficiency-driven group; they were the only economies in this group with above average ratings on this attitude measure. They also had above average perception of capabilities.

In contrast, the Eastern European countries had lower than average opportunity perception in the efficiency-driven group. Capabilities perception was also below average, with the exception of Macedonia, Bosnia/Herzegovina and Montenegro. The same can be said for the three Asian countries in the efficiency-driven group, as well as Japan and the Republic of Korea in the innovation-driven group—both opportunity and capability perceptions were below average.

While all of the Western European countries fall into the innovation-driven group, a distinction between some northern and southern regions can be observed. Nordic countries (Sweden, Finland, Ice-

land and Denmark) have the highest opportunity perception, while economies in Southern Europe (Greece, Spain, Portugal and Italy) tend toward the low end. But the reverse is generally true for capabilities. The Nordic countries, with the exception of Iceland, had below average belief about capabilities, while the Southern European countries, with the exception of Italy, were above average on this attitude measure.

The United States reports the highest level of perceived capabilities among the innovation-driven countries, even though opportunity perception was only just above average. These mismatches between opportunity and capability perceptions in the innovation-driven economies could indicate a need to address conditions in the environment that can bring into balance this alertness to opportunities with the beliefs, or perhaps confidence, in one's entrepreneurial abilities.

Fear of Failure

Sometimes, the downside risk of failure outweighs even the most promising gains imagined in the event of success. In other words, even if the expected returns from entrepreneurship are considerably higher than the next best alternative, the perceived risks of starting a business may nonetheless deter some individuals. Risk-taking propensity can therefore play a significant role in the transition from potential (or latent) entrepreneurship to actual business starts. We could also assume that entrepreneurship is affected by the wider population's view on risk, since entrepreneurs rely on the participation of stakeholders like employees, investors, suppliers and others.

Characteristics such as age, gender or ethnicity can influence fear of failure. Young people may not have families and mortgages to support—in a sense having less to lose. Immigrants may be shut out of more stable or lucrative jobs and therefore have fewer options for generating income. The institutional environment can also impact this; for instance, bankruptcy legislation may deter would-be entrepreneurs.

While perceptions about opportunities and capabilities show significant differences among the economic groupings, fear of failure shows less distinction among these groups, just slightly rising with economic development levels. Geographically, there are few clear patterns, with economies from each region falling both above and below average. For example, among

the Asian economies, Taiwan and Malaysia have the highest fear of failure in the efficiency-driven group, while the Republic of Korea and Japan show a below average rate in the innovation-driven group.

Interestingly, fear of failure among all economies was highest in Greece. This continues an ongoing pattern over the past seven years and reflects a strong aversion to risk, which is confirmed by the relatively high employment protection rate^{vii}. Employment protection refers to the number of procedures and costs required by law to hire or dismiss workers.

The Netherlands had the lowest fear of failure among the innovation-driven economies. However, there is a much smaller gap between this country and others in the innovation-driven group (such as the U.S., Slovenia and Switzerland, which also have low fear of failure). More noticeable differences can be seen in the remarkably low fear of failure reported in Ghana and Zambia, compared to others in the factor-driven group, and between Trinidad and Tobago and the other members of the efficiency-driven group.

The GEM Global 2009 Executive Report showed that, in factor-driven and efficiency-driven countries, those with the highest fear of failure rates have the lowest intentions to start businesses. In addition, across the sample, fear of failure was lower among those who saw good opportunities to start a business compared with the population in general. This suggests that it could be possible to improve perceptions about opportunities and increase intentions to start businesses by reducing fear of failure. Policy changes may have a positive influence on risk propensity: for example, removing the large firm employment advantage with respect to health care and pension benefits, improving the skills of creditors and investors in assessing higher risk ventures and reducing negative consequences associated with employment protection or bankruptcy laws.

Perceptions about Entrepreneurship

Over time, societies and organizations develop particular cultural and social expectations, reflecting their members' values, norms, and a shared understanding about how things are done. These can serve as informal governance mechanisms, guiding activities alongside, or in place of, more formal administrative methods. Conformity and social sanctions may

function to maintain a particular equilibrium, sometimes preserving special interests or creating resistance to change. Consequently, cultural and social elements are often lasting or slowly evolving qualities.

An entrepreneurial culture may be reinforced by perceptions like the amount of status society confers on entrepreneurs and the extent people think being an entrepreneur is an attractive pursuit. Media can also reinforce notions about entrepreneurs: for example, magazines or television shows can highlight entrepreneurs, or newspaper stories can feature about the achievements of such individuals. Entrepreneurs as heroes (or otherwise), and their stories of success (or failure), can shape a society's impressions markedly. Policy makers may even take specific actions to highlight entrepreneurs and shape cultural perceptions.

The 2010 survey shows that perceptions about the attractiveness of entrepreneurship as a career, the status of entrepreneurs and media attention toward entrepreneurship were all, on average, highest in the factor-driven countries. These indicators then declined generally from factor-driven to efficiency, and then from efficiency to innovation-driven economies. However, in both the efficiency-driven and innovation-driven groups, perceptions about the status of entrepreneurs were similar, on average. One explanation for this phenomenon is that the general population in factor-driven economies perceives entrepreneurship as an escape from a formal job, even though some of these activities could be driven by necessity.

Ghana and Saudi Arabia has among the highest levels of status, career and media perceptions in the factor-driven group. In the efficiency-driven economies, Malaysia shows the highest level of media attention around entrepreneurship, yet one of the lowest levels of perception about entrepreneurship as a career. In the innovation-driven group, over 85% of people in the Netherlands have a positive perception about entrepreneurship as a career, far above the rest of the group. At the same time, media attention is just above average and status perceptions are lower than average. This is similar to Chile, and may serve as an example of the prospects for stimulating the public's attention about entrepreneurship.

It is notable that most economies in the factor-driven group are more likely to have the same or

higher perception about the status of entrepreneurs than they are to perceive entrepreneurship as a good career choice. The innovation-driven group also has a higher perception about entrepreneurs' status compared to their perceptions about entrepreneurship as a career. This is understandable, given how entrepreneurs like Sir Richard Branson in the United Kingdom, and Bill Gates, Steve Jobs and recently Mark Zuckerberg of Facebook in the United States have gained prominence, not only in their home countries, but worldwide.

In wealthier economies, with relatively good infrastructure, education and other basic and efficiency factors, shaping attitudes may be more critical because entrepreneurs are more likely to enter this role because of choice. At the same time, with status rated higher than perceptions about entrepreneurship as a career, it appears that people in these economies may admire entrepreneurs more than they want to become one.

Entrepreneurs with recognition and status can serve as role models, in a sense communicating that entrepreneurship is possible and desirable. Yet, entrepreneurs such as Bill Gates and Richard Branson may cause some to see such achievements as rare or unrealistic, or simply a path they do not, or cannot, see themselves taking.

In the efficiency-driven group, on the other hand, the reverse is true. Individuals believe entrepreneurship is a good career choice despite less perceived status. Entrepreneurship may take less of a glamorous image in these regions, which could, in like manner, reduce its attractiveness.

Entrepreneurial Intentions

Even when individuals have favorable perceptions of entrepreneurship, they may nonetheless have few intentions to start businesses. This is the case for many European countries. Although attitudes and perceptions about entrepreneurship are fairly high, this is not matched by high intentions for starting businesses. A variety of national characteristics could be underlying this phenomenon. For example, "red tape" could present unfavorable administrative burdens or high costs to those thinking about starting a business. Additionally, governments characterized as welfare states—although meaning to protect citizens—may reduce incentives for entrepreneurship.

Far more individuals in factor-driven economies (almost 43% on average) intend to start businesses over the next three years compared to the other economies. An average of just 23% of people in efficiency-driven economies expressed this intent, while even fewer (8%) of those in innovation-driven economies did.

In the factor-driven group, the Sub-Saharan African countries had the highest intent, consistent with their positive perceptions about opportunities and their belief in their capabilities. Similarly, low intentions in the MENA countries are consistent with their views on opportunities and capabilities.

Among the efficiency-driven group, Eastern European economies had lower than average intent, with the exception of Macedonia and Montenegro. Latin American countries had higher than average intent, with the exception of Costa Rica, Argentina and Mexico.

In the innovation-driven economies, Iceland showed high intent. While both the Republic of Korea and Japan had low perceptions about opportunities and capabilities, this was matched with low intent only in Japan. The Republic of Korea was well above average on this measure.

2.2 Activity

Across the sample of 59 economies, we estimate that some 110 million people between 18–64 years old were actively engaged in starting a business. Another 140 million were running new businesses they started less than 3½ years earlier. Taken together, some 250 million were involved in early-stage entrepreneurial activity.

As **Figure 1** shows, GEM measures the participation of individuals in entrepreneurship activity, presenting this as a continuous process that includes nascent entrepreneurs involved in setting up businesses, entrepreneurs owning and managing new businesses 3½ years old or less and entrepreneurs owning and managing businesses established more than 3½ years ago^{viii}. In addition, GEM assesses the rate and nature of business discontinuance. This section reviews these phases, as well as necessity versus opportunity motives. **Table 3** shows these activity results. In addition, these sections provide additional insights on the industry sector of the businesses, and age and gender demographics of the entrepreneurs.

Table 3: Entrepreneurial Activity in the 59 GEM Countries in 2010, by Phase of Economic Development

	Nascent Entrepreneurship Rate	New Business Ownership Rate	Total Early-Stage Entrepreneurship Activity (TEA)	Established Business Ownership Rate	Discontinuation of Businesses	Necessity-Driven (% of TEA)	Improvement-Driven Opportunity (% of TEA)
<i>Factor-Driven Economies</i>							
Angola	13.6	19.1	32.4	8.6	19.9	36	30
Bolivia	28.8	14.0	38.6	18.2	9.0	17	57
Egypt	2.1	4.9	7.0	4.5	3.8	53	25
Ghana	10.7	24.6	33.9	35.5	25.7	37	35
Guatemala	8.3	8.4	16.3	6.6	3.9	15	28
Iran	4.8	7.8	12.4	12.2	7.3	38	39
Jamaica	5.5	5.1	10.5	6.9	8.1	42	39
Pakistan	6.6	2.7	9.1	4.7	2.6	41	39
Saudi Arabia	5.9	3.5	9.4	3.9	3.8	10	75
Uganda	10.6	22.0	31.3	27.7	27.4	50	34
Vanuatu	31.2	28.2	52.2	23.2	22.0	38	24
West Bank and Gaza Strip	7.9	2.6	10.4	2.0	5.7	32	33
Zambia	17.3	17.1	32.6	9.6	23.5	32	41
<i>Average (unweighted)</i>	11.8	12.3	22.8	12.6	12.5	34	38

Continued

	Nascent Entrepreneurship Rate	New Business Ownership Rate	Total Early-Stage Entrepreneurship Activity (TEA)	Established Business Ownership Rate	Discontinuation of Businesses	Necessity-Driven (% of TEA)	Improvement-Driven Opportunity (% of TEA)
Efficiency-Driven Economies							
Argentina	7.0	7.4	14.2	12.4	3.8	36	43
Bosnia and Herzegovina	4.1	4.1	7.7	6.6	4.7	47	30
Brazil	5.8	11.8	17.5	15.3	5.3	31	46
Chile	11.1	6.1	16.8	6.0	5.6	29	53
China	4.6	10.0	14.4	13.8	5.6	42	34
Colombia	8.6	12.7	20.6	12.2	5.1	40	41
Costa Rica	10.4	3.6	13.5	4.8	2.0	32	38
Croatia	3.8	1.9	5.5	2.9	4.5	32	49
Ecuador	10.4	11.5	21.3	14.7	7.2	28	45
Hungary	4.6	2.6	7.1	5.4	2.9	20	43
Latvia	5.6	4.2	9.7	7.6	4.2	27	51
Macedonia	4.4	3.6	8.0	7.6	3.7	59	23
Malaysia	1.4	3.6	5.0	7.9	1.9	12	41
Mexico	*	*	*	*	5.9	*	*
Montenegro	12.0	3.1	14.9	7.8	7.3	37	38
Peru	22.1	6.0	27.2	7.2	9.2	21	47
Romania	3.3	1.1	4.3	2.1	2.6	31	47
Russia	2.1	1.9	3.9	2.8	0.8	32	30
South Africa	5.1	3.9	8.9	2.1	4.8	36	31
Taiwan	4.7	3.8	8.4	7.2	3.7	30	48
Trinidad and Tobago	8.9	6.4	15.1	8.5	2.9	14	47
Tunisia	1.7	4.4	6.1	9.0	4.1	24	48
Turkey	3.7	5.1	8.6	10.7	4.6	37	47
Uruguay	7.8	4.1	11.7	7.2	3.5	26	54
Average (unweighted)	6.7	5.2	11.7	7.6	4.4	31	42
Innovation-Driven Economies							
Australia	3.9	4.0	7.8	8.5	2.7	19	59
Belgium	2.3	1.4	3.7	2.7	2.0	10	54
Denmark	1.8	2.2	3.8	5.6	1.7	8	54
Finland	2.4	3.4	5.7	9.4	1.8	18	54
France	3.7	2.3	5.8	2.4	2.5	25	56
Germany	2.5	1.8	4.2	5.7	1.5	26	48
Greece	2.0	3.5	5.5	14.8	3.4	28	39
Iceland	7.4	3.3	10.6	7.4	3.4	7	68
Ireland	4.4	2.6	6.8	8.6	2.3	31	33
Israel	3.2	2.6	5.7	3.1	3.8	29	54
Italy	1.3	1.0	2.3	3.7	1.6	13	55
Japan	1.5	1.8	3.3	7.4	1.5	36	47
Republic of Korea	1.8	4.8	6.6	11.2	1.6	39	49
Netherlands	4.0	3.4	7.2	9.0	1.4	8	64
Norway	4.4	3.4	7.7	6.7	2.6	15	74
Portugal	1.8	2.8	4.5	5.4	2.6	22	52
Slovenia	2.2	2.4	4.7	4.9	1.6	16	54
Spain	2.2	2.1	4.3	7.7	1.9	25	42
Sweden	2.3	2.6	4.9	6.4	2.9	13	72
Switzerland	2.0	3.1	5.0	8.7	2.4	14	60
United Kingdom	3.2	3.3	6.4	6.4	1.8	11	43
United States	4.8	2.8	7.6	7.7	3.8	28	51
Average (unweighted)	3.0	2.8	5.6	7.0	2.3	20	54

* Data is not available

Source: GEM Adult Population Survey (APS)

"My decision to start a boutique ad agency, Pepper, came from my incapacity to tow the line and follow corporate instructions that did not sit well with my value system, my training and experience. So I could either find another company to work with or start my own. I chose to start my own and now in our sixth year, it looks like we might survive."

Dennis Ramdeen, Founder of Pepper Advertising and Experiential Marketing, Trinidad and Tobago

Total Early-Stage Entrepreneurship Activity (TEA)

GEM defines Total Early-Stage Entrepreneurship Activity (TEA) as the prevalence rate of individuals in the working-age population who are actively involved in business start-ups, either in the phase preceding the birth of the firm (nascent entrepreneurs), or the phase spanning 3½ years after the birth of the firm (owner-managers of new firms). The cut-off point of 3½ years has been made on a combination of theoretical and operational grounds^{ix}.

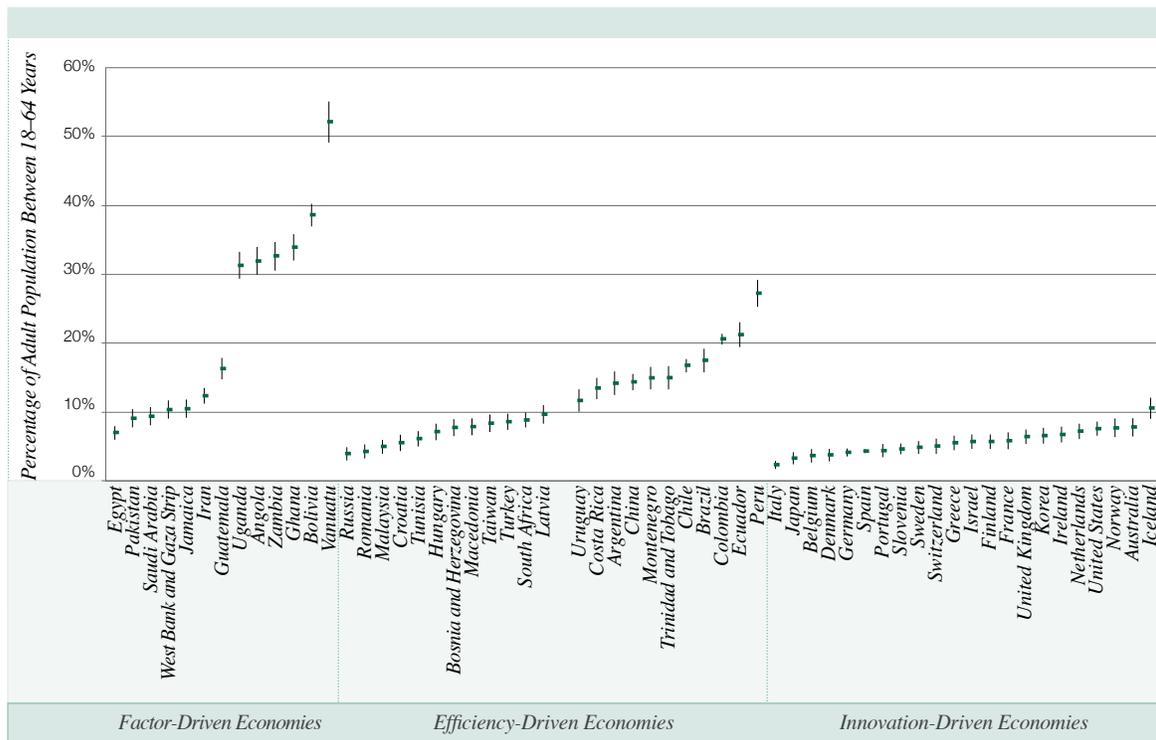
For the purpose of international comparisons, GEM takes the payment of any wages for more than three months to anybody (including the founders) as the “birth event.” Individuals who are actively committing resources to start a business that they expect to own themselves, but who have not reached this birth event are labeled nascent entrepreneurs. The prevalence rate of nascent entrepreneurs and new business owner-managers, taken together, may be viewed as an

indicator of TEA in a country. It represents dynamic new firm activity—the extent new businesses are introduced into a national population.

Figure 4 shows TEA rates across the sample of 59 economies, organized into the three economic levels and exhibited within each from lowest to highest TEA rate. This figure facilitates benchmarking among economies in similar phases of development. Vertical bars on either side of the point estimates represent degrees of freedom. In comparing any two economies, if the bars do not overlap, this means they have statistically different TEA rates^x.

For the 41 economies that also participated in the GEM 2009 survey, a comparison of TEA rates from 2009 to 2010 shows a mix of increases and decreases (or no change) across all three economic groups. While the number of positive and negative shifts was roughly equal in the factor-driven and efficiency-driven economies, the balance tipped toward slightly more declines in the innovation-driven group.

Figure 4: Total Early-Stage Entrepreneurial Activity (TEA) for 59 Economies in 2010, by Phase of Economic Development, Showing 95 Percent Confidence Intervals



Source: GEM Adult Population Survey (APS)

Factor-Driven Economies

The factor-driven economies show the highest TEA rates on average, followed by the efficiency-driven economies. The lowest average rates are found in the innovation-driven group. The nature of these differences will be explained more fully in subsequent sections regarding development levels and necessity versus opportunity motives.

Within the factor-driven group, the MENA/South Asia region tends to show lower relative rates of entrepreneurship. Shifts in activity were observed in Saudi Arabia, which increased its entrepreneurship rate from last year, and Egypt, which exhibited a decline.

Sub-Saharan African countries tended toward the top of the factor-driven economies on entrepreneurship rates. In fact, none of the countries in this geographic region revealed a decline in rates over the previous year, and Angola showed an increase. Interestingly, another country in this region, South Africa, part of the efficiency-driven group, also exhibited an increase in TEA from 2009.

Vanuatu, a small island of two hundred thousand people in the South Pacific, showed the highest rate of entrepreneurship in this group, with over half its people engaged in starting or already running new businesses.

Efficiency-Driven Economies

Latin American/Caribbean economies tend to occupy the highest positions in terms of entrepreneurship rates in the efficiency-driven group. All the efficiency-driven Latin American countries exhibit 10% or higher rates and none show declines from last year. Peru (27.2%) and Ecuador (21.3%) not only showed the highest rates of entrepreneurship among all countries in this category, but also exhibited increases in TEA from 2009.

Eastern European countries tend toward relatively low entrepreneurship rates, with the exception of Montenegro, which has nearly 15% of its population engaged in early-stage entrepreneurship. Bosnia/Herzegovina and Turkey, although

having lower than average TEA rates for efficiency-driven countries, both experienced increases over last year.

Asian economies in this group reveal a range of entrepreneurship levels. While Malaysia's TEA rate is relatively lower, it has increased from last year. China, on the other hand, has a high rate of entrepreneurship (14.4%), yet experienced a moderate decline from 2009. China was able to maintain its targeted high GDP growth rate amid the global downturn in 2009 with a 4 trillion Yuan economic stimulus. This was mostly distributed to state-owned enterprises for large projects in real estate and heavy industries (like construction and infrastructure). The entrepreneurship sector could be seen as indirectly benefitting, however, to the extent these firms can become supply-chain players or service providers for the large firms, as well as businesses selling to those receiving wages from the projects.

Innovation-Driven Economies

The innovation-driven economies contain the United States and three economies from the Asia-Pacific region, but are mostly populated by Western European economies. This latter region, as a whole, experienced mostly little or negative changes in TEA from 2009. Greece showed a substantial decrease in TEA, amid the debt crisis that permeated the country in the spring of 2010. A positive change was seen in France, however, which experienced a jump in entrepreneurship participation after many years of exhibiting lower relative TEA rates.

Iceland, Australia and the United States showed the highest TEA rates in the innovation-driven category. For Iceland, this comes even after experiencing a decline from last year. The United States declined slightly in 2010, following a more marked drop in 2009.

In Asia, Japan maintained its entrepreneurship rate, while the Republic of Korea faced a slight decline, although still maintaining a relatively high level of entrepreneurship among its economic peers.

Entrepreneurship Relative to Development Levels

As **Figure 4** shows, average TEA rates are highest in the factor-driven economies. **Figure 5** plots these rates against GDP per capita, adjusted for purchasing power parity. As this figure shows, TEA rates are highest for the poorest countries, declining rapidly and then leveling out in the efficiency stage, with low levels continuing into the innovation stage until they turn upward at increasing levels of wealth.

One key reason for this trend can be found in differences between the level of necessity and opportunity-based entrepreneurship at particular GDP levels. The section that follows provides a more in-depth examination of this phenomenon. We provide a brief description here, however, in order to include this in the discussion of the relationship between TEA and development levels.

Necessity entrepreneurs are those who have entered self-employment because they have no better options for work; in other words, they start businesses to generate income for themselves and their families. Opportunity entrepreneurs, on the other hand, have chosen to start businesses out of opportunity, even when they have other employment possibilities. GEM further queries these individuals on their motives: whether they seek to maintain or increase their income, or whether they desire independence in their work.

Necessity-driven (mainly self-employment) activity tends to be higher as a proportion of TEA in less developed economies. Agricultural and extractive sectors, as well as consumer-based local businesses, dominate these regions. There is more demand for jobs here than employers can provide. Consequently, many people must create their own jobs to generate income. Small businesses, and lots of them, are prevalent at this development level.

With further development comes macroeconomic and political stability and the growth of productive sectors. Accompanying this is the emergence of strong institutions that organize and govern the functions of society and its economy. A shift begins to occur, where a previous reliance on commonly accepted norms of behavior be-

comes replaced by transparent and respected legal and regulatory systems.

Industrialization and economies of scale favor larger and more established firms that are able to satisfy the appetites of growing markets, thereby increasing their role in the economy. Accompanying all this is an expansion of employment capacity, allowing more people to find stable jobs in large industrial plants. The proportion of necessity-driven entrepreneurship declines as a result. At the same time, improvements in wealth and the development of basic requirements (infrastructure, economic stability, education) enable opportunity-based businesses to thrive, shifting the nature of entrepreneurship activity. But the dominance of large firms also leads to an overall reduction in the number of new businesses.

At the wealthiest societal levels, individuals live with sophisticated basic requirements and efficiency enhancers. More importantly, they have access to entrepreneurial finance, open markets, R&D knowledge and other entrepreneurship-specific framework conditions. Toward the right-hand side of the figure, the role played by the entrepreneurship sector may increase because more individuals can access the resources necessary to start their own business in knowledge-intensive environments with abundant opportunities. This tends to create an upward trend as GDP rises to its highest levels, thus completing the U-shape curve.

In countries with low levels of per capita income, a decrease in the prevalence of early-stage entrepreneurship may be a positive one. It could signal greater sustainability, especially if this is accompanied by economic growth and political stability. As such, it represents a natural evolution in development, as an economy relies increasingly on established organizations with scale.

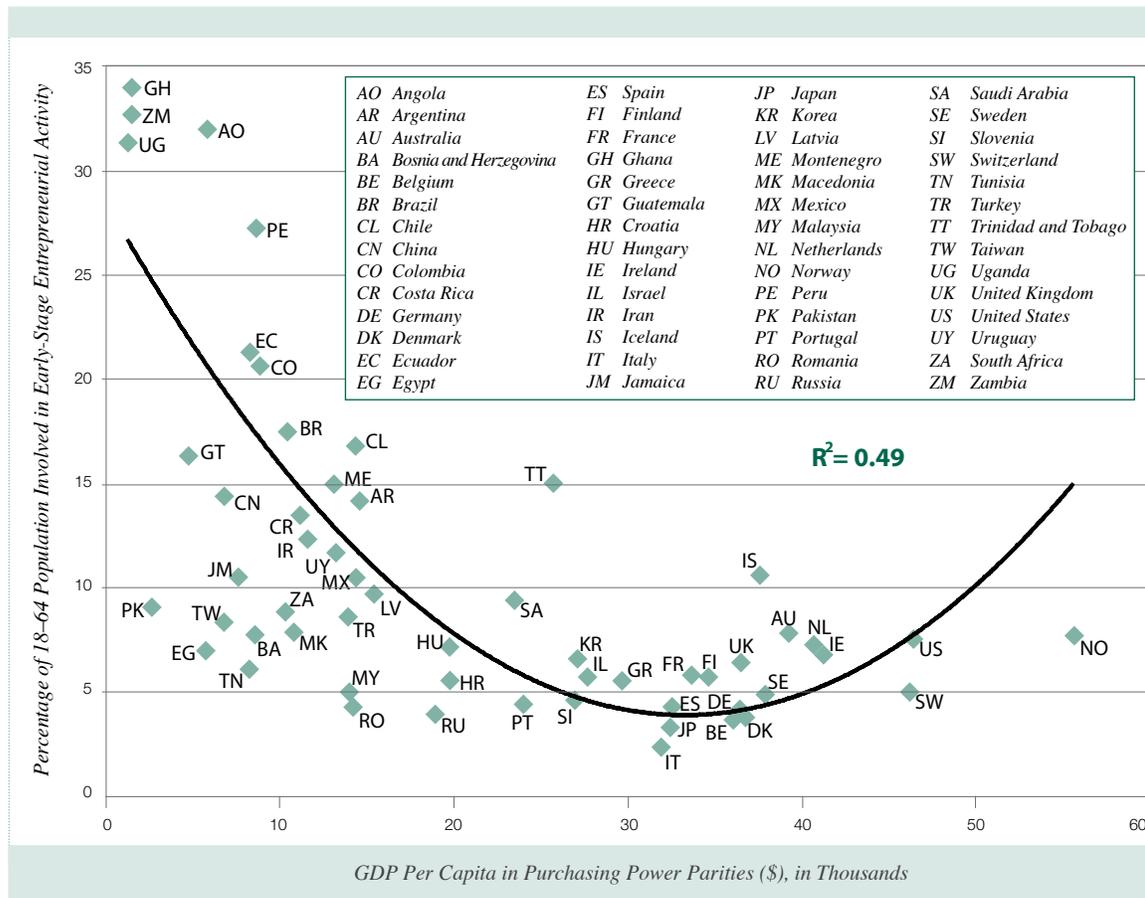
Therefore, while low TEA rates, or drops in rates, may be a cause for concern in some economies, it could instead mean that the general economic climate has improved and that job opportunities are increasing. Additionally, it may be accompanied by a shift toward more promising aspirations for growth, innovation and international trade, even while the number of entrepreneurs declines. In this respect, each of these entrepreneurs contributes more markedly to employment growth and national comparative advantage.

Further inspection reveals that the dispersion of TEA estimates around the line of best fit in Figure 5 is not just a function of differences in economic development (or welfare) but also other factors. For example, Eastern European countries have been experiencing falling populations and a low stock of business owner-managers as a legacy of communism. Their TEA point estimates are clustered below the trend line. In contrast, Latin American countries, with healthy population growth rates and a larger

stock of business owners, tend to appear above the trend line.

While development tends to be associated with a particular level of sophistication and attention to various framework conditions, economies also have their own cultures and policies, among other sources of uniqueness. These elements might be worth considering when counterintuitive or contrasting results are revealed.

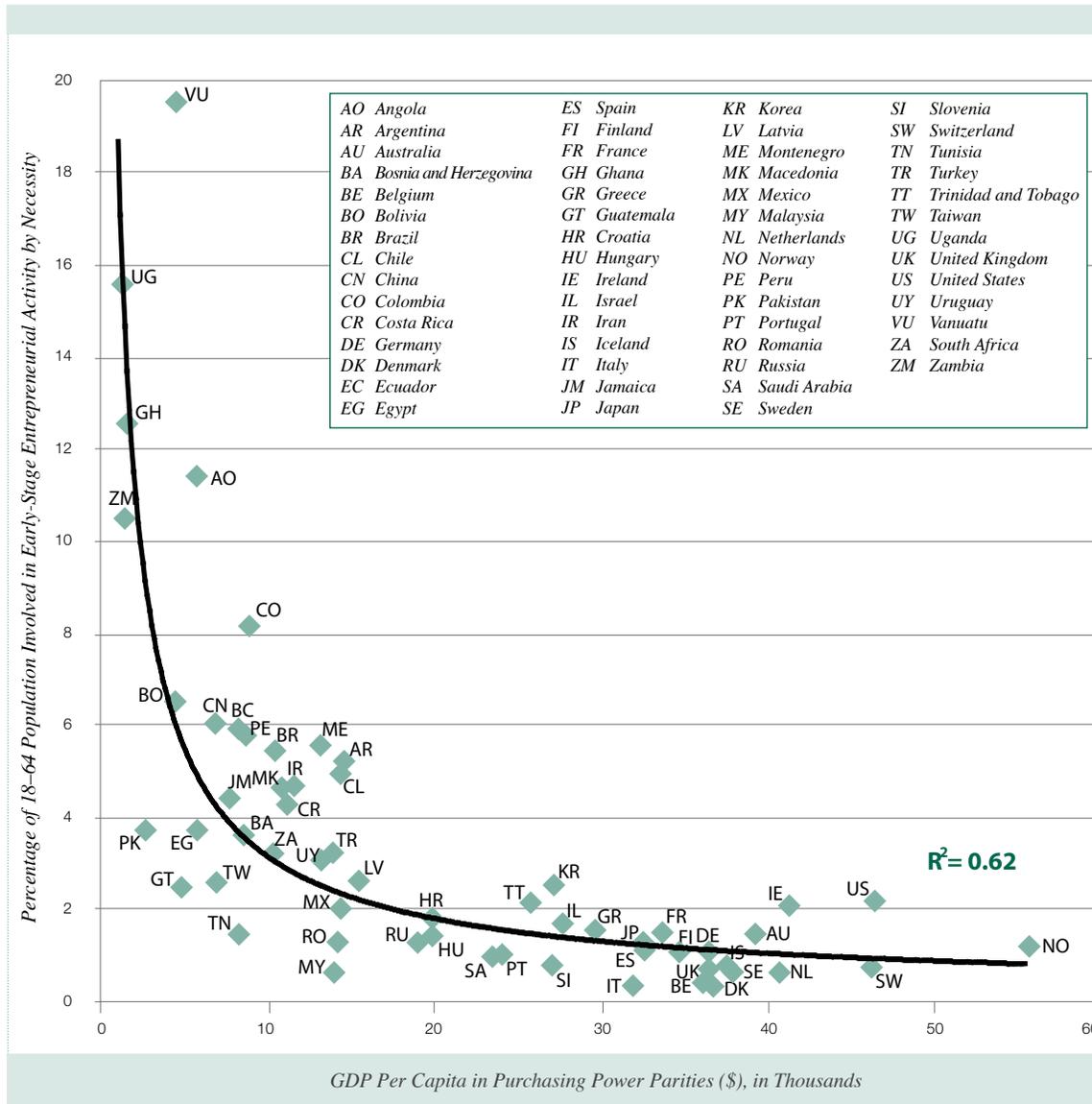
Figure 5 : Total Early-Stage Entrepreneurial Activity Rates and Per Capita GDP 2010¹



¹ Bolivia and Vanuatu are not shown in this figure, because their TEA rates are outsiders

Source: GEM Adult Population Survey (APS) and IMF World Economic Outlook Database

Figure 6: Necessity-Based Early-Stage Entrepreneurial Activity and Per Capita GDP 2010



Source: GEM Adult Population Survey (APS) and IMF World Economic Outlook Database

Figure 6 shows a plot based on necessity-motivated entrepreneurship. This plot reveals that the steepness of the left-hand side of the curve in Figure 5 is due to very high levels of necessity-based entrepreneurship at the lowest GDP per capita levels. Along the horizontal axis, the levels drop very rapidly with

an increase in GDP, and then gradually continue on a more moderate decline. When compared with Figure 6, it is apparent that both the more gradual slope on the left and the uptick on the right are created by the increase in opportunity-based entrepreneurship as GDP rises.

Necessity Versus Opportunity

This section examines the proportion of entrepreneurs in an economy that have identified their motives as either based on necessity or improvement-driven opportunity. Improvement-driven opportunity refers to those entering entrepreneurship because they seek independence or to improve (not just maintain) their income. In other words, it excludes maintaining income from opportunity motivation.

Saudi Arabia, despite low TEA levels, shows a pattern similar to Bolivia, with nearly three-fourths of its activity as improvement-driven opportunity, and the lowest amount of necessity motivations in this group. On the other hand, Egypt, with the lowest TEA rate in the group, has the highest proportion of necessity-driven entrepreneurship, and among the lowest proportion of improvement-driven opportunity. This indicates there are relatively few entrepreneurs in both countries, yet Saudi Arabian entrepreneurs choose to enter entrepreneurship to improve their lives with more income or independence, while Egyptians entrepreneurs need to start businesses in order to support themselves financially.

The highest proportion of necessity-based entrepreneurship in the efficiency-driven group can be found in Macedonia, which also has the lowest improvement-driven opportunity ratio. This country saw a significant decrease in entrepreneurship activity from last year. Both Malaysia and Peru show relatively low proportions of necessity-based activity, yet they exhibit contrasting TEA levels, with Malaysia on the low side and Peru with the highest TEA in this group. This illustrates simply a lack of need-based entrepreneurship in both countries. In Peru, the high level of entrepreneurship is associated with choice regarding lifestyle improvement.

In the innovation-driven group, several economies show a very large proportion of improvement-driven opportunity relative to necessity entrepreneurship. Interestingly, both the highest (Iceland) and lowest (Italy) TEA countries in this group exhibited some of the largest spreads between these two motivation factors. It could be said that few people in Italy choose to become entrepreneurs and only because they want to improve their life-

styles, while many people in Iceland wish to improve their lifestyles and see entrepreneurship as a means to do this.

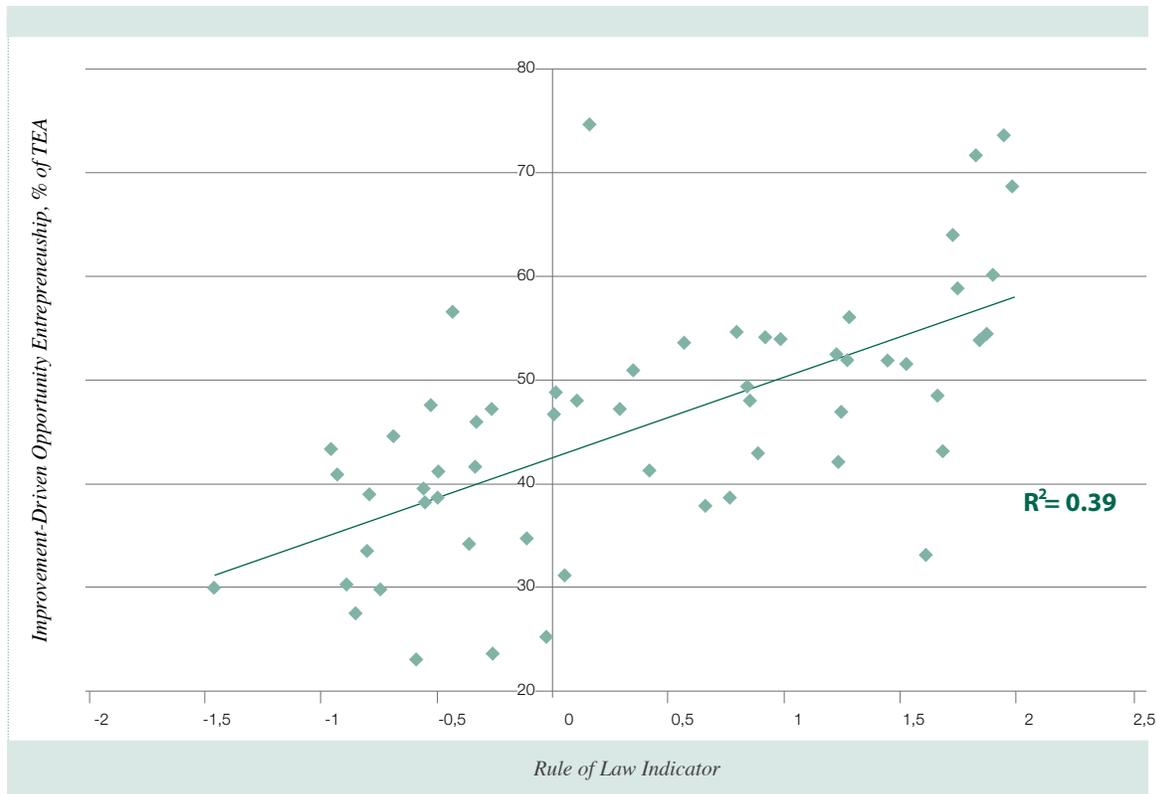
Also notable in the innovation-driven group are the high levels of improvement-driven motivation in the Netherlands, Sweden, Denmark and Iceland. This indicates a feature that may be common to the Nordic region of Europe—entrepreneurs motivated to increase their incomes or independence. This phenomenon could be linked to the degree of general wealth (paired with relatively low income inequalities) and social security in Nordic countries. Additionally, these four countries score high on the *Ease of Doing Business Report*^{xi}, all falling within the top 15 countries out of 183. Ireland, on the other hand, had almost equal proportions of necessity and opportunity motives.

An analysis of framework conditions can help explain the higher level of opportunity-based entrepreneurship in the innovation-based economies. Referring back to **Figure 3**, consider the entrepreneurship framework condition relating to commercial and legal infrastructure. **Figure 7** shows a plot of Rule of Law against the proportion of entrepreneurs with improvement-driven opportunity motives.

The “Rule of Law” index, published by the World Bank^{xii}, includes several indicators that measure the extent to which people have confidence in and abide by the rules of society. These include perceptions of the incidence of crime, the effectiveness and predictability of the judiciary and the enforceability of contracts. Together, these indicators measure the success of a society in developing an environment in which fair and predictable rules form the basis for economic and social interactions and the extent to which property rights are protected.

The positive slope reinforces the idea that entrepreneurship can be encouraged by ensuring individuals feel secure that, among other things, their contracts can be enforced and their intellectual property can be protected. With fewer individuals being forced into entrepreneurship out of necessity, these economies need to promote a positive environment that encourages people to start businesses when they otherwise have a choice of options for employment.

Figure 7: Correlation Between Rule of Law and the Degree of Improvement-Driven Opportunity motivation for Early-Stage Entrepreneurial Activity



Source: Global Entrepreneurship Monitor 2010 and World Bank Governance Indicators 2002–2006

Sector

Figure 8 and Figure 9 show the distribution of early-stage entrepreneurship activity in four main industry sectors, with regard to both economic development phase and geographic region. Figure 8 confirms that extraction businesses (farming, forestry, fishing and mining) are more dominant in factor-driven economies. Business services are more common in the innovation-driven economies. On the other hand, no group dominates the transforming business sector (manufacturing and construction), which exhibits equal prevalence across all three economic levels.

Both factor-driven and efficiency-driven economies are strongly weighted toward the consumer-oriented sector. These businesses tend to have relatively low resource needs and are often local in

nature. They can play a key role in entrepreneurship activity where poorly developed transportation and commercial infrastructure exists.

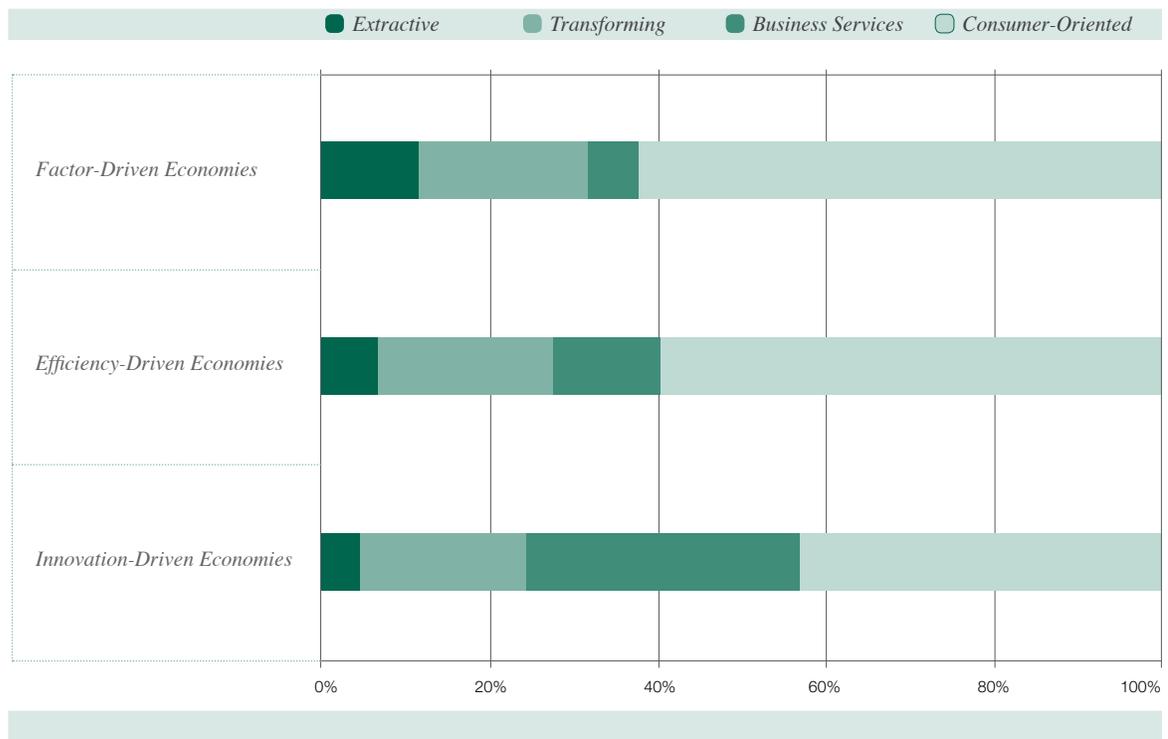
The MENA/South Asian and Sub-Saharan African countries in the sample are primarily in the factor-driven stage of development. So it is no surprise that these economies both have high levels of early-stage entrepreneurs in extractive businesses, as Figure 9 illustrates. These geographic regions have high levels of natural resources, which enable the extracting sector to thrive. The two differ, however, in that the MENA group dominates the transforming sector, while Sub-Saharan Africa is the most prevalent geographic region in the consumer-oriented sector.

The Eastern European, Latin American and Asian economies span two or three economic groups. Look-

ing across the sectors, none of these global regions has a majority presence in any one category. Looking within sectors, both Latin America and Asia Pacific have most of their entrepreneurs in the consumer-oriented sector. But while many Eastern European entrepreneurs operate in consumer-oriented businesses, there is a comparatively even distribution among the other sectors.

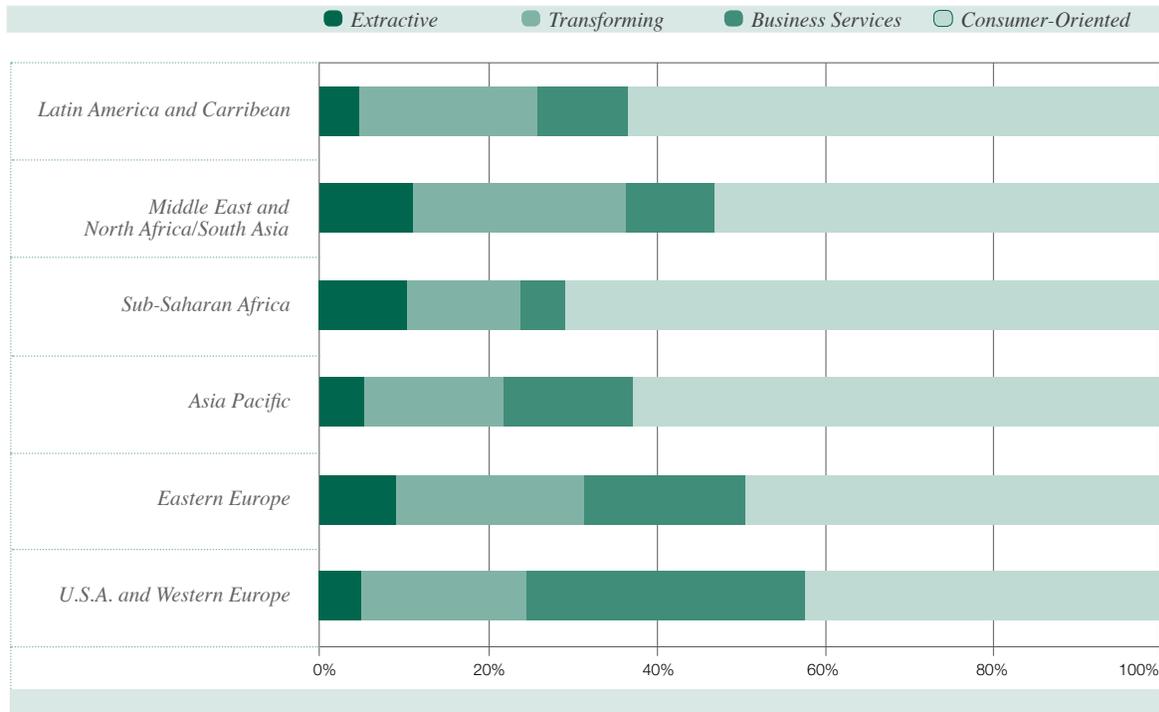
The United States and Western Europe, all innovation-driven economies, not surprisingly dominate the business services sector. This sector tends to rely on highly educated human capital, which is more widely available in these regions, and supplied by a well-established higher education system.

Figure 8: Sector Distribution of Total Early-Stage Entrepreneurship Activity by Phase of Economic Development



Source: GEM Adult Population Survey (APS)

Figure 9: Sector Distribution of Total Early-Stage Entrepreneurship Activity by Geographic Region



Source: GEM Adult Population Survey (APS)

Age Distribution

A society can benefit from entrepreneurs of all ages. At one extreme, young people have fresh ideas, are “born-digitals” with perhaps a different outlook and more education than their parents. They are less likely to have responsibilities like mortgages and families, which can otherwise make them more cautious. At the other end, older people have experience, contacts and capital built over long careers. Moreover, the 50+ age group in many economies is now familiar with information and communication technologies, making home-based start-ups an interesting option for this group. While entrepreneurship is often more prevalent in the age groups in between, policy makers might look to harness the entrepreneurial potential on either side of these seemingly more likely prospects.

Figure 10 and Figure 11 show the distribution of early-stage entrepreneurs by age for the three economic groups and the six geographic regions. Figure 10 illustrates that in each of the three economies, the 25–34 age group contains a higher percentage of early-stage entrepreneurs than the others, followed by the 35–44 age group, and then the 45–54 age group. Less prevalent is the youngest (18–24) age group and, even less so, the oldest age group (55–64).

All three of the economic groups thus show bell-shaped distributions that are steeper on the left. Yet there are some unique patterns. Innovation-driven economies have greater concentrations of entrepreneurs in the middle age groups, 25 through 54 years old, showing a steeper trail off on both sides. This is likely due to a higher proportion of people in tertiary

“The development of our country depends on the achievements of young entrepreneurs. We should encourage our young people to choose entrepreneurship as a career path. Therefore, we need to create awareness about entrepreneurship and increase the number of role models in Turkey.”
Ali Sabanci, Chairman, TOBB Young Entrepreneurs Board, Turkey

education in younger age groups and better retirement provisions for older people. The factor-driven economies have more entrepreneurs in the younger (18–24) and older (55–64) extremes compared to the other economies, thereby exhibiting a flatter bell shape.

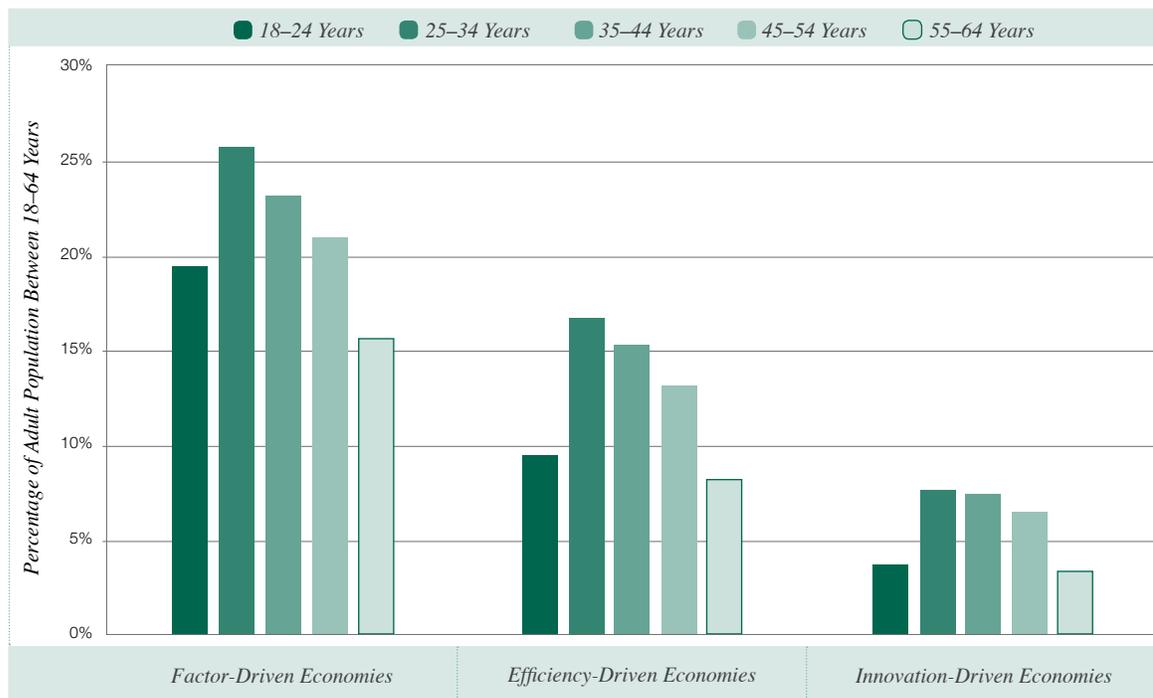
Looking at **Figure 11**, the geographic regions reveal similar patterns of relative prevalence across the age categories. This suggests that the age distribution of an economy is an important determinant of early-stage entrepreneurship activity across age groups. Several of the geographic regions reveal some unique characteristics, however.

In the Asia Pacific region, the prevalence rate of the oldest group is nearly identical to the youngest group, in contrast to the other regions, which show a higher level of younger than older entrepreneurs. Some Asian economies are experiencing a decline in their youth demographic. In Japan, for example, the middle age group (35–44 years old) is the most prevalent one, while there are slightly more entrepreneurs in the oldest age group compared to the youngest one.

The Asia Pacific region and the United States/Western Europe had the highest percentages of the second most popular age group (35–44 year olds) compared to the others. In these regions, individuals tend to spend a longer time period receiving their educations. In addition, with their high levels of education, they are more likely to work for established companies or in government jobs before becoming entrepreneurs. The United States/Western European region also had the highest percentage of the second oldest group (45–54 year olds), again demonstrating the popularity of entrepreneurship among a middle-age population.

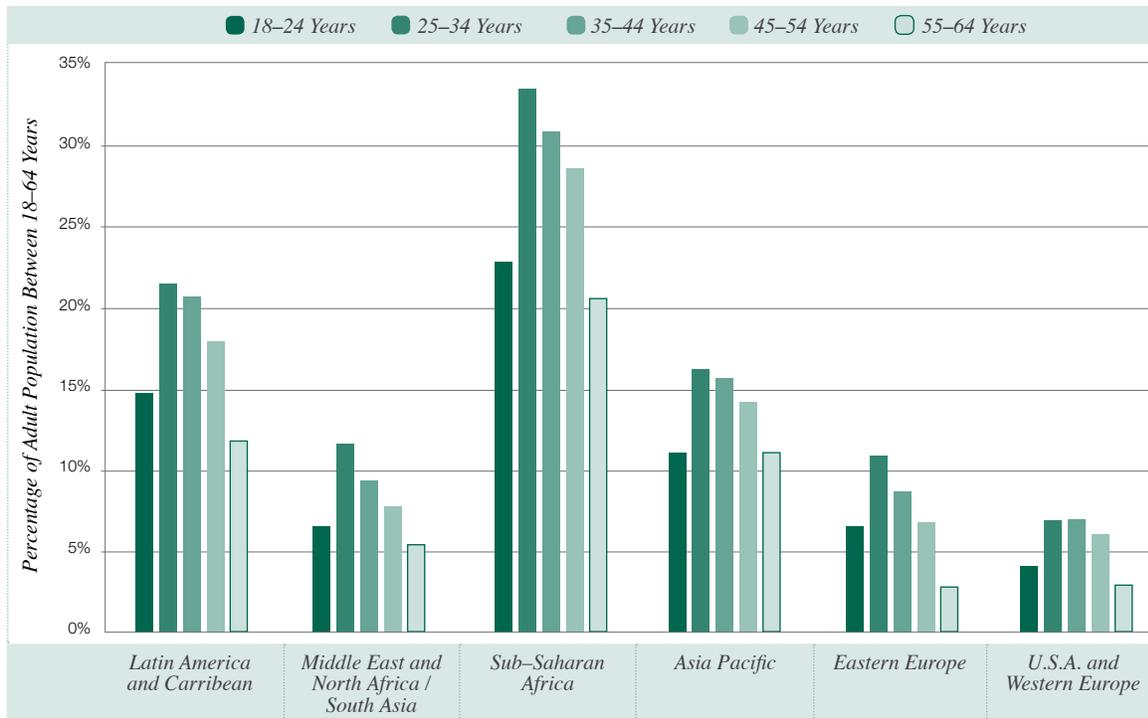
Eastern Europe showed a unique pattern in its emphasis on an overall greater proportion of young entrepreneurs than the other geographic areas. This region had the highest relative percentages of the two youngest age groups and the lowest proportion of the two oldest groups. Perhaps the entrepreneurial activities of the youngest generations in these countries can be explained by the different socio-economic system in which they have been raised.

Figure 10: Age Distribution of Entrepreneurs by Phase of Economic Development



Source: GEM Adult Population Survey (APS)

Figure 11: Age Distribution of Entrepreneurs by Geographic Region



Source: GEM Adult Population Survey (APS)

Gender Differences

Women can enter entrepreneurship for many of the same reasons as men: to support themselves and their families, to enrich their lives with careers and financial independence and so on. Yet there may be special considerations for female involvement in starting businesses. This is important to examine in light of the fact that women's participation in entrepreneurship varies significantly across economies, but is nearly always less than that of men.

Societies differ in their perceptions and customs about women working, and working in business. Overall levels of education and development can influence societal beliefs, with a higher degree of either generally associated with greater acceptance about women's careers. In some cases, however, women enter entrepreneurship, regardless of perceptions, simply because their families need their incomes.

In addition, social acceptance around placing children in the care of others while pursuing a career, and the cost and availability of childcare can weigh heavily. Women entrepreneurs also need to rely on the coop-

eration and willingness of stakeholders like investors and creditors, employees, suppliers and customers. When these factors act as impediments, society misses an opportunity to gain from the entrepreneurial energy of half its population.

Figure 12 shows the level of female and male participation in early-stage entrepreneurship, ranked by the percentage of women involved in TEA within the three economic groups. The level of women participation is somewhat similar to TEA levels—that is, if TEA is very low in an economy, there are also fewer women entrepreneurs in an absolute sense. But some economies show relatively higher or lower percentages of women entrepreneurs relative to men. For these latter economies, entrepreneurship activity could be enhanced overall by stimulating women to become more active in entrepreneurship.

Women's participation in entrepreneurship relative to men ranges from a ratio of 20:100 in the Republic of Korea to 120:100 in Ghana. Across the three development levels, the factor-driven and efficiency-driven groups are similar on average, but the innovation-driven group has a lower average proportion of women entrepreneurs.

In the factor-driven economies, the lowest levels and ratios of women participation can be found in the MENA countries, where for every woman entrepreneur, there are about two to four men. The highest ratio can be seen in the Sub-Saharan African countries, where there is more or less equal participation, with Zambia having slightly fewer women and Ghana having more women than men on average.

In the efficiency-driven economies, Eastern European countries occupy the lower levels and ratios for women's participation, with the lowest exhibited in Turkey at a ratio of about 28 women for every 100 men. An exception can be found in Russia, which has an 80 to 100 ratio. Latin American countries tend toward higher levels of participation, with Costa Rica and Mexico reporting almost equal participation by gender. Uruguay is the only Latin American country

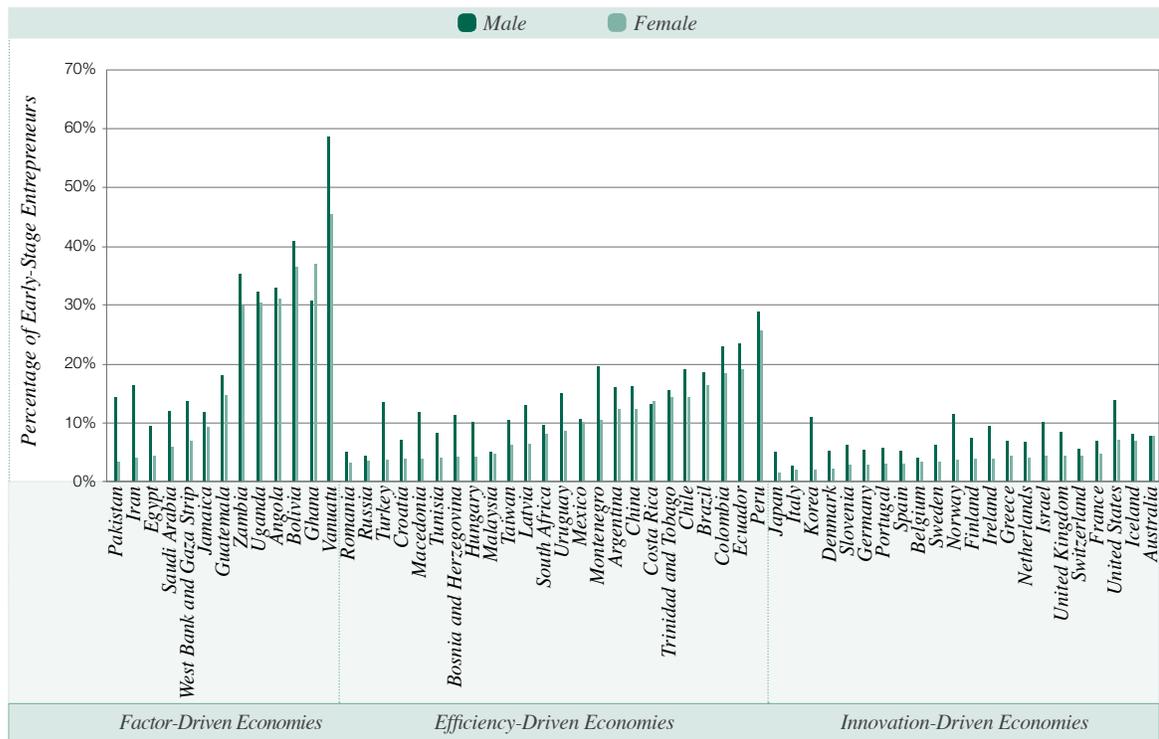
with lower than average female participation with a 60 to 100 ratio.

Looking at the Asia Pacific region, Australia shows the greatest number of women entrepreneurs among the innovation-driven economies, with men and women participating equally in this activity. Malaysia has a low TEA but a very high relative level of female participation, with almost equal numbers of women and men entrepreneurs. Taiwan, on the other hand, ranks below average, with a 60 to 100 ratio. Two other Asian countries in the innovation-driven group, the Republic of Korea and Japan, are among the lowest ranked for females.

The highest ratios of female participation in Western Europe are in Belgium and Switzerland, with ratios around 80 to 100. The United States also has many women entrepreneurs, with a ratio of about 85 to 100.

*"Women are very resilient, we have the ability to carry on in adversity ... we have proved it during the reconstruction after the earthquake."
Benedicta Aravena and Guacolda Saavedra, Centro Social Quidell, Chile*

Figure 12: GEM Economies Ranked by Level of Female Participation in Total Early-Stage Entrepreneurship Activity (TEA) by Economic Group, 2010



Source: GEM Adult Population Survey (APS)

Established Business Rates

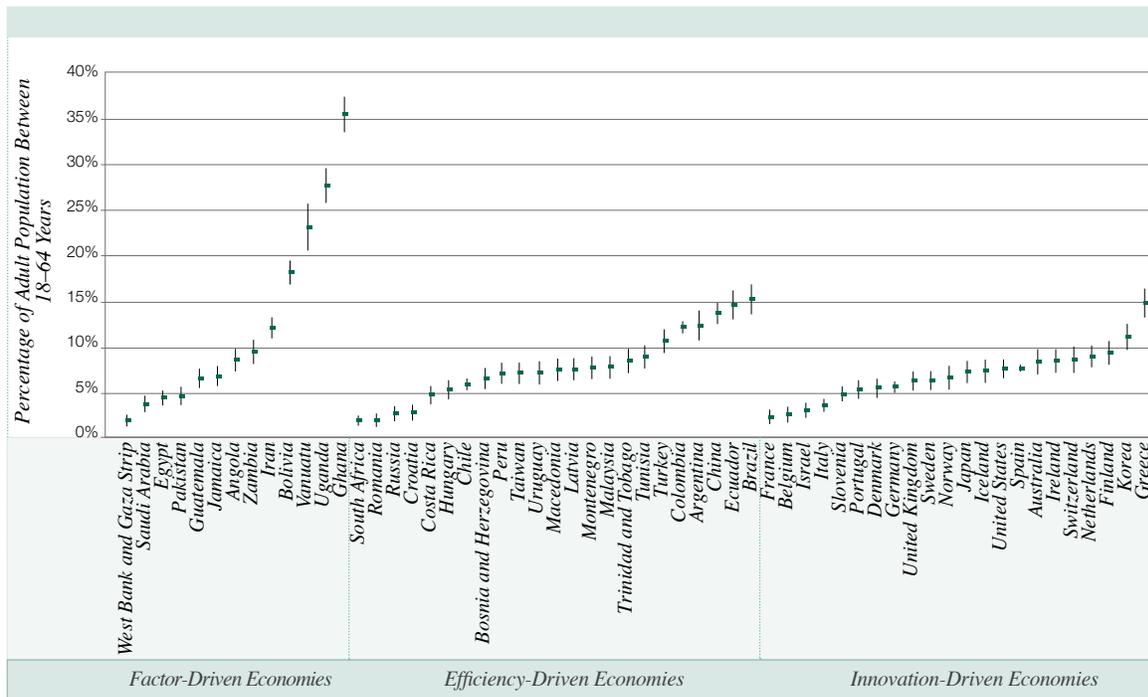
Business owners who have paid salaries and wages for more than 42 months are classified as established business owners. Their businesses have survived the liability of newness—the period after founding where new businesses are at a disadvantage relative to established firms. This is generally due to their lack of both internal efficiency and external legitimacy, which constrains their ability to form relationships and access resources in their environments.

High rates of established business ownership may indicate positive conditions for firm survival, reflecting a greater amount of stability and economically sustainable businesses. On the other hand, it may signal a low level of dynamism, particularly if a high rate of established entrepreneurship is combined with a low rate of early-stage activity. The industry environment may suffer from a lack of competitiveness—slowing the introduction of new

products that can create new value, or hindering responses to shifts in the market. Ideally, an economy should have some turnover of firms, where startups introduce new ideas into their environments, replacing, in part, firms whose businesses have lost their relevance.

The 2010 results show that the rate of established business ownership declines with greater economic wealth (see Figure 13). The degree of decline is not as great as it is with TEA, however. The most distinct characteristic among the economic groupings is that established business ownership tends to outpace the TEA level as GDP per capita increases. None of the factor-driven economies had a rate of established business ownership greater than the TEA rate, while all but four of the innovation-driven countries had equal or greater established business rates. This could reflect increasing stability and/or sustainability of business activities as GDP per capita increases.

Figure 13: Established Entrepreneurial Activity for 59 Economies in 2010, by Phase of Economic Development, Showing 95 Percent Confidence Intervals



Source: GEM Adult Population Survey (APS)

While start-ups are comparatively frequent in factor-driven economies, these businesses could be based on less sustainable principles. Or perhaps entrepreneurs simply fall victim to the harsh business conditions in their environments. Nevertheless, this implies the need for caution in forming impressions about the contribution of entrepreneurship in less developed economies. Although the rate of business starts-ups is very high, these businesses are prone to short life expectancies. What may actually be viewed are a lot of start-up attempts rather than the creation of longer term potential. It also suggests to policy makers in these regions that the problem lies less in getting people to the starting gate, and more with equipping them to stay in the race.

Some variation can be observed in the factor-driven countries, however. The MENA countries, Jamaica and Guatemala (in Latin America), had both TEA and established business rates that were lower than average for the group. The Sub-Saharan African countries had high TEA rates, with divided results for established businesses. Uganda and Ghana had the highest established business rates in the factor-driven group. Angola and Zambia, however, were below average on the measure.

In the efficiency-driven group, the Eastern European countries with the lowest TEA rates had even lower established business rates (Russia, Romania, Croatia, Hungary, Bosnia-Herzegovina and Macedonia). However, two countries from other regions, Malaysia and Tunisia, despite having low TEA levels, had higher than average established business levels. These differences may be rooted in cultural and historical backgrounds, as well as the socio-economic systems. Eastern Europe does not have many years of experience with private business ownership, for example. In contrast, Malaysia has a culturally diverse economy with a long history of immigrant entrepreneurs.

Latin American countries in the efficiency-driven group showed opposing characteristics: Brazil had the highest level of established businesses in this economic group. Mexico, on the other hand, revealed an almost non-existent established entrepreneurship sector. Peru also had a low established business rate, despite its high TEA rate.

In the innovation-driven group, most of the economies had more established than start-up en-

trepreneurs. The highest established business rate in this group could be found in Greece, which had an average TEA level. France had the lowest established business rate, which was outpaced by an above average TEA rate that had jumped significantly from last year. At least some of this can be explained by the extent to which agriculture dominates the economy in Greece, and the historic domination of the economy by state-directed big business in France. Iceland, with the highest TEA rate in this group, had an established entrepreneurship rate below its TEA.

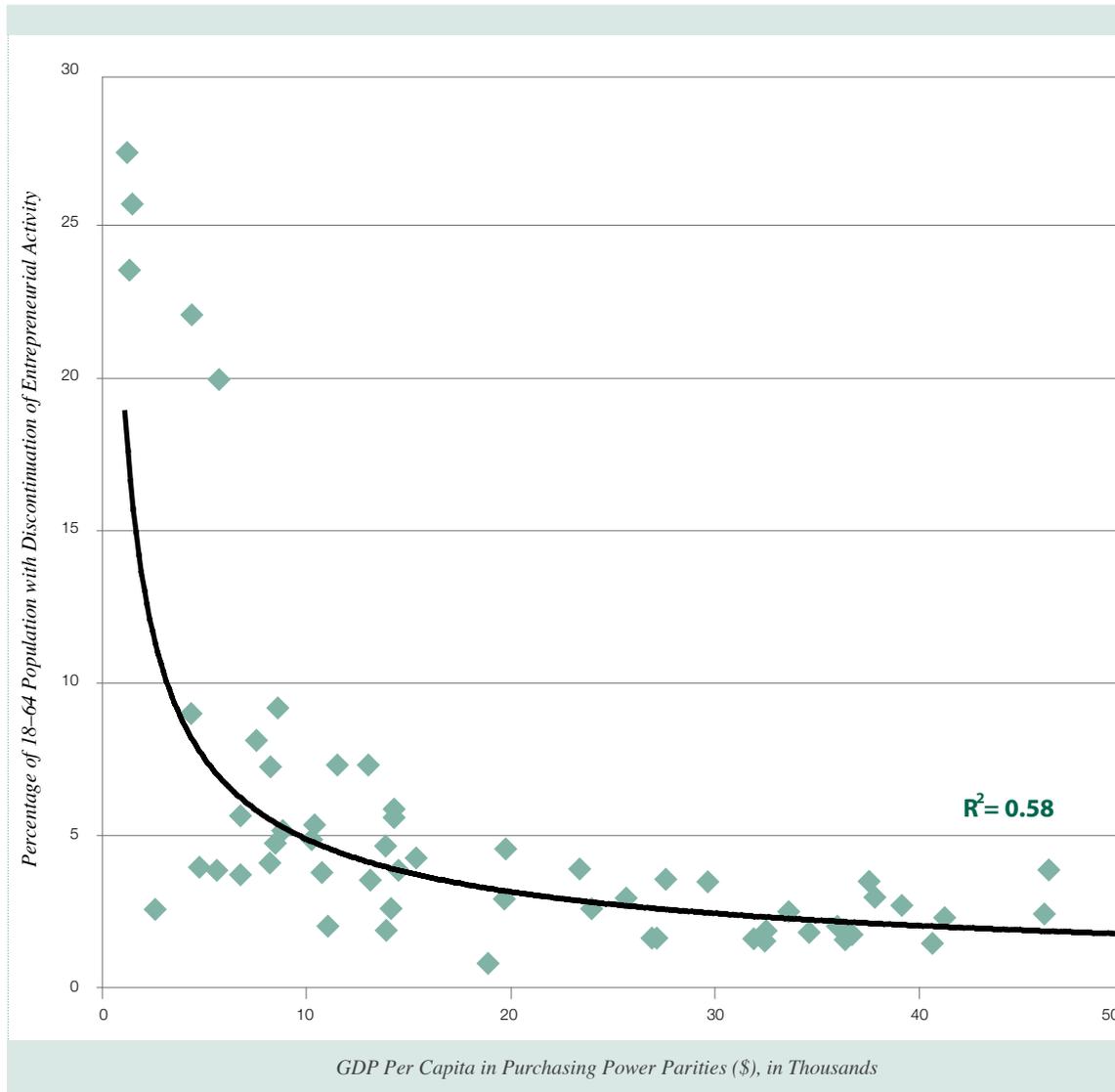
The data suggests there may be two different concerns relative to new and established businesses: (1) the overall rate of business ownership is low, whether new or established, or (2) conditions favor one over the other. Advances in economic development require business activities exhibiting both dynamism and stability. Dynamism ensures a continual renewal of ideas and value in a society, while stability allows those with the most promise to survive and grow.

Business Discontinuance

As new businesses emerge to introduce novel ideas into their economies, those that no longer create value for their stakeholders would be expected to close. Those individuals selling or closing their businesses may once again benefit their societies by re-entering the entrepreneurship process. Recognizing the importance of this measure, GEM tracks the number of individuals who have discontinued a business in the last 12 months. Discontinuance may be considered along with TEA and established businesses as a component of entrepreneurial dynamism in an economy.

In the factor-driven group, discontinuance roughly follows TEA rates in a number of the economies. For example, many of the MENA countries have both low TEA rates and fewer individuals discontinuing their businesses. On the other end, the sub-Saharan African countries have both high TEA and business discontinuance. Exceptions can be seen in the two highest TEA economies, Bolivia and Vanuatu, where there is a wide difference between starts and stops. **Figure 14** demonstrates these patterns, revealing very high levels of discontinuation at the lowest levels of GDP per capita. Similar behavior can be observed in necessity-motivated entrepreneurship (see **Figure 6**).

Figure 14: Discontinuations of Entrepreneurial Activity and Per Capita GDP 2010



Source: GEM Adult Population Survey (APS) and IMF World Economic Outlook Database

In the efficiency-driven countries, the largest gaps between starts and stops can be observed in the high TEA economies, primarily in the Latin American countries. This reflects a reduction in the churn rate of new business owners to discontinuances, which is also particularly noticeable among the innovation-driven economies. Iceland, Australia and the Netherlands have both high TEA rates and high gaps between starts and stops, with the Netherlands having the lowest discontinuance rate in the group. In contrast, the United States, although having a high TEA rate, also had the high-

est discontinuance rate among the innovation-driven economies.

Survey respondents who had discontinued a business in the previous 12 months were asked to give the main reason for doing so. Financial difficulties—unprofitable businesses and problems getting finance—were mentioned most often as the reason for discontinuing a business. Factor-driven and efficiency-driven economies reported the highest proportion of financial difficulties. Also, as Figure 15 points out, financial difficulties leading

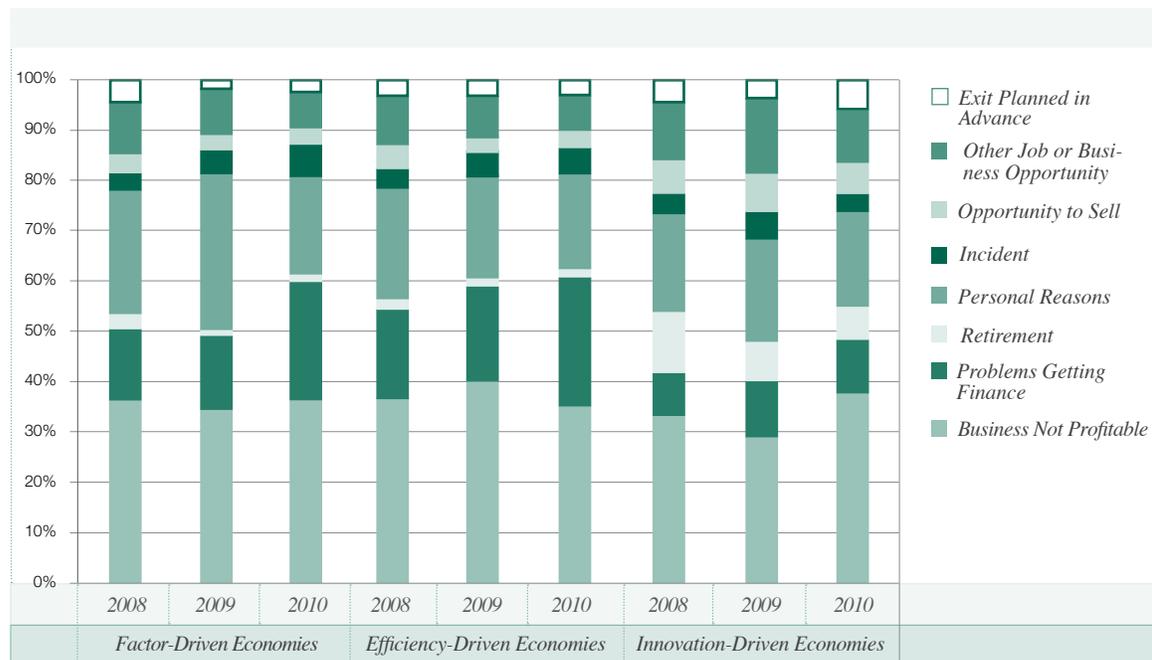
to business discontinuation have risen in all three economic groups in 2010.

Financial difficulties, both in absolute terms and in proportion to all discontinuations, remain low in the innovation-driven group. There are fewer problems raising finance in these countries, where entrepreneurial finance (an entrepreneurship framework condition) is generally more developed. Large variations exist, however, within this group. In France, the Netherlands and Finland, about one out of three individuals with discontinued businesses mentioned financial problems, whereas around two out of three identified this reason for discontinuing in Greece,

Spain, Italy, Republic of Korea and Ireland. “The opportunity to sell” was mentioned more often in innovation-driven economies than the others, even though this proportion decreased in comparison to 2009. Generally, these economies have well-developed mechanisms for allowing businesses to change hands or for founders to exit through mergers, acquisitions or public markets.

In factor-driven economies, almost all the non-financial discontinuations are for personal reasons. These are likely due to such factors as illness, bereavement, civil unrest and other reasons associated with relatively unfavorable basic requirements.

Figure 15: Reasons for Business Discontinuance by Economic Phase, 2008–2010



Source: GEM Adult Population Survey (APS)

“The recession in 1997 forced us to close down our plastic company. But soon we were blessed with the idea of running a business of providing services to other companies”.

Mr. Harridz Mohan Abdullah, Founder, T-Max Group, Malaysia

“We are seen as self-made men with backbones. Even if we fail, we fail with pride before we dare to try”.

Mr. Kevin Koo, Co-Founder, Koo Chin Nam & Co., Malaysia

2.3 Aspirations

Entrepreneurs differ in the variety and level of aspirations they have for their businesses. They hold particular beliefs or ambitions about the growth prospects for their ventures. In addition, they introduce products or services exhibiting a range of innovativeness: a level of newness in the product itself, newness to the market and the extent there are no competing alternatives for their offerings. Entrepreneurs also vary to the extent they reach into international markets with their products and services. With these ambitions, entrepreneurs have the potential to significantly impact the employment growth and comparative advantage of their economies. For this section, data were combined for the years 2008–2010 ^{xiii}.

Growth Expectations

GEM asks all identified early-stage entrepreneurs how many employees they have at the time of the survey and how many they expect to have (other than the owners) within five years' time. The difference represents their growth expectations. Almost 55% of all those starting businesses expect to create one to five jobs. However, only 9% of all start-up attempts expect to create 20 or more jobs, illustrating the lower prevalence of high growth projections. Still, there are an estimated 63 million people in the 59 economies expecting to hire at least five employees over the next five years, and 27 million of these individuals anticipated hiring twenty or more employees in five years, illustrating the contribution of entrepreneurship to job growth across the globe.

High-growth entrepreneurs, also known as 'gazelles' (a term popularized by U.S. economist David Birch^{xiv}), receive high attention from policy makers because their firms contribute a disproportionate share of all new jobs created by new firms^{xv}. In fact, some studies show that entrepreneurial aspirations for growth are likely to lead to actual growth^{xvi}. This implies that efforts aimed at increasing growth aspirations and abilities can translate into concrete benefits.

Looking across the three economic groups, the factor-driven economies have a generally lower proportion of high expectation entrepreneurs, with an average of 21% expecting to create five or more jobs in five years (moderate growth expectations), and only 4.6% expecting to create 20 or more jobs (high-growth expectations). The efficiency-driven economies and the

innovation-driven economies report similar proportions of job creation expectations in the moderate category (29% and 28%, respectively), but there is large variation among the economies within each group. For higher job expectations the efficiency-driven and innovation-driven economies are also comparable: an average of 7.1% in the efficiency-driven group and 7.8% in the innovation-driven group expect to create 20 or more jobs (see Figure 16).

Figure 17 compares growth expectations for nascent entrepreneurs and owner-managers of new firms. Although there are some differences in growth expectations between those just starting businesses and those already running them, most economies exhibit similar rates. In some economies, the nascent entrepreneurs have higher growth expectations. It may be that those starting businesses in these economies are more optimistic, or perhaps the owner-managers of new firms tend to be more realistic.

Dramatic differences can also be seen across the geographic regions. A group of countries in Eastern Europe—Croatia, Montenegro, Latvia and Turkey—have a high proportion of individuals anticipating moderate (five plus) growth, although with more varied expectations at the higher (twenty plus) level.

Similarly, three MENA economies (Saudi Arabia, Egypt and Iran) have greater proportions of high expectation entrepreneurship at both moderate and high levels. This is particularly important because these countries have low TEA levels. With a greater percentage of this activity involving high growth, a larger contribution to job creation is possible.

On the other hand, two regions—Latin America/Caribbean and Sub-Saharan Africa—have fewer growth expectations in the five-plus and the 20-plus categories. For some of the Latin American countries, this comes despite high TEA rates. For example, Ecuador has among the highest TEA rates in the efficiency-driven group, yet has the lowest proportion of moderate growth expectations.

In the innovation-driven group, the two lowest TEA economies, Italy and Japan, have among the highest moderate growth expectations, boosting overall job creation possibilities. Israel, with a moderate TEA rate, has high proportions of both moderate and high-growth expectations. Especially notable is Iceland, which has the highest TEA rate, but also the greatest proportion of moderate and high job creation expectations.

Figure 16: Job Growth Expectations for Early-Stage Entrepreneurship Activity, 2008–2010

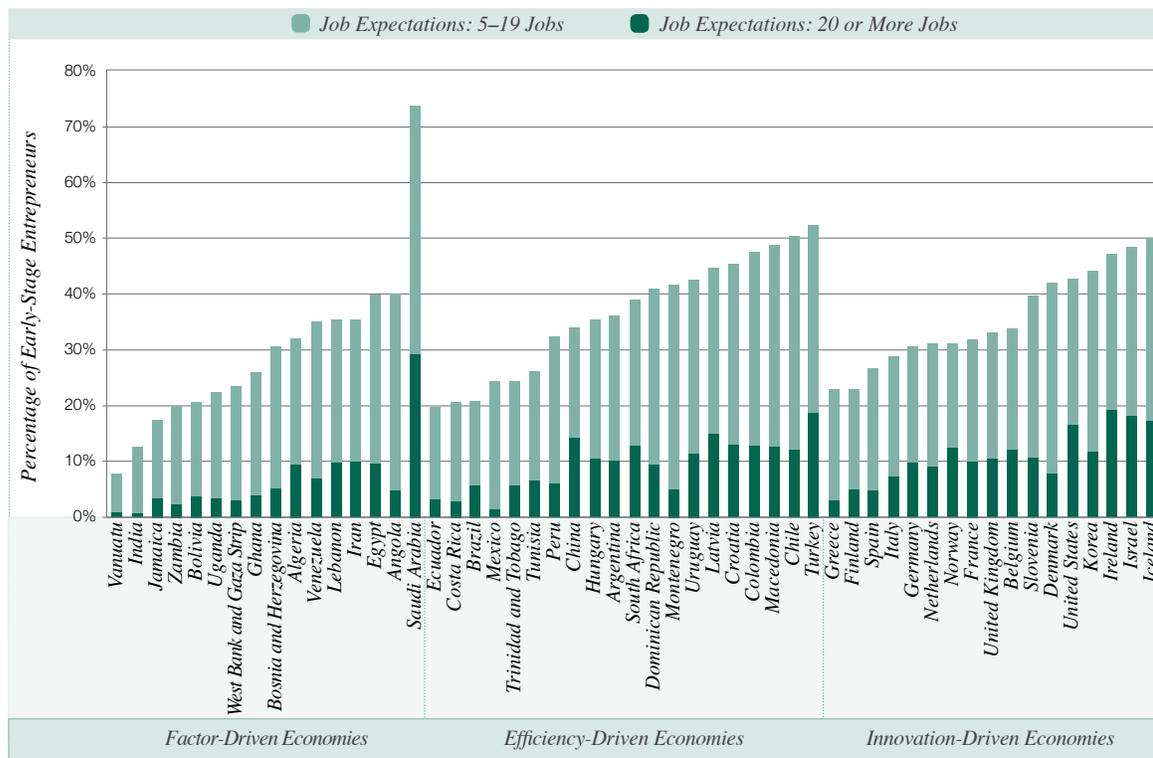
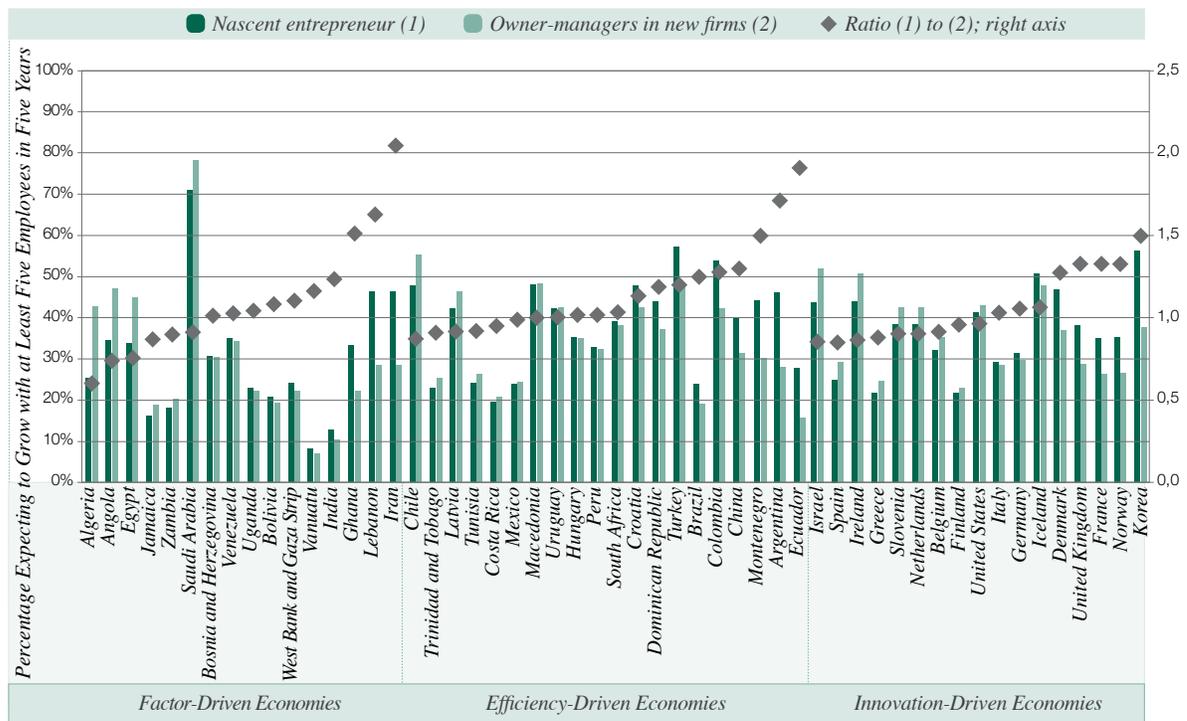


Figure 17: Differences in Job Growth Expectations Between Nascent Entrepreneurs and Owner-Managers in New Firms, by Economic Stage of Development and Country, 2008–2010



Source: GEM Adult Population Survey (APS)

Innovation

Innovation and entrepreneurship are closely connected concepts. Joseph Schumpeter^{xvii} argued that entrepreneurs disrupt the market equilibrium by introducing new product-market combinations into a market, teaching customers to want new things and driving out less productive firms as their innovations advance the production frontier. The result is higher productivity and economic growth.

While Schumpeter portrays more radical change, William Baumol^{xviii} argues that entrepreneurs may start businesses that are not very innovative, and that innovations may not necessarily result in new businesses. But as Peter Drucker^{xix} explains, the role of entrepreneurs is to search for, respond to and exploit change. The extent and nature of this change, and likewise innovation, can vary considerably.

GEM assesses innovation in entrepreneurial businesses by asking entrepreneurs to rate the newness of their current products or services and the level of newness this represents for their customers. These two measures are combined into a single measure of product/market newness. Additionally, each entrepreneur is asked to rate industry newness, in terms of the degree of competition the business faces: specifically, whether they perceive there are “many”, “few” or “no other businesses” offering similar products or services.

Figure 18 shows ratings from 54 economies on product/market novelty and industry newness. The first, and stronger, measure represents both product/market newness and industry newness. In essence, this index measures the percentage of early-stage entrepreneurs with current products or services they consider novel and unfamiliar to some or all customers, and that they also believe are offered by few or no other businesses. The second, weaker measure indicates either product/market novelty or competitive uniqueness.

Figure 18 ranks economies within each economic group based on the relative prevalence of innovativeness according to the weaker measure. A note of caution

is advised: these measures assume that the availability of new products and services, and the strength of competition, are evenly distributed throughout the world. By making comparisons within groups at similar development levels, we control to some extent for differences in product availability and competitive intensity. But it is important to recognize that some economies score high on these indices merely because they have relatively few new products and low competition.

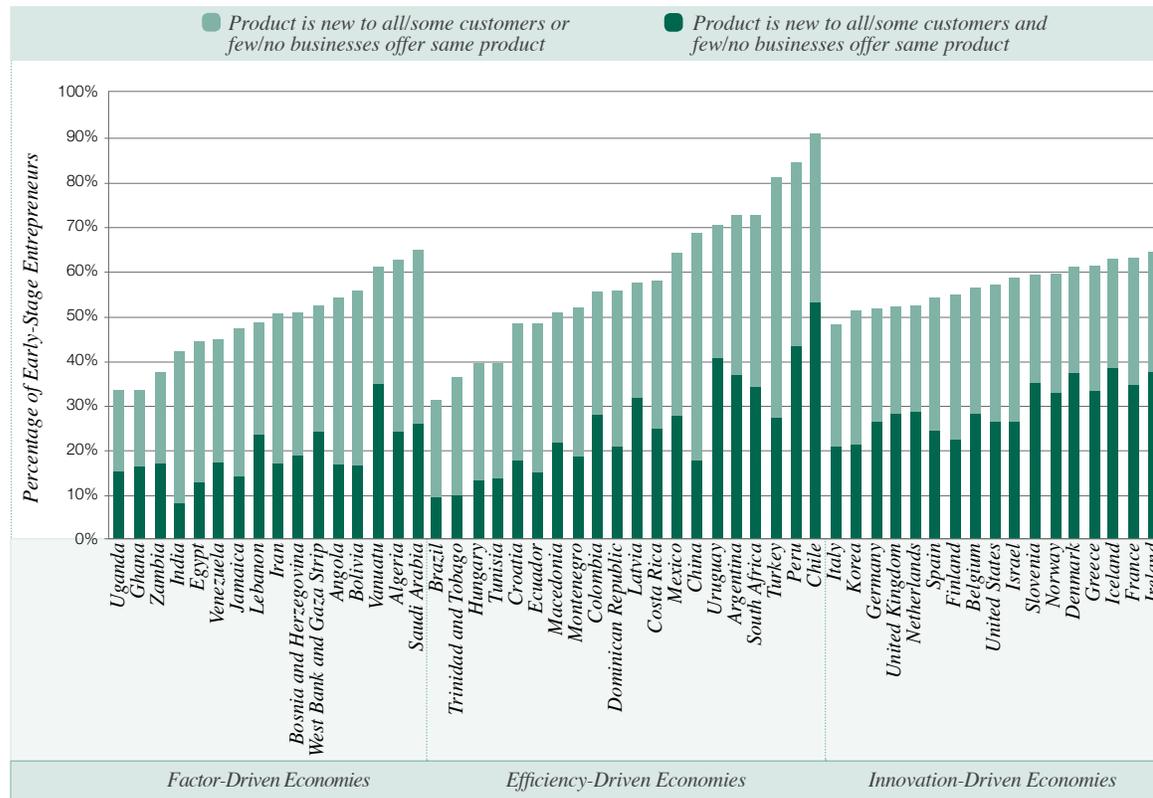
Two MENA countries, Saudi Arabia and Algeria, along with Vanuatu have the greatest amount of both product/market and industry newness in the factor-driven group. In the efficiency-driven group, two Latin American countries, Chile and Peru, show the highest levels of innovation on both measures. The innovation-driven group shows fewer distinct differences on this measure, with Iceland among the economies rated higher on both strong and weak measures of product/market and industry newness.

An examination of innovativeness by business stage shows that both new and nascent entrepreneurs in many economies rate their products similarly. Prime examples of this can be seen in Saudi Arabia, Chile, Peru, Mexico, Uruguay, China, Denmark, Montenegro and Turkey. Neither geographic nor economic level can explain this pattern, since they come from a variety of regions and development stages.

In other economies, nascent entrepreneurs rated innovativeness at twice the level that new entrepreneurs did, again crossing multiple economic and geographic groups (Trinidad and Tobago, Jamaica, Brazil, Venezuela, West Bank and Gaza, United States, United Kingdom, Ghana, Uganda). Nascent entrepreneurs in these countries are really rating their expected level of innovativeness, since they are in the process of starting their businesses. Thus, it could be surmised that nascent entrepreneurs in these economies are overly optimistic, and that the actual level of innovativeness, once they start, is not as high as they believed in the early stages. Interestingly, these economies show low overall levels of innovativeness compared to their economic counterparts, suggesting a need to understand why this gap exists.

“Innovation is more important than ever today. With fewer customers available you have to be the best to earn their business. Ideapaint has led the market with the best in class dry-erase product. We made the wise decision of committing to innovation in order to defend our market position. Our commitment has paid off and allowed us to come out with better and better products and not only remain #1 but also take market share from our competitors.”
John Goscha, Founder of IdeaPaint, USA.

Figure 18: Innovation for Early-Stage Entrepreneurship Activity, 2008–2010



Source: GEM Adult Population Survey (APS)

Perhaps nascent entrepreneurs are more likely to develop innovative offerings, but factors such as competitive imitation or a lack of ongoing innovation efforts could reduce the novelty of their products as they start to establish themselves in their market and industry environment. In addition, changing economic conditions may mean that entrepreneurs starting businesses in 2010 are pursuing a higher level of innovation than their predecessors.

Internationalization

The third measure of entrepreneurial aspirations describes the international orientation of early-stage entrepreneurs. This measure is based on the extent entrepreneurs sell to customers outside their economies. This includes exports, but could also include international customers buying online, or traveling to an economy for tourism or business.

Figure 19 shows the percentage of entrepreneurs stating that at least some, and also more than 25%, of their customers are from outside their economies in

the years 2008–2010. The economies are grouped in the three phases of development, ranked within these groups from low to high based on having at least some international customers.

The factor-driven economies have, on average, the lowest level of international customers in both the “at least some” and “at least 25%” categories. As the review of industry sectors reveals, more entrepreneurs in the factor-driven group participate in consumer-oriented sectors. These tend to be local businesses. In addition, broader market reaches could be impeded by framework conditions such as underdeveloped transportation and communication infrastructures or restrictive trade policies. Lebanon, however, is notable for its comparatively high level of international participation with short distances to the country border for all entrepreneurs.

The most distinct pattern in the efficiency-driven group is the range of international participation levels across these economies. For example, less than 12% of entrepreneurs in Brazil cite at least some international customers, while this figure is as high as 82% in Montenegro.

The innovation-driven economies had the highest average level of international customers in both categories. Iceland and Belgium stand out as having high levels of entrepreneurs with some international customers. Belgium also had a remarkably high percentage of entrepreneurs at the 25% or more level—the highest across the entire sample. Belgium has a very high percentage of international trade to GDP and is located in the center of economic activity in Europe. Iceland, on the other hand, lies at the periphery. This suggests that, while international trade is easier in Belgium, it is a necessity for Iceland if it is to be a wealthy country.

Wealthier economies often face intense competitive environments, especially since they have been through the buildup of scale economies in their efficiency stage, resulting in powerful and established large organizations. Entrepreneurs can escape the rivalry at home by taking their products to new markets that may value these offerings.

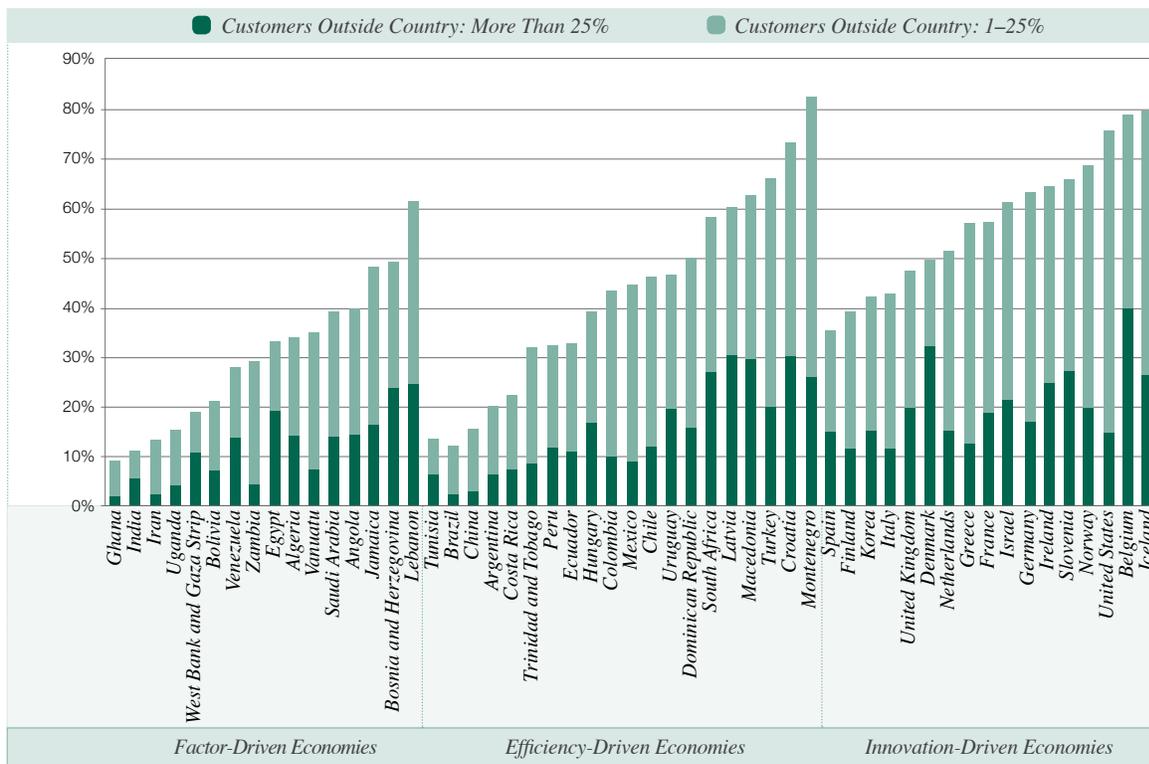
There are a few noticeable geographic patterns within the economic groupings. In the efficiency-driven group, five Eastern European economies have the highest percentage of international entrepreneurs (Croatia, Macedonia, Montenegro, Latvia and Turkey).

The economies from this region in the factor-driven and innovation-driven groups also had high percentages of internationalization. These are relatively small countries with many country borders. Historically, they were member states of larger countries, such as the USSR and the Federal Republic of Yugoslavia, with considerable trade between states.

Across the economic development levels, countries with greater size (especially in terms of land area) exhibit lower international orientation. This is the case, for example, in Iran, India, Brazil, China and Argentina. The United States, although showing a high proportion of entrepreneurs with at least some international orientation, shows comparatively few with more than 25% of customers from outside the country.

While some economies may have large markets, and seemingly little need to go outside for customers, these markets may also attract international competition. By competing on a global scale, however, entrepreneurs can create globally competitive brands. At a macro level, internationalization (or lack of) can impact an economy’s comparative advantage to the extent local brands have ventured out to compete on a global scale.

Figure 19: Percentage of Early-Stage Entrepreneurs with International Orientation, 2008–2010



Source: GEM Adult Population Survey (APS)

3 Entrepreneurship Framework Conditions—An Assessment of Institutional Quality by National Experts

The GEM model (see **Figure 3**) illustrates relevant national conditions impacting economic development and activity more generally, and those facilitating innovation and entrepreneurship more specifically in a society. Three sets of framework conditions are expected to concern public and policy makers at different stages of development. Basic requirements are the underlying fundamental conditions required for a well-functioning business environment. These are usually the focus of development efforts in factor-driven countries. As these become relatively established, and an economy moves toward the efficiency stage, attention turns toward efficiency enhancers.

Finally, there are factors aimed at stimulating and supporting entrepreneurship activity. These nine Entrepreneurship Framework Conditions (EFCs) are illustrated and described in **Figure 20**. While these can be addressed at any stage of development, it

must be emphasized that they function best with an underlying foundation of basic requirements and efficiency enhancers. For example, government entrepreneurship programs will not be effective if inadequate health care and primary education weigh heavily on the populace. Innovation-driven economies that have built relatively sophisticated basic requirements and efficiency enhancers, however, can direct their attention toward enabling these EFCs.

GEM has developed harmonized, single or multiple-item measures of these EFCs in a survey instrument called the National Expert Survey (NES)^{xx}. Each year, national teams personally interview and administer the questionnaire to at least 36 national experts^{xxi}. The analysis of their responses is divided into 12 sections^{xxii}. Altogether, these results summarize the national perceptions of experts across the EFCs.

Figure 20: The GEM Entrepreneurship Framework Conditions

<p>Entrepreneurial Finance</p> <p>The availability of financial resources—equity and debt—for small and medium enterprises (SMEs) (including grants and subsidies).</p>	<p>Government Policy</p> <p>The extent to which taxes or regulations are either size-neutral or encourage SMEs.</p>	<p>Government Entrepreneurship Programs</p> <p>The extent to which taxes or regulations are either size-neutral or encourage SMEs.</p>
<p>Entrepreneurship Education</p> <p>The extent to which training in creating or managing SMEs is incorporated within the education and training system at all levels (primary, secondary and post-school).</p>	<p>R&D Transfer</p> <p>The extent to which national research and development will lead to new commercial opportunities and is available to SMEs.</p>	<p>Commercial and Legal Infrastructure</p> <p>The presence of property rights and commercial, accounting, and other legal services and institutions that support or promote SMEs.</p>
<p>Entry Regulation</p> <p>Contains two components: (1) Market Dynamics: the level of change in markets from year to year, and (2) Market Openness: the extent to which new firms are free to enter existing markets.</p>	<p>Physical Infrastructure</p> <p>Ease of access to physical resources—communication, utilities, transportation, land or space—at a price that does not discriminate against SMEs.</p>	<p>Cultural and Social Norms</p> <p>The extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income.</p>

Table 4 provides a general overview of the results on each factor for the 53 economies participating in the NES in 2010, organized into the three economic development groups. This table identifies the top three items with the lowest and highest scores within each economy. **Table 4** shows that many economies share both positive and negative elements. For example, 50 economies evaluate physical infrastructure positively, including every efficiency-driven and innovation-driven economy. Another EFC with many positive evaluations is the commercial and legal infrastructure; exceptions are exhibited in three Asian economies (China, Taiwan and the Republic of Korea), which evaluate this factor negatively.

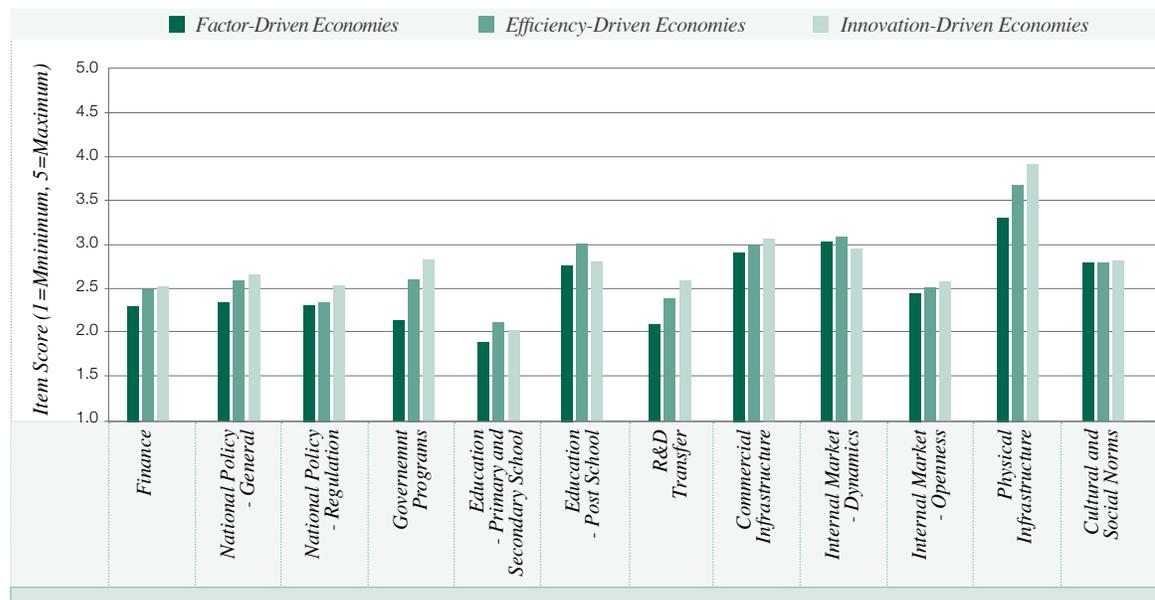
In 46 economies, education and training in primary and secondary school is one of the three worst-performing EFCs. A second EFC that has among the lowest scores is national policy with regard to regulation of new and growing firms; Finland is the only economy where experts evaluate this EFC positively.

In general, experts in more economically developed countries gave higher ratings to EFCs, as is shown in **Figure 21**. This is consistent with the GEM model and the notion that EFCs have higher priori-

ties among more economically developed countries. Of course, experts in factor-driven economies may have different points of reference in comparison to their colleagues in the innovation-driven group. This may explain why the observed differences between the three country groups are not very high. Factors that show the most pronounced differences across phases of economic development include government programs, R&D transfer and physical infrastructure. The low scores on the availability of finance reflect remnants of the 2008–2009 global financial crisis.

National cultures, in general or from the perspective of governments, may in some economies be far more positively disposed to entrepreneurship than in others; therefore, a comparison of scores on each item across specific countries may not yield strong conclusions. A key objective of the NES, however, is to provide a better understanding about the conditions that emerge inside the countries. Policy makers and other relevant stakeholders within a nation’s entrepreneurship ecosystem can benefit from understanding the EFCs and how they are evaluated by national experts. In many countries, NES results serve as useful barometers of the environment for entrepreneurial activities.

Figure 21: Scores on Entrepreneurship Framework Conditions Rated by National Experts, by Stage of Development (Unweighted Country Averages)



Source: GEM Adult Population Survey (APS)

Table 4: Entrepreneurship Framework Conditions: Three Valued Most Positive (+) and Three Most Negative (-), Per Country

	1 Finance 2a Nat. Policy – General Policy 2b Nat. Policy – Regulation 3 Government Programs			4a Education – Prim. and Second. 4b Education – Post-School 5 R&D Transfer 6 Commercial Infrastructure			7a Internal Market – Dynamics 7b Internal Market – Openness 8 Physical Infrastructure 9 Cultural and Social Norms					
	1	2a	2b	3	4a	4b	5	6	7a	7b	8	9
Factor-Driven Economies												
Angola				-	-	+	-		+			+
Bolivia					-	+	-		+		+	
Egypt		+			-		-		+		+	-
Ghana			-		-		-	+	+			+
Guatemala		-		-	-	+		+			+	
Iran				-	-				+	-	+	+
Jamaica	-		-				-	+			+	+
Pakistan		-		-	-			+	+		+	
Uganda			-		-	+	-		+		+	
Vanuatu	-	-				+	-		+		+	
West Bank and Gaza Strip				-	-			+	+	-	+	
Zambia	-				-		-	+	+	+		
Efficiency-Driven Economies												
Argentina	-	-	-			+		+			+	
Bosnia and Herzegovina		-	-	-				+	+		+	
Brazil		-	-		-				+		+	+
Chile					-	+	-	+	-		+	
China	-				-			-	+		+	+
Colombia	-				-	+	-				+	+
Costa Rica	-		-		-	+		+			+	
Croatia			-		-			+	+	-	+	
Ecuador			-		-	+	-	+			+	
Hungary			-		-	+			+		+	
Latvia	-		-	-		+		+			+	
Macedonia	-				-	+	-	+			+	
Malaysia	+		-		-				+	-	+	
Mexico			-		-	+				-	+	+
Montenegro			-		-	+			+	-	+	
Peru				-	-		-	+			+	+
Russia	-				-		-	+	+		+	
South Africa				-	-		-	+	+		+	
Taiwan		-			-		-		+		+	+
Trinidad and Tobago		-			-	+	-	+			+	
Tunisia		+			-		-		+	-	+	
Turkey	-							+	+	-	+	-
Uruguay	-			+	-	+			-		+	
Innovation-Driven Economies												
Finland			+		-		-	+		-	+	
France		+			-	+				-	+	-
Germany			-	+	-			+			+	-
Greece	-	-	-					+			+	+
Iceland	-				-				+	-	+	+
Ireland	-			+	-			+			+	
Israel		-	-		-			+			+	+
Italy		-	-		-	+			+		+	
Japan	-	+	-						+		+	
Republic of Korea	-	+			-			-	+		+	
Norway	+	-			-			+		-	+	
Portugal			-		-	+		+			+	-
Slovenia					-			+	+		+	-
Spain	-		-		-			+	+		+	
Sweden			-		-		-	+	+		+	
Switzerland				+	-			+	-	-	+	
United Kingdom	-				-		-	+	+		+	
United States	-		-		-			+			+	+

Source: GEM National Expert Survey (NES)

4 Entrepreneurship and the Global Economy in 2010

Although the global economic downturn delivered its most severe blows in 2008 and 2009, a number of countries have suffered a vivid after-shock in 2010. When this report went to print, problems still persisted in Europe. The European Union and IMF structured bailouts to rescue Greece and Ireland from bankruptcy, while potentially similar scenarios were looming for some other European countries.

In this chapter, we use nine years of GEM data to examine patterns in entrepreneurship around major shifts in the economy. In addition, we reveal results of specific questions that were included in the adult population survey in 2009 and 2010; those entrepreneurs who were polled gave their impressions about starting and operating their businesses in the current environment.

William Baumol, in a seminal article on entrepreneurship and development, argued for a constant 'rate' of entrepreneurship across societies^{xxiii}. This rate would be regulated by institutions, rules and norms, which determine the extent entrepreneurship is productive and contributing toward economic development.

If Baumol is correct, one could argue that recessions cause shifts in the balance of various types of entrepreneurship activities, rather than a reduction in entrepreneurship itself. For example, individuals

who have worked in the financial sector as employees (possibly in activities of a somewhat entrepreneurial nature) might look for ways to earn their own income, perhaps in a different sector. Some may see better prospects for starting companies because the cost of human and capital resources has dropped. Others, having considered the entrepreneurship option in good times, might opt for employment over the next few years, saving their entrepreneurial aspirations for later.

Consequently, some of the self-employed may not be very entrepreneurial and some employees may, in fact, be very entrepreneurial^{xxiv}. A simple study of the number of self-employed individuals or start-ups does not therefore lead to satisfactory answers about the impact of a recession on entrepreneurship activity. The GEM methodology and the richness of its data, however, can help overcome this limitation and provide more intuitive and relevant insights.

This analysis addresses two key questions. The first examines the extent recessions affect new entrepreneurship activity. On the one hand, we may expect fewer start-up activities because of lower perceived opportunities. On the other, start-up activities may increase as a result of more people starting businesses out of necessity. Yet another explanation is that recessions can free up old markets and resources, and some people may actually see new op-

portunities to start businesses, given the change in their circumstances generated by the recession.

Thus, this first question cannot be answered solely by observing the annual number of start-ups. What matters are what types of businesses are being set up, the underlying motivations for starting them and the kind of aspirations the entrepreneurs have for their businesses. GEM can provide insights into this issue because the methodology explicitly considers different types and phases of entrepreneurship activity.

The second question explores the extent entrepreneurship serves as a mechanism for reversing the downward trend, even shifting it into an upward one. Several theories propose that the best innovations have been initiated in times of recession (or depression, as in the 1930s), when societies were more open to change. Prior to these downturns, prevailing business models were considered successful and there was little call for change, impeding new introductions from taking place on a significant scale. In times of recession, however, old assumptions are brought into question. New entrants can gain a foothold as incumbents reel from the shock of change. During the years preceding the 2008–2009 recession, R&D investments have revealed some potentially fruitful areas such as green technology.

4.1 The Impact of Recessions on Entrepreneurship: Evidence from GEM Data

In this section, we highlight the evolution of entrepreneurial attitudes, activity and aspirations in several countries that have been involved in GEM throughout the 2002–2010 period, a period reflecting a full business cycle. The 2009 GEM Global Report highlighted the United States and Argentina as special cases of countries hit by severe recession (Argentina in 2000 and the United States in 2008–2009). In this report we show the development of some of the main GEM indicators over time for Ireland, a country that has witnessed particularly severe financial problems in 2010.

Analysis of Entrepreneurship in Ireland: 2002-2010

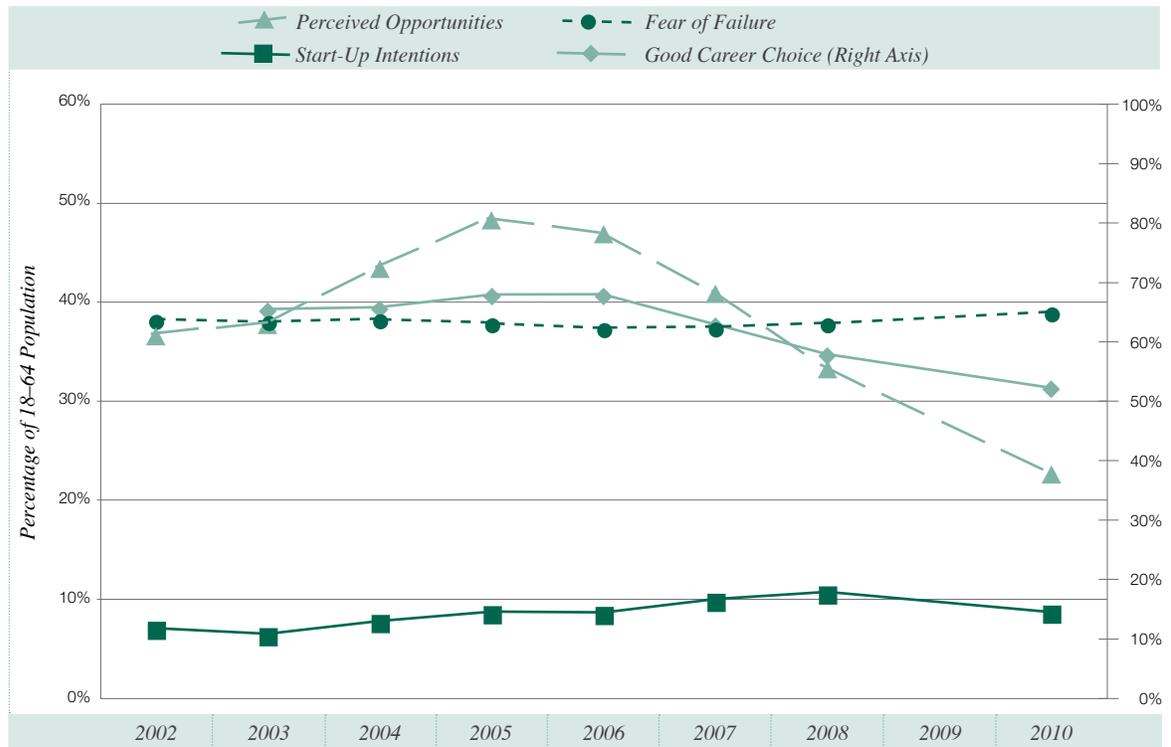
Figure 22 and Figure 23 show the evolution of entrepreneurial attitudes and activity in the Irish working-age population from 2002 to 2010^{xxv}. Consistent with the findings for Argentina and the United States in the 2009 GEM report^{xxvi}, the Irish population appears to have acted, from around 2006, as if it anticipated trouble ahead.

As Figure 22 indicates, perceived opportunities to start a business (among the Irish working-age population) declined about 50% from 2007 to 2010. The fear of failure rate in 2010 showed no deviation from the long-term trend, however, while this indicator rose in the U.S. before the recession. Fear of failure is already comparatively higher in Ireland, though, with average scores for an innovation-driven economy, while the U.S. typically rates low on this measure.

With regard to entrepreneurship activity, Figure 23 shows that the number of people involved in new start-ups declined moderately between 2006 and 2008. Between 2008 and 2010, the number of individuals actually owning and managing a new firm also seems to be in decline. Perhaps the most remarkable indicator is the staggering growth in the percentage of necessity-motivated early-stage entrepreneurs from 2007 to 2010.

Overall, people in Ireland were not seeing as many opportunities for entrepreneurship starting in 2007, the year before the recession hit. Fewer people were setting up businesses a couple of years before the recession started, and a smaller amount of entrepreneurs were running new businesses during the recession. In addition, the percentage of necessity entrepreneurs rose markedly just before and during the recession. This all suggests that people were not optimistic about prospects for entrepreneurship before the recession, and were possibly more likely to hold onto their jobs, rather than start businesses with opportunity motives. Yet with fewer job prospects during these challenging times, some people needed entrepreneurship as a source of income.

Figure 22: Entrepreneurial Attitudes in Ireland, 2002–2010



Source: GEM Adult Population Survey (APS)

Figure 23: Entrepreneurial Activity in Ireland, 2002–2010



Source: GEM Adult Population Survey (APS)

4.2 Analysis of GEM Economies: 2002–2010

The next analysis focuses on all the economies that consistently participated in GEM over the 2002–2010 period, based on the following four main indicators of attitudes and activity:

- Perceived opportunities to start businesses by the working age population
- The percentage of owner-managers in new firms in the working age population
- The percentage of early-stage entrepreneurs that have started out of necessity
- The percentage of early-stage entrepreneurs expecting to have at least 5 employees

The 2002–2010 period is divided into three time frames: (1) 2002–2004, after the dot.com bubble burst, (2) 2005–2007, a time generally characterized by expansion; and (3) 2008–2010, during the global slowdown. The selection of economies is based on the availability of an adequate sample of entrepreneurs in each period. This is necessary in order to interpret the differences over time with sufficient statistical precision^{xxvii}.

Figure 24 portrays the development of perceived opportunities to start businesses by the working age population. In four out of the six efficiency-driven economies included in this analysis, opportunity perception has grown in the most recent time period. China has remained stable on this indicator throughout the entire period, while Argentina showed a drop; perceptions are still higher than the 2002–2004 period, however, when this country struggled to emerge from its 2000 financial crisis.

In the innovation-driven countries, a different pattern is evident. Nine out of twelve countries exhibited a decline in perceived opportunities in the past three years, compared to 2005–2007. The most remarkable relative drop in this attitude in the more recent period can be observed in Spain and Ireland. Germany stood out with its rise in perceived opportunities, while the United States seemed to recover from the low perceptions recorded in 2005–2007.

A comparison of **Figure 24** with **Figure 26** and **Figure 27** demonstrates that opportunity perception and actual involvement in new business activities can exhibit some consistency. For instance, while perceptions in Chile were rising, prevalence rates of owner-managers in new firms also showed an increase (see **Figure 25**). Additionally, the results in **Figure 26** indicate that necessity entrepreneurship in Chile increased only slightly in the most recent period, while the degree of early-stage entrepreneurs with some growth expectations (**Figure 27**) remained high, despite a small drop. Together, the results for this newest OECD-member may reflect a population with increasingly positive perceptions and job opportunities. **Figure 27** also shows remarkable increases in job growth expectations in South Africa, while those in China and Argentina have been tempered somewhat.

As **Figure 25** shows, entrepreneurial activity in the innovation-driven economies has dropped in Germany, Norway and Spain in the most recent period. For the United States and Denmark, a decline was already set in motion during 2005–2007. The Netherlands has shown a remarkable rise in activity by individual owner-managers of new firms. The same holds true for Greece. However, **Figure 26** shows that while necessity-driven activity remained low in the Netherlands, it increased in Greece, indicating that the latter country's rise was mostly due to necessity.

The percentage of early-stage entrepreneurs expecting to employ at least five people within five years remained low among innovation-driven economies. Concurrently, necessity-driven entrepreneurship increased in the United States and in Ireland—as Section 4.1 pointed out. We should note that, although most necessity-motivated new ventures are associated with marginal businesses, a significant minority of these may very well turn out to be highly successful. In Ireland for example, the higher rate of necessity-driven entrepreneurship has not (yet) led to a significant decrease in the percentage of early-stage entrepreneurs with job growth expectations (**Figure 27**), even though most of the other economies tended to show small declines in this measure.

Figure 24: Percentage in the Working Age Population Perceiving Good Opportunities to Start a Business in the Area Where They Live, by Country, for 2002–2004, 2005–2007 and 2008–2010, Respectively¹

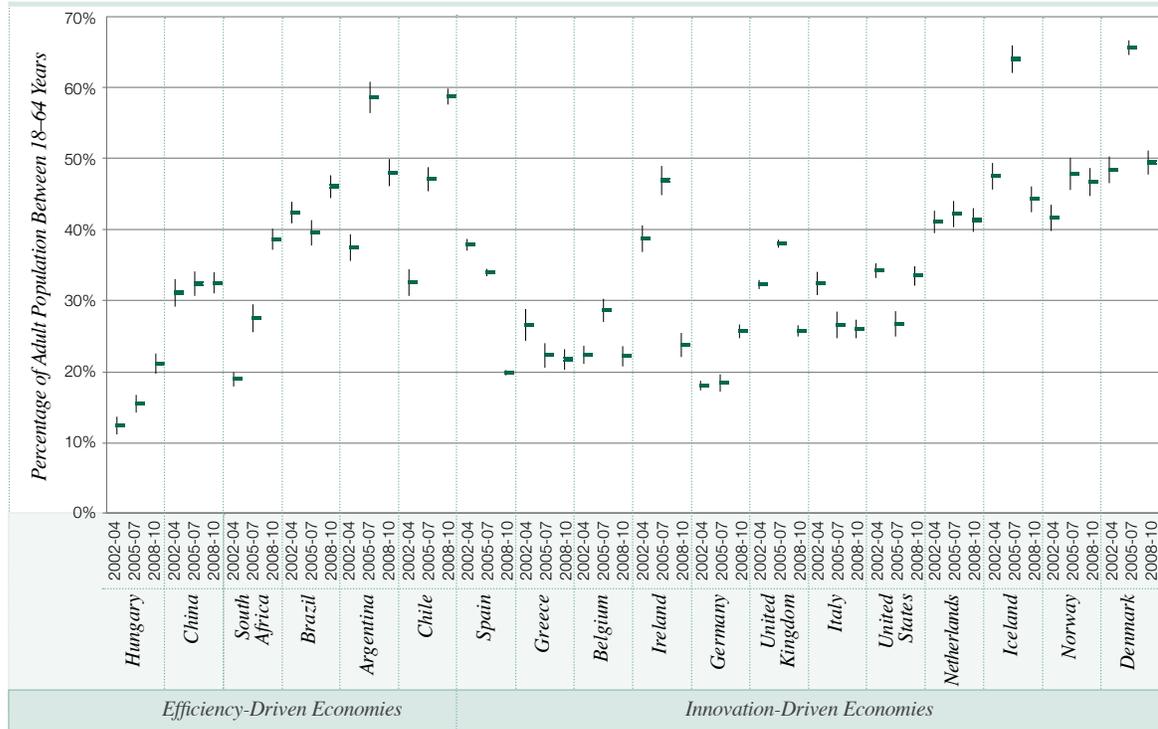
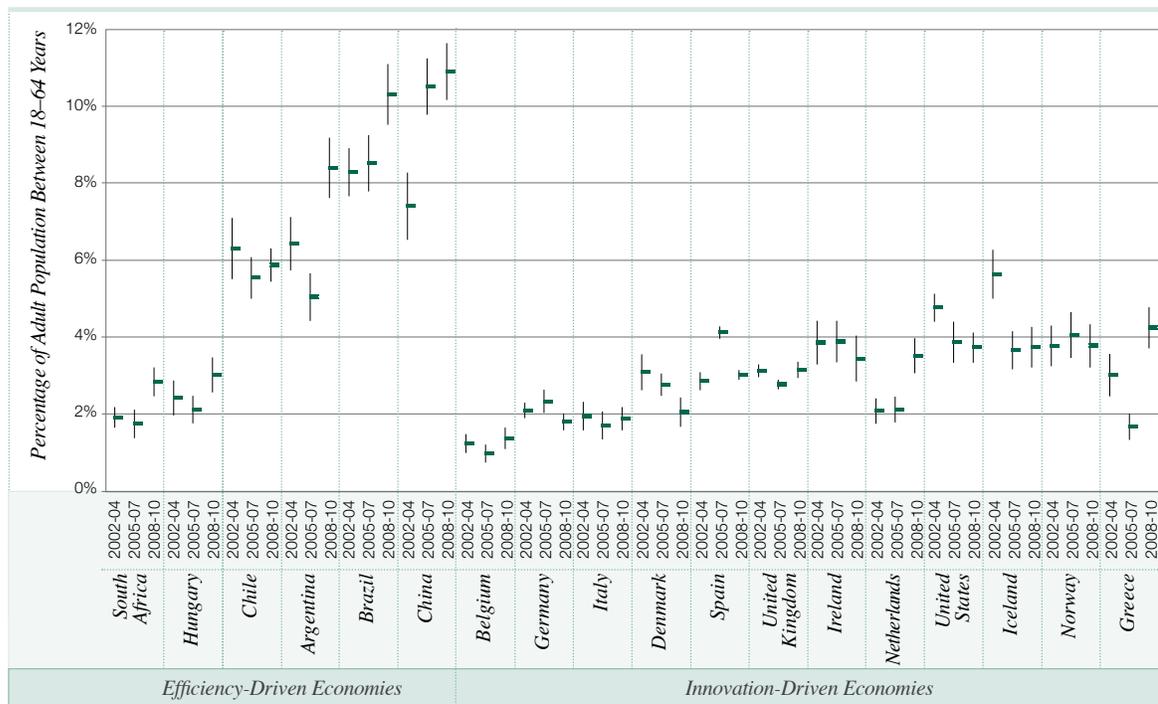


Figure 25: Owner-Managers of New Firms: Percentage in the Working Age Population, by Country, for 2002–2004, 2005–2007 and 2008–2010, Respectively¹



¹ Economies are ordered according to their point estimate for the 2008–2010 period, within country groups.

Source: GEM Adult Population Survey (APS)

Figure 26: Percentage of Early-Stage Entrepreneurs indicating That They Are Involved in Entrepreneurship out of Necessity, by Country, for 2002-2004, 2005-2007 and 2008-2010, Respectively¹

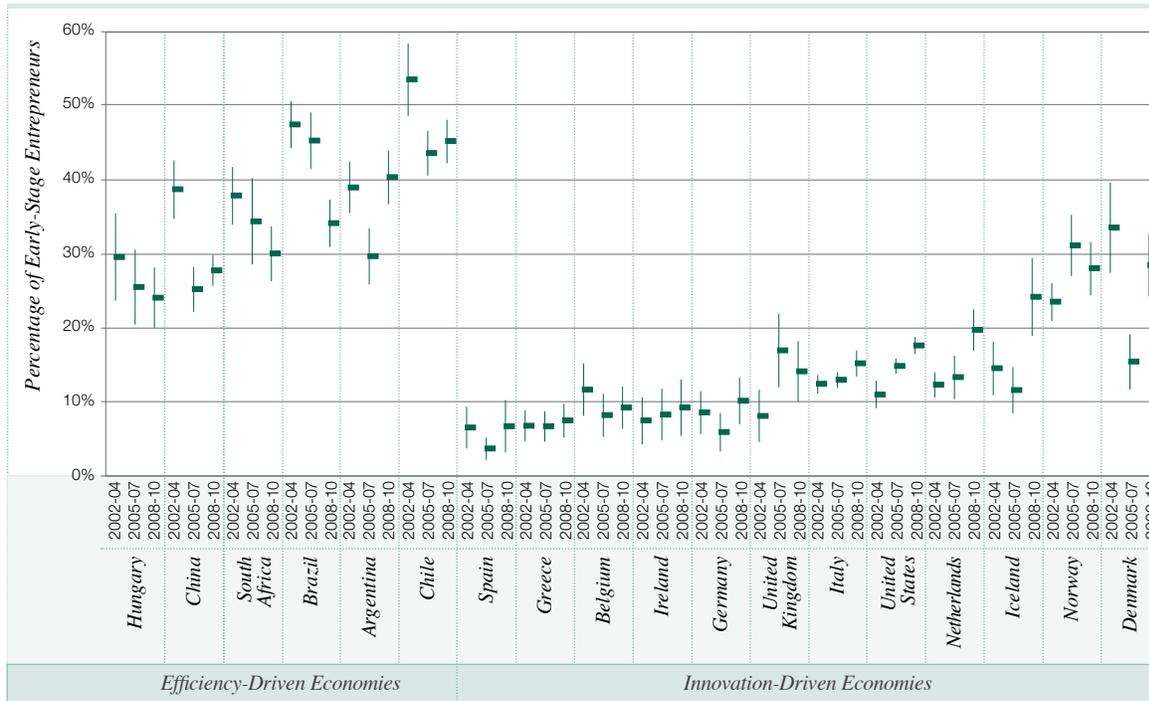
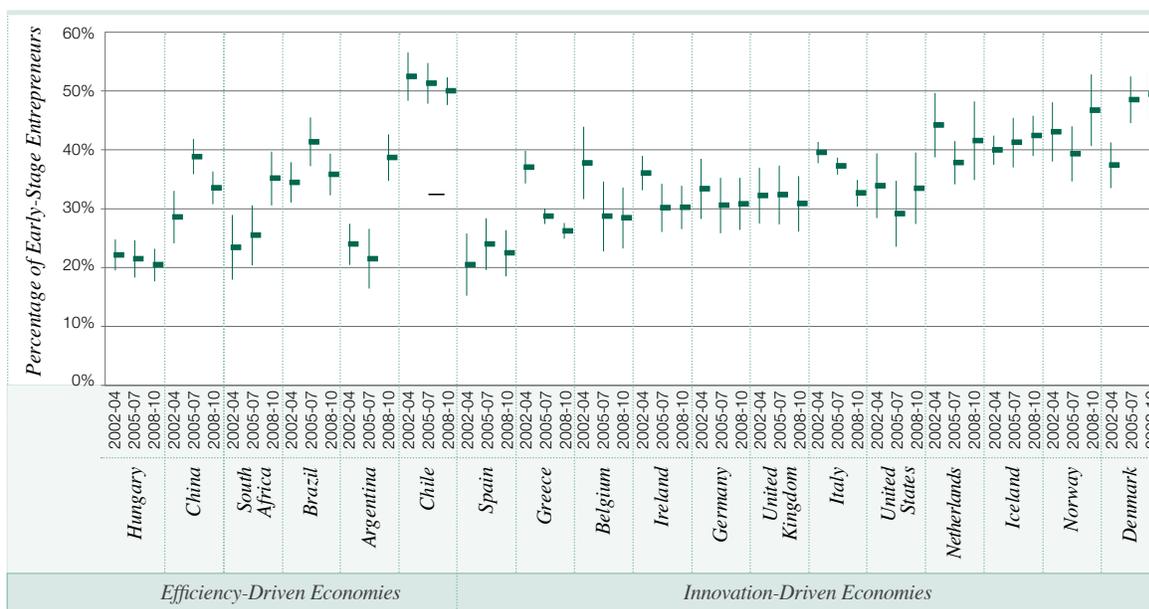


Figure 27: Growth Expectations: Percentage of Early-Stage Entrepreneurs Expecting to Have at Least 5 Employees Five Years from Now (or after the Start-Up) for 2002-2004, 2005-2007 and 2008-2010, Respectively¹



¹ Economies are ordered according to their point estimate for the 2008-2010 period, within country groups.
Source: GEM Adult Population Survey (APS)

4.3 Entrepreneurs' Impressions of the Impact of the Recession on Entrepreneurship Activity

This section shows how entrepreneurs in the three economic groups perceived the impact of the global recession for their businesses. This analysis is based on special questions that have been included in the GEM 2009 and 2010 surveys. The results show how entrepreneurs in different phases of the entrepreneurship process perceive their own business activities in the shadow of the economic crisis.

Opportunities for Starting and Growing a Business Compared to One Year Ago

In the GEM 2009 and 2010 surveys, two questions were added to assess how early-stage entrepreneurs evaluated the conditions for starting a business in comparison to the previous year. **Figure 28** shows results for those countries in which information was available for both years. In 2009, an average of 60% of the entrepreneurs found it more difficult to start a business. This percentage dropped to 50% in 2010^{xxviii}.

There appear to be substantial differences among the economies, however. In both years, more entrepreneurs in factor-driven economies, on average, claimed that it was more difficult to start a business than in other economies. Many of these entrepreneurs have little contact with global financial markets, so they would be less affected by changes in the world economy. However, they are more likely necessity-driven and may perceive their circumstances as increasingly challenging.

Efficiency-driven entrepreneurs were among the most negative about the ease of starting businesses in 2009. This measure improved substantially in 2010, reflecting their greater connection to global

markets, compared to the factor-driven group. Improvements were particularly noticeable in some Latin American countries (Argentina, Brazil, Chile, Colombia, Uruguay) and Eastern European countries (Hungary, Latvia, Russia).

The greatest gains, however, were found among the innovation-driven economies. In Finland and Slovenia, the proportion of early-stage entrepreneurs citing it was more difficult to start businesses in 2010 declined to half the level it was in 2009. Results from Iceland were also encouraging; far fewer entrepreneurs evaluated this item negatively in 2010 (44%) compared to 2009 (80%), when they were in the midst of their financial crisis.

Still, many countries in the innovation-driven group remain pessimistic, with more than half of their early-stage entrepreneurs stating it was harder to start a business in 2010 compared to the year before. This includes European countries Greece (76%), Ireland (56%), Italy (60%), Portugal (62%) and Spain (72%), as well as the Republic of Korea and Israel (both 60%). This confirms that turbulent economic conditions can diminish prospects for new start-ups.

Perceptions about the difficulties of starting a business by early-stage entrepreneurs correspond closely with expectations for growth by established entrepreneurs. Countries with negative perceptions in **Figure 28** also dominate on the negative side in **Figure 29**. Exceptions include China, where established entrepreneurs see more positive developments in terms of growth potential, compared with the greater difficulties perceived by early-stage entrepreneurs. This concurs with the drop in TEA rate in China for 2010.

Other notable positive developments in terms of growth potential were observed in established entrepreneurs from Uruguay and Chile. Russia and Latvia also saw substantial improvements in this measure; nevertheless, almost half of the established entrepreneurs still saw lower expectations for growth in 2010 over the previous year.

Figure 28: Percentages of Total Early-Stage Entrepreneurs Who Find Starting a Business Now More Difficult Compared to One Year Ago, 2009 and 2010

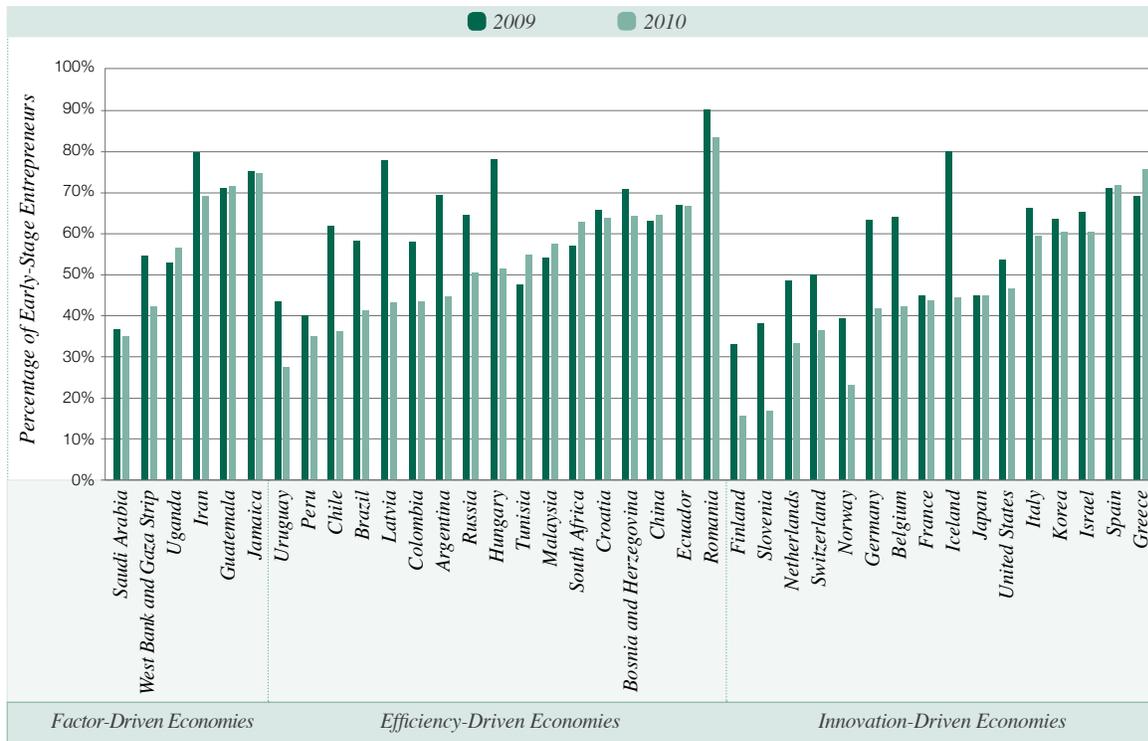
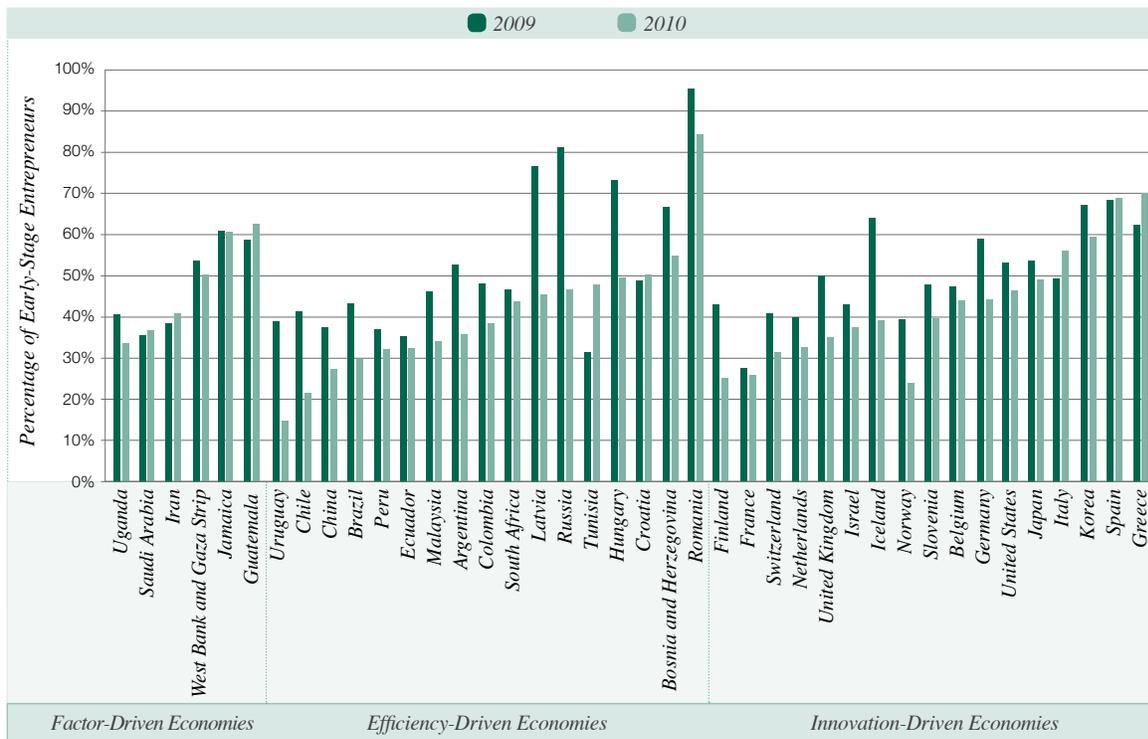


Figure 29: Percentages of Established Entrepreneurs Whose Expectations for Growth Are Lower Compared to One Year Ago, 2009 and 2010



Source: GEM Adult Population Survey (APS)

The Recession and the Impact on Perceived Business Opportunities

The 2010 adult population surveys asked entrepreneurs for their views on the effect of the “global economic slowdown” on business opportunities for their start-up or existing businesses. Figure 30 summarizes the results by economic group and type of entrepreneur. It is clear that a majority of entrepreneurs in all phases of economic development see fewer opportunities for their business. Still, a quarter of nascent entrepreneurs in innovation-driven countries see more opportunities for their business, at a higher frequency than the other two groups.

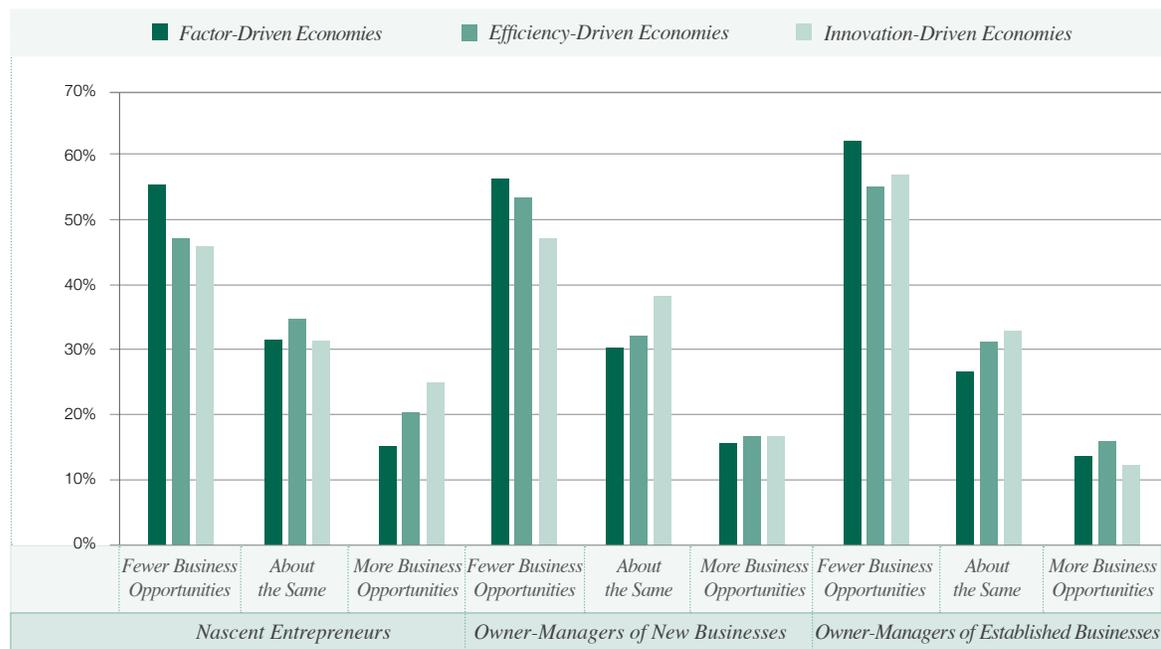
More notably, in four of these countries the percentage of nascent entrepreneurs with positive perceptions

relative to the global slowdown outnumbered those with negative perceptions: Germany, the Netherlands, Sweden and Switzerland. Figure 30 shows that nascent entrepreneurs and owner-managers of new firms tended to be more optimistic than established entrepreneurs, particularly in innovation-driven countries. It should be pointed out that these questions are relative, and in countries that have been relatively unaffected by the global slowdown, entrepreneurs may see little difference from one year to the next.

By contrast, in innovation-driven countries, where much has changed, a significant minority of entrepreneurs see opportunity where others see danger. These individuals tended to be younger and better educated, and generally had higher aspiration levels in terms of job expectation and innovation^{xxix}.

“We are investing in new equipment for expansion of the business. We believe that this recession will not last and we want to be in a position to take advantage of the upswing when it happens. This can happen quickly when airlines begin hiring, which we are already beginning to see signs of. Past experience has shown that those who defer investment during a recession pay the price when the upswing comes, as they are unable to reposition themselves quickly enough.”
 Feargal Keogh, CEO and Co-founder of Simtech, Ireland

Figure 30: Impact of the Global Economic Slowdown on Entrepreneurs' Perception of Opportunities for Their Businesses, According to the Entrepreneurs (Unweighted Country Averages)



Source: GEM Adult Population Survey (APS)

5

Conclusions and Implications

GEM offers a wealth of measures that can provide greater understanding about the nature and level of entrepreneurship worldwide. A number of implications can be drawn from this year's results, and we will identify a few key ones in this chapter. It is important to recognize, however, that each economy represents a unique context. Therefore, it is nearly impossible to make specific policy prescriptions at the global level. The following general recommendations are designed to help in the framing of country-specific policies.

It's Not Just About More Entrepreneurs

The analysis of the three economic stages shows that lower development levels typically have a high number of individuals involved in starting and developing new businesses. Yet these people are more likely to have been pushed into entrepreneurship by necessity. They are less likely to grow innovative businesses, reach for high growth and seek international markets. Consequently, entrepreneurship does not impact an economy simply through more individuals starting businesses. It is important to consider quality measures such as those relating to the motivations and ambitions of entrepreneurs.

Facilitate Necessity, Encourage Opportunity

Economies need people to self-employ when required. Necessity-based entrepreneurs start busi-

nesses particularly where and when basic requirements are not, as yet, fully developed. To the extent these and other factors do not act as deterrents to their efforts, these entrepreneurs can thrive and their societies will benefit. Entrepreneurship can thus provide a source of income when an economy cannot yet supply enough jobs or other alternatives for generating wages or salaries, providing positive social value.

As economies develop, a drop in necessity entrepreneurship may signal positive gains in development, when large organizations join the economic ecosystem to help provide jobs to a populace. But even in wealthier regions, necessity-based activity offers a source of income during tough economic times, as it has during the 2008–2009 recession.

Societies also need opportunity entrepreneurs to ensure new ideas come into being through the energy of enterprising individuals. Many people appear to see fewer reasons for becoming entrepreneurs when they have stable job options. Surely, some will leave these jobs to become entrepreneurs. They may do so because they see opportunities, and have particular attitudes and beliefs to inspire them. Nonetheless, the motivation to take these paths may diminish when other seemingly more attractive options abound.

Where incentives for being an employee substantially exceed those associated with becoming an entrepreneur, policy makers may consider either

reducing the advantages employees receive relative to entrepreneurs, or providing greater benefits for entrepreneurs, depending on the specific circumstances in their economies.

To sum up, while basic requirements allow necessity-based entrepreneurs to get started, entrepreneurship framework conditions (EFC) may be important in promoting opportunity entrepreneurs. Policy makers may therefore examine how they can both enable necessity motivation and/or encourage opportunity motivation.

Ensure Both Entrepreneurial Dynamism and Stability

Dynamism happens through the birth of new firms, led by individuals with novel ideas that create new value. Some of these births displace old businesses that have outlived their useful lives; perhaps their founders go on to start new firms or otherwise apply their learning to help the entrepreneurial ecosystem. Starts and stops can also signal experiments, many of which will fail, but some of which will produce tremendous wins. These experiments also provide valuable lessons to entrepreneurial individuals who can try again. Failure is therefore a component of entrepreneurship. As such, both entrances and exits are important to a dynamic entrepreneurial society.

Stability is disrupted, however, when those individuals that can otherwise bring promising ideas to life are thwarted by conditions in their environments—social expectations, lack of a legal infrastructure, government policies, economic instability and so forth. For example, the factor-driven economies in the 2010 GEM survey exhibited a tendency toward fewer established businesses relative to nascent and new ones, and a higher rate of discontinuance. A lot of unsustainable business starts may be a misuse of resources. Start-up efforts need to be accompanied with the ability for these businesses to have their best chance to test and reach their potential.

Learn from Your Economic Peers and Your Geographic Neighbors

Entrepreneurship is unique in every economy. Yet the study of entrepreneurship relative to eco-

nomical level enables one to understand what might be unique at a particular phase of development, or to learn from others in the same economic situation. Across the development groups, for example, the innovation-driven populace saw entrepreneurs as having high status, but they showed less interest in becoming one. The efficiency-driven economies, on the other hand, generally thought entrepreneurship was a good career choice, despite not seeing much media attention or status with regard to entrepreneurs.

In addition, the patterns exhibited in geographic regions reveal an opportunity for regional studies of entrepreneurship, to understand how similarities among neighbors influence entrepreneurship and perhaps to outline approaches for bringing about improvements. For instance, the sub-Saharan (factor-driven) and the Latin American/Caribbean (efficiency-driven) economies exhibited high opportunity/capability perceptions and high TEA, but low growth aspirations. Conversely, the MENA region (factor-driven) and the Eastern European (efficiency-driven) economies had the opposite: low opportunity/capability perceptions and low TEA, but high growth projections.

Promote Entrepreneurship in Many Forms

Entrepreneurship in a society can be portrayed as a portfolio of different business phases and types. Individuals in the process of starting businesses become new entrepreneurs, and then established business owners. A variety of entrepreneurs at all phases will ensure this activity is continually renewed and sustained. Economies also need growth businesses to create new jobs. They need innovation to boost their societies' comparative advantage. And because markets are increasingly global, they must have entrepreneurs capable of international competition. These entrepreneurial endeavors may emerge, not only in start-ups, but also social enterprises, family businesses, corporate environments and other contexts.

In addition, economies need many different types of entrepreneurs, including those that may be underrepresented: younger and older individuals, women and poorer or disadvantaged groups. Some economies, for instance, showed

fewer women, or a low number of younger or older entrepreneurs. When an economy neglects a large demographic in its entrepreneurship ranks, it misses an opportunity to fully benefit from its entrepreneurial potential.

Consider Development Level When Designing Entrepreneurship Initiatives

For factor-driven economies, it is critical to develop a sufficient foundation of basic requirements that can support sustainable businesses. Entrepreneurs can bring greater efficiency to the agriculture, extraction and other industries typically found in their development stage. But they can also lay the groundwork for future growth in their economies and the emergence of new industries. These efforts therefore create value for their societies, but also contribute toward the well-being of their future generations.

For efficiency-driven economies, the nurturing of economies of scale attracts more growth- and technology-oriented entrepreneurs, creating more employment opportunities. Although large firms dominate, this opens up niches for small and medium enterprises that can perform supply chain, service and other activities. This process depends on the foundation of basic requirements like infrastructure and macroeconomic stability, but increasingly requires financial markets, higher education, technological readiness and other efficiency enhancers.

For innovation-driven economies, there is greater potential for innovative entrepreneurial activity leading to the introduction of new combinations of products and markets. As this requires greater reliance on knowledge, there will need to be R&D transfer mechanisms and a commercial and legal infrastructure, among other entrepreneurial framework conditions. But it also assumes an adequate base of the more fundamental factors.

Promote an Entrepreneurial Mindset Across the Population

An economy's entrepreneurial capacity requires individuals with the ability and motivations to start businesses. These entrepreneurs, however, will need to rely on a wide variety of personal and professional support mechanisms: families, advisors, government officials, creditors and investors, suppliers and customers and so forth. These stakeholders need to be willing to support entrepreneurs, perhaps taking some risks along with them.

In addition, societal-level impressions can impact entrepreneurs. Non-entrepreneurs with entrepreneurial mindsets may indirectly stimulate others to start businesses. Efforts to promote entrepreneurship may therefore benefit from improving the perspective of the wider population. This highlights, for instance, the role of media in promoting positive images of entrepreneurs. It also underscores the value of training and education in preparing individuals who can pursue entrepreneurship when needed or when opportunity strikes.

Toward the Future

GEM in 2010 has reached across the globe to assess entrepreneurship across multiple levels of economic development, attaining greater geographic coverage than at any time during its 12-year history. As GEM continues to grow, so will its impact—on policy makers, researchers, educators and most of all, people. People become entrepreneurs, and in so doing, create sources of incomes for their families. They bring to life new products and services that provide value and improvements to their communities and to those around the world. As such, they create jobs and contribute to the economic development and comparative advantage of their societies.

We invite you to reflect on, share and discuss this report. It is our hope that in so doing, we can work to improve the lives and well-being of those around the world, employing entrepreneurship where, when and how it is needed most.

Appendix 1: Background on GEM

The Global Entrepreneurship Monitor was conceived in 1997 by Michael Hay of London Business School (LBS) and Bill Bygrave of Babson College. LBS and Babson funded a prototype study that year. Ten national teams conducted the first GEM Global study in 1999 with Paul Reynolds as the principal investigator. The Global Entrepreneurship Research Association (GERA) was formed in 2004 to serve as the oversight body for GEM. GERA is a not-for-profit organization governed by representatives of the national teams, the two founding institutions and sponsoring institutions.

GERA's mission is to contribute to global economic development through entrepreneurship. To achieve this, GERA seeks to increase worldwide knowledge about entrepreneurship by conducting and disseminating world-class research that:

1. Uncovers and measures factors impacting the level of entrepreneurial activity among economies,
2. Identifies policies that may enhance entrepreneurial activity, and
3. Increases the influence of education in supporting successful entrepreneurship.

Since the first study in 1999, more than 80 national teams have participated in the GEM consortium. Led by a central coordination team, the consortium administers an annual adult population survey (APS)

of at least 2,000 individuals aged between 18 and 64 in each participating economy. In addition, GEM national teams conduct National Expert Surveys (NES) to obtain insights about particular factors impacting entrepreneurship in each country.

GEM aims to be the leading source of information and analysis about entrepreneurship across the globe. The study employs an original methodology that has been continually refined over 12 years. Data collection follows strict quality control procedures. This strong methodology, and other distinct features, contributes to the project's uniqueness and value for those seeking to benchmark and make comparisons about entrepreneurship among nations. Thanks to the effort and dedication of hundreds of entrepreneurship scholars as well as policy advisors across the globe, the GEM consortium is a unique network building a distinct data set.

Each economy participating in the GEM project has an academic team, which selects a local survey vendor to conduct the APS and then monitors the process for quality control. The GEM central coordination team and its specialized staff ensure each team follows strict GEM research standards. This strengthens data quality and allows for the harmonization of data across all participating countries. All teams and vendors therefore adopt the same methodology.

Quality control is similar for the NES, with an oversight role played by the central coordination team. National teams conduct this survey in accordance with the specific procedures and policies established by the GEM consortium. The NES process includes the selection of at least 36 experts, covering nine framework conditions that influence a nation's entrepreneurial environment: financial support, government policies and programs, education and training, R&D transfer, access to commercial and professional infrastructure, internal market dynamics, access to physical infrastructure and social and cultural norms. Interviews are conducted with at least four experts in each of the nine areas.

GEM publishes annual global reports and GEM national teams publish individual country-level reports. In addition, GEM publishes special reports on topics including women entrepreneurship,

high-growth ventures and entrepreneurial finance. Annual special reports are also developed based on questions added to the APS during an annual cycle on topics such as entrepreneurship education/training and social entrepreneurship. Special topics and questions are approved by the GERA annual assembly and reviewed by the central coordination team.

Contact details, GEM 2009 National Summary Sheets and national teams' micro-sites can be found on www.gemconsortium.org. The GEM national reports, produced by the national teams, provide more in-depth information on specific economies. A selection of GEM data is also made available on this website, and tables can be downloaded free of charge using drop-down menus. The GEM website also provides an updated list of the growing number of peer-reviewed scientific articles based on GEM data.

Appendix 2: Glossary of Main Measures and Terminology

<i>Measure</i>	<i>Description</i>
<i>Entrepreneurial Attitudes and Perceptions</i>	
<i>Perceived Opportunities</i>	<i>Percentage of 18–64 age group who see good opportunities to start a business in the area where they live</i>
<i>Perceived Capabilities</i>	<i>Percentage of 18–64 age group who believe to have the required skills and knowledge to start a business</i>
<i>Entrepreneurial Intention</i>	<i>Percentage of 18–64 age group (individuals involved in any stage of entrepreneurial activity excluded) who intend to start a business within three years</i>
<i>Fear of Failure Rate</i>	<i>Percentage of 18–64 age group with positive perceived opportunities who indicate that fear of failure would prevent them from setting up a business</i>
<i>Entrepreneurship as Desirable Career Choice</i>	<i>Percentage of 18–64 age group who agree with the statement that in their country, most people consider starting a business as a desirable career choice</i>
<i>High-Status Successful Entrepreneurship</i>	<i>Percentage of 18–64 age group who agree with the statement that in their country, successful entrepreneurs receive high status</i>
<i>Media Attention for Entrepreneurship</i>	<i>Percentage of 18–64 age group who agree with the statement that in their country, they will often see stories in the public media about successful new businesses</i>
<i>Entrepreneurial Activity</i>	
<i>Nascent Entrepreneurship Rate</i>	<i>Percentage of 18–64 age group who are currently a nascent entrepreneur, i.e., actively involved in setting up a business they will own or co-own; this business has not paid salaries, wages or any other payments to the owners for more than three months</i>
<i>New Business Ownership Rate</i>	<i>Percentage of 18–64 age group who are currently an owner-manager of a new business, i.e., owning and managing a running business that has paid salaries, wages or any other payments to the owners for more than three months, but not more than 42 months</i>

Continued

<i>Measure</i>	<i>Description</i>
<i>Entrepreneurial Activity</i>	
<i>Total Early-Stage Entrepreneurial Activity (TEA)</i>	<i>Percentage of 18–64 age group who are either a nascent entrepreneur or owner-manager of a new business (as defined above).</i>
<i>Established Business Ownership Rate</i>	<i>Percentage of 18–64 age group who are currently owner-manager of an established business, i.e., owning and managing a running business that has paid salaries, wages or any other payments to the owners for more than 42 months.</i>
<i>Business Discontinuation Rate</i>	<i>Percentage of 18–64 age group who have, in the past 12 months, discontinued a business, either by selling, shutting down or otherwise discontinuing an owner/management relationship with the business. Note: This is not a measure of business failure rates.</i>
<i>Necessity-Driven Entrepreneurial Activity: Relative Prevalence</i>	<i>Percentage of those involved in total early-stage entrepreneurial activity (as defined above) who are involved in entrepreneurship because they had no other option for work.</i>
<i>Improvement-Driven Opportunity Entrepreneurial Activity: Relative Prevalence</i>	<i>Percentage of those involved in total early-stage entrepreneurial activity (as defined above) who (i) claim to be driven by opportunity, as opposed to finding no other option for work; and (ii) indicate the main driver for being involved in this opportunity is being independent or increasing their income, rather than just maintaining their income.</i>
<i>Entrepreneurial Aspirations</i>	
<i>High-Growth Expectation Early-Stage Entrepreneurial Activity: Relative Prevalence</i>	<i>Percentage of total early-stage entrepreneurs (as defined above) who expect to employ at least 20 employees five years from now</i> <i>Weak measure: expects at least five employees five years from now</i>
<i>New Product-Market Oriented Early-Stage Entrepreneurial Activity: Relative Prevalence</i>	<i>Percentage of total early-stage entrepreneurs (as defined above) who indicate that their product or service is new to at least some customers and indicate that not many businesses offer the same product or service</i> <i>Weak measure: product is new or not many businesses offer the same product or service</i>
<i>International Orientation Entrepreneurial Activity</i>	<i>Percentage of total early-stage entrepreneurs (as defined above) with more than 25% of the customers coming from other countries</i> <i>Weak measure: more than 1% of the customers coming from other countries</i>

Appendix 3: Characteristics of GEM Surveys

Table A1: GEM National Adult Population Surveys: 2010 Sample Size and Procedures

<i>Country</i>	<i>Interview Procedure</i>	<i>Sampling Method</i>	<i>Frequency</i>
Angola	Face-to-Face	Random Sampling Using Census Data	2167
Argentina	Fixed-Line Phone	Random Dial from List	2001
Australia	Fixed-Line Phone and Mobile Phone	Random Digit Dialing	2000
Belgium	Fixed-Line Phone and Mobile Phone	Random Digit Dialing (mobiles); Random Dial from List (fixed-line)	2000
Bolivia	Face-to-Face	Random Walk Method within randomly selected cluster of homes	3524
Bosnia and Herzegovina	Fixed-Line Phone	Random Dial from List	2000
Brazil	Face-to-Face	Random choice of Census Tracts in every city, defined by census	2000
Chile	Fixed-Line and Face-to-Face	Random Dial from List; Random Walk Method (multi-staged)	7195
China	Face-to-Face	Random Walk Method (multi-staged)	3677
Colombia	Fixed-Line and Face-to-Face	Random Dial from List; Random Sampling using Cartographic data	11029
Costa Rica	Face-to-Face	Random Sampling using Census data (multi-staged)	2003
Croatia	Fixed-Line Phone	Random Dial from List	2000
Denmark	Mobile Phone	Random Dial from List	1957
Ecuador	Face-to-Face	Cluster Sampling Using Census	2077
Egypt	Mobile Phone and Face-to-Face	Random Digit Dialing; Random Walk Method	2769
Finland	Fixed-Line Phone and Mobile Phone	Random Dial from List	2006
France	Fixed-Line Phone	Random Dial from List	2012
Germany	Fixed-Line Phone	Random Digit Dialing	5552
Ghana	Face-to-Face	Random Sampling Using Census Data	2447
Greece	Fixed-Line Phone	Random Digit Dialing and Random Dial from List	2000
Guatemala	Face-to-Face	Random Sampling Using Available Maps	2285

Continued

Country	Interview Procedure	Sampling Method	Frequency
Hungary	Mobile Phone	Random Dial from List	2000
Iceland	Fixed-Line Phone and Mobile Phone	Random Dial from List	2001
Iran	Face-to-Face	Random Sampling Using Census Data (Multi-Staged)	3359
Ireland	Fixed-Line Phone and Mobile Phone	Random Digit Dialing	2000
Israel	Fixed-Line Phone	Random Digit Dialing	2007
Italy	Fixed-Line Phone	Random Dial from List	3000
Jamaica	Face-to-Face	Random Sampling Using Census Data (multi-staged)	2298
Japan	Fixed-Line Phone	Random Digit Dialing	2006
Korea	Fixed-Line Phone	Random Digit Dialing	2001
Latvia	Fixed-Line Phone and Mobile Phone	Random Digit Dialing and Random Dial from List	2001
Macedonia	Fixed-Line Phone and Mobile Phone	Random Digit Dialing (Mobiles); Random Dial from List (Fixed-Line)	2002
Malaysia	Face-to-Face	Random Sampling Using Census Data	2010
Mexico	Face-to-Face	Random Sampling Using Census Data	2605
Montenegro	Face-to-Face	Random Sampling Using Census Data and Voter Records	2000
Netherlands	Fixed-Line Phone	Random Dial from List	3502
Norway	Fixed-Line Phone and Mobile Phone	Random Dial from List	2002
Pakistan	Face-to-Face	Random Sampling Using Census Data	2007
Peru	Face-to-Face	Random Sampling from List Using Jump Interval (Every 3 Houses)	2108
Portugal ¹	Fixed-Line Phone and Mobile Phone	Random Digit Dialing (mobiles); Random Dial from List (Fixed-Line)	3012
Romania	Face-to-Face	Random Sampling by Voting Districts	2235
Russia	Face-to-Face	Random Sampling by Electoral Districts and Random Walk Method	1736
Saudi Arabia	Mobile Phone	Random Digit Dialing	2000
Slovenia	Fixed-Line Phone	Random Dial from List	3012
South Africa	Face-to-Face	Random Sampling from List Using Fixed-Interval Procedure	3279
Spain	Fixed-Line Phone (respondent may request to be called back on mobile)	Random Dial from List	26388
Sweden	Fixed-Line Phone and Mobile Phone	Random Dial from List	2492
Switzerland	Fixed-Line Phone	Random Dial from List	2002
Taiwan	Fixed-Line Phone	Random Digit Dialing	2001
Trinidad and Tobago	Face-to-Face	Random Sampling Using Census Data	2016
Tunisia	Fixed-Line Phone and Mobile Phone	Random Digit Dialing; Random Dial from List	2001
Turkey	Fixed-Line Phone	Random Digit Dialing	2401
Uganda	Face-to-Face	Random Sampling Using Local Council Registers	2267
United Kingdom	Fixed-Line Phone and Mobile Phone	Random Digit Dialing (fixed-line); Random Dial from List (Mobile)	3000
United States	Fixed-Line Phone and Mobile Phone	Random Digit Dialing; Random Dial from List	4000
Uruguay	Fixed-Line Phone	Random Digit Dialing; Random Dial from List	2034
Vanuatu	Face-to-Face	Random Sampling Using Census Data	1182
West Bank & Gaza Strip	Face-to-Face	Random Sampling Using List	1992
Zambia	Face-to-Face	Stratified Cluster Sampling	2039

¹ Azores is included

GEM National Teams 2010

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To download copies of the GEM Global Report(s), GEM National Team Reports and to access select data sets, please visit the GEM Website at www.gemconsortium.org.

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Notes and References

ⁱ These percentages are based on IMF's World Economic Outlook Database, October 2010 and USA Bureau of Census.

ⁱⁱ Schwab, Klaus, ed. *The Global Competitiveness Report 2010–2011*. Geneva: World Economic Forum, 2010.

ⁱⁱⁱ The World Bank. *Doing Business 2010*. Washington, D.C.: The International Bank for Reconstruction and Development/The World Bank, 2010.

^{iv} Porter, M.E., J.J. Sachs and J. McArthur. "Executive Summary: Competitiveness and Stages of Economic Development." In *The Global Competitiveness Report 2001–2002*, edited by M.E. Porter, J.J. Sachs, P.K. Cornelius, J.W. McArthur and K. Schwab, 16–25. New York, NY: Oxford University Press, 2002.

^v Gries, T. and W. Naude. (2010). "Entrepreneurship and Structural Economic Transformation," In *Small Business Economics*, 34(1): 13–29.

^{vi} Henrekson, M. (2005). "Entrepreneurship: A weak link in the welfare state." In *Industrial and Corporate Change*, 14(3): 437–467.

^{vii} For more information on associations between employment protection and entrepreneurship activity see Bosma, N. and J. Levie. *Global Entrepreneurship Monitor, 2009 Executive Report*. (2010), Babson Park, MA, U.S.: Babson College; Santiago, Chile: Universidad del Desarrollo; Reykjavík, Iceland: Háskólinn Reykjavík University; and London, U.K.: Global Entrepreneurship Research Association.

^{viii} More detail is available on www.gemconsortium.org.

^{ix} 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 also reflects operational issues. According to Reynolds et al., "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.” (Reynolds P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P. and Chin, N. (2005). “Global entrepreneurship monitor: data collection design and implementation 1998-2003”. *Small Business Economics*, 24, 205-31.)

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

^{xi} *Doing Business 2011: Making a Difference for Entrepreneurs*. Washington, D.C.: The International Bank for Reconstruction and Development/The World Bank.

^{xii} See Kaufmann, D., A. Kraay, and M. Mastruzzi (2008). “Governance Matters VII: Aggregate and Individual Governance Indicators, 1996–2007”. WB Policy Research Working Paper 4654. Washington, DC: World Bank.

^{xiii} In order to get sufficient precision we required a minimum number of identified early-stage entrepreneurs of 250 in the 2008–2010 sample.

^{xiv} See Birch, D. *The Job Creation in America*. New York: The Free Press, 1987.

^{xv} For more information see Acs, Z.J. (2008). “Foundations of High Impact Entrepreneurship,” In *Foundations and Trends® in Entrepreneurship*, 4(6), 535–620; and, Autio, E. (2007). *Global Entrepreneurship Monitor 2007 Global Report on High-Growth Entrepreneurship*. London, U.K: London Business School; and Babson Park, MA: Babson College.

^{xvi} For example: Baum, R., Locke, E., and Smith, K. (2001) “Multidimensional Model of Venture Growth.” In *The Academy of Management Journal*, 44(2): 292–303. Wicklund, J. and Shepherd, D. (2003). “Aspiring for, and Achieving Growth: The Moderating Role of Resources and Opportunities”. *Journal of Management Studies* 40(8):1919–1941.

^{xvii} Schumpeter, J.A. *The Theory of Economic Development*. Cambridge, MA: Harvard University Press, 1934.

^{xviii} Baumol, W.J. *Entrepreneurship, Management, and the Structure of Payoffs*. Cambridge, MA: MIT Press., 1993.

^{xix} Drucker, P. *Innovation and Entrepreneurship: Practice and Principles*. New York: Harper & Row, 1985.

^{xx} The questionnaire was set-up by Erkko Autio and Jonathan Levie. During 1999–2007 the survey was further developed by Erkko Autio. The expert surveys are now annually conducted by all national teams under the guidance of Alicia Coduras and the GEM co-ordination team. The annual questionnaire has undergone very minor changes in recent years.

^{xxi} Teams select experts on the basis of reputation and experience, but also practical convenience. However, they follow a strict protocol. At least four experts with specific knowledgeable in each of the nine EFCs make up the total of 36 key informants. The respondents in each category consist of at least: one entrepreneur, two suppliers of the EFC and one observer, such as an academic with specific expertise in the area. The teams contact experts with a detailed explanation of the GEM project, and virtually all agree to participate. They complete the questionnaire and participate in interviews allowing for an open discussion of their views on national contributions (strengths) and limitations (weaknesses) as a context for entrepreneurship. Addition-

ally, they identify specific factors that can enhance the level of entrepreneurship in their country. Each factor is measured with multiple-item scales comprising three to seven questions. The standard NES survey has 88 questions with responses collected on a five-point Likert scale (where “1 = completely true” and “5 = completely false”).

^{xxii} Empirical studies have shown that government policy, entrepreneurship education and entry regulation should each be subdivided into two components. See p. 248 in: Levie, J. and Autio, E. (2008). A theoretical grounding and test of the GEM model. *Small Business Economics*, 31(3), 235-263.

^{xxiii} Baumol, W.J. (1990). “Entrepreneurship: Productive, Unproductive and Destructive.” *Journal of Political Economy*, 98, 893–919.

^{xxiv} Bosma, N., Stam, E. and Wennekers, S. (2010). *Intrapreneurship—An International Study*. EIM SCALES Research Report H201005. Zoetermeer, Netherlands: EIM.

^{xxv} The time series have been smoothed, giving the results in the year of reference a weight of 50% and the results in (t-1) and (t+1) a weight of 25%. For the year 2009 there was no data available.

^{xxvi} See also Koellinger P. and R. Thurik (2009). “Entrepreneurship and the Business Cycle,” Tinbergen Institute Discussion Paper, TI 2009-032/3, Erasmus School of Economics, Erasmus University Rotterdam: EIM Business and Policy Research; Zoetermeer, The Netherlands: Tinbergen Institute.

^{xxvii} We required a minimum sample size of 3,500 (effectively meaning that countries should have participated at least twice in each time frame) and a minimum number of identified early-stage entrepreneurs of 200. All factor-driven economies that are now part of the GEM study were not included in the first and/or the second time frame.

^{xxviii} These numbers are based on unweighted country averages, for the countries for which information was available for both 2009 and 2010.

^{xxix} See also Bosma, N. and J. Levie (2010), *Global Entrepreneurship Monitor, 2009 Executive Report* Babson Park, MA, U.S.: Babson College; Santiago, Chile: Universidad del Desarrollo; Reykjavík, Iceland: Háskólinn Reykjavík University; and London, U.K.: Global Entrepreneurship Research Association.

