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IMPROVING THE STATE  
OF THE WORLD

# Leveraging Entrepreneurial Ambition and Innovation:

## A Global Perspective on Entrepreneurship, Competitiveness and Development

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# Preface

The World Economic Forum and Global Entrepreneurship Monitor are pleased to release *Leveraging Entrepreneurial Ambition and Innovation: A Global Perspective on Entrepreneurship, Competitiveness and Development*, which examines the relationship of entrepreneurship and competitiveness from a fresh perspective. The report builds on and advances our extensive previous work on this issue.<sup>1</sup>

By drawing on two unique data sets – the Forum’s Global Competitiveness Index and Global Entrepreneurship Monitor’s assessment of entrepreneurial activity – the report takes a nuanced stance on the prevalence and types of entrepreneurs globally, and the environments in which they thrive. Our look at entrepreneurship aims to provide a deeper understanding of early stage entrepreneurial activity by taking into account that not all entrepreneurs are the same. Specifically, we highlight early-stage entrepreneurs that are innovative and ambitious about their growth expectations, arguably those with the highest impact on economies.

What we find is thought-provoking: In general, early-stage entrepreneurial activity is higher in economies that are less competitive and lower in highly competitive economies. Conversely, the proportion of ambitious and innovative entrepreneurs is more frequently high in more competitive economies. Importantly, we find that in many highly competitive economies with low rates of business starts, entrepreneurial drive manifests itself through more formalized structures – in what we call “entrepreneurial employee activity” –, which should caution anyone from jumping to quick conclusions about the quality of entrepreneurial ecosystems based on entrepreneurship rates alone.

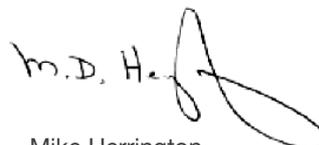
Just two economies in our sample – Colombia and Chile – combine high early-stage entrepreneurial activity with a high proportion of ambitious and innovative entrepreneurs. All other economies fall within the average (or below the average) on at least one of our three dimensions and we have grouped similar economies through cluster analysis.

We believe those results raise some critical insights for policymakers, first and foremost amongst which is that there is no “cookie-cutter” approach to entrepreneurship policy. Governments need a keen understanding of the specific conditions for entrepreneurs in their economies to develop successful strategies to support entrepreneurs.

This report is the result of collaboration between the World Economic Forum and Global Entrepreneurship Monitor, with interviews with entrepreneurs contributed by Endeavor. We will continue to advance the entrepreneurship agenda through our multistakeholder platform and hope this report stimulates debate around this critical issue. We invite feedback and look forward to a fruitful discussion.



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# Executive Summary

The World Economic Forum is pleased to release *Leveraging Entrepreneurial Ambition and Innovation: A Global Perspective on Entrepreneurship, Competitiveness and Development*, which examines the relationship of entrepreneurship and competitiveness from a fresh perspective. The report builds on and advances our extensive previous work on this issue.

The study described in this report combines two unique data sets, the World Economic Forum's Global Competitiveness Index data, which ranks the economic competitiveness of 144 economies, and Global Entrepreneurship Monitor's assessment of entrepreneurial activity across 70 economies. Using five years of data from both sets, the study analyses a sample of 44 economies by first examining three aspects of entrepreneurial activity, then grouping economies into five types of entrepreneurial clusters, and finally developing a deeper understanding of each type of cluster. Lastly, the study delves into what policymaking best benefits the unique characteristics of different economies.

The three aspects of entrepreneurial activity examined in the study are "early-stage entrepreneurial activity"<sup>2</sup>, measured as a percentage of the working-age population, the proportion of "ambitious" entrepreneurs (who expect to create 20-plus jobs in 5 years) and the proportion of "innovative" entrepreneurs (who offer new products or services).

All three metrics were highly prevalent in only two economies: Colombia and Chile. All other economies fall within the average (or below the average) on at least one of our three dimensions. In general, less competitive economies have greater early-stage entrepreneurial activity than more competitive economies. Conversely, we found that the proportion of ambitious and innovative entrepreneurs is more frequently high in more competitive economies. More competitive economies also have higher rates of intrapreneurship, also known as entrepreneurial employee activity.

To develop a deeper understanding of how entrepreneurship interacts with economic competitiveness, what preconditions and business strategies drive different combinations of entrepreneurship types and how policymaking can improve their impact, the study identified five clusters of economies among the 44-country sample:

1. **All-rounder economies** with high rates of early-stage, ambitious and innovative entrepreneurs;
2. **High-Activity economies** with high rates of early-stage entrepreneurial activity, and average or lower ambition and innovation;
3. **High-Ambition economies** with average or lower rates of early-stage activity and innovation, but high ambition;
4. **High-Innovation economies** with average or lower early-stage activity and ambition and high innovation; and
5. **Neutral economies** with average or lower rates on all three metrics.

The study distills entrepreneurial preconditions to four categories: 1) entrepreneurial connections; 2) awareness of opportunities; 3) inherent entrepreneurial skills; and 4) a risk-taking culture. High-Activity and All-rounders, accounting for 13 countries in the sample, possess all of them. In High-Ambition and High-Innovative economies, business strategy matters, especially regarding access to foreign markets. The Neutral and High-ambition clusters are dominated by highly competitive, mostly European countries with strong corporate cultures and Latin America is not at all represented. The hidden factor in this equation is entrepreneurial employee activity. In fact, an inverse correlation between entrepreneurial employee activity and early-stage entrepreneurial activity is evident.

The three stages of economic development also affect the types of sectors in which entrepreneurs proliferate, with consumer services comprising the bulk of entrepreneurial activity in factor-driven and most efficiency-driven economies, the latter of which begin to move into business services and transforming business ventures. Colombia and Chile are the only economies in the All-rounders cluster and have aggressive entrepreneurship policymaking programs in place.

Regarding policymaking, authorities must consider three factors: (1) the type of entrepreneurial economy in which the entrepreneurship policy is being conducted, (2) the specific entrepreneurial outcome to be achieved, and (3) the levers available to achieve a specific outcome.

# Introduction

It is widely believed that entrepreneurial activity is a critical component to a prosperous society in that entrepreneurs create jobs, drive progress and contribute to economic growth. Consequently, many governments and their policymakers aim to increase the number of entrepreneurs in their countries and aid their development. But providing this support is no easy task, as entrepreneurs are not homogenous even within a country, and, in fact, often appear in different guises depending on the country in which they are located.

This report examines the concept of entrepreneurship by separating it into three dimensions: 1) early-stage entrepreneurial activity; 2) growth-oriented, or ambitious, entrepreneurship; and 3) innovation-based entrepreneurship. By examining entrepreneurship in such a manner, the study described in this report peers beneath the surface of entrepreneurial activity to develop a useful framework for policymakers to understand and breed the entrepreneurs that benefit societies, and, importantly, the unique societies in which they operate. Regarding the latter, designing entrepreneurship policy will often vary by country. Accordingly, this study will show that entrepreneurship is highly contextual to a unique economy and requires deep understanding of contextual effects for policymakers to achieve intended outcomes.

The report builds on, and advances, prior work of academics, organizations and their programs, such as Endeavor, the Global Entrepreneurship Program of the U.S. State Department, as well as the Forum's previous work in partnership with EY and Endeavor on high-impact entrepreneurs and their trajectories.<sup>3</sup>

## 1.1 Methodology

While seemingly intuitive that an economy's competitive environment has an impact on entrepreneurs, and that, vice versa, entrepreneurs impact and contribute to an economy's competitiveness, the relationship is more complex than it seems. Drawing from the Forum's own Global Competitiveness Index (GCI) and Global Entrepreneurship Monitor (GEM) Adult Population Survey, this report summarizes findings from analysing associations between the competitiveness of economies and the nature of entrepreneurs in those economies, and draws attention to possible avenues for further research with this data.

To maximize the robustness of the findings from the two data sets, the study averages the aggregate GCI scores for competitiveness from the 2008/09 through 2013/14 surveys and averages GEM's annual entrepreneurship data from its 2009 through 2013 surveys.

### Global Competitiveness Index (GCI)

The *Global Competitiveness Index (GCI)* assesses competitiveness in 144 economies, providing insight into their productivity drivers. The GCI is the most comprehensive worldwide assessment of national competitiveness, providing a platform for dialogue between government, business and civil society regarding the actions required to improve economic prosperity. Competitiveness in the GCI is defined as the set of institutions, policies and factors that determine the level of productivity of a country. The level of productivity, in turn, determines the level of prosperity that can be attained in an economy. The index captures the different aspects of competitiveness in 12 pillars. Each of these pillars are scored on a scale of 1 to 7, 7 being the most competitive. This report averages the scores of each country from 2008/09 to 2013/2014.

## Global Entrepreneurship Monitor (GEM)

*The Global Entrepreneurship Monitor (GEM)* is the largest ongoing annual study of entrepreneurial activity in the world, exploring the role of entrepreneurship in economic growth within nations by unveiling detailed national features and characteristics associated with their entrepreneurial activity. Initiated in 1999 as a partnership between London Business School and Babson College, the first study covered 10 countries; since then, nearly 100 “national teams” worldwide have participated in the research. The national teams oversee annual surveys of at least 2,000 adults (18–64 years of age) in their respective countries, assessing the rate and profile of entrepreneurship, the motivations and aspirations of entrepreneurs and social attitudes toward entrepreneurial activity. The data collected overseen is by a central team of experts who guarantee its quality and “harmonize” it to facilitate cross-national comparisons. With its focus on individuals, GEM offers a lens to view the people who participate in entrepreneurship at all phases of the entrepreneurial process. Additionally, unlike studies focusing on business registrations, GEM captures both informal and formal entrepreneurship and both new business creation activity and entrepreneurial employee activity. In less competitive economies, a substantial portion of entrepreneurial activity is represented in the informal sector, while entrepreneurial employee activity is more significant in more competitive economies.

## 1.2 Sample Description

The analysis in this report is based on a sample of 44 economies (see Figure 1.2.1), merging the GCI and GEM data sets. Table 1.2.1 lists the countries in the study’s sample by region and development level. The economies chosen were those for which data was available from the GCI over the study period of 2009–2013 and for which GEM data was available for at least 4 of the 5 years of this study period. Economies of countries in each of the three main economic development stages as defined by the GCI are represented.

**Figure 1.2.1** Map of economies in sample



## Development Stages

In line with widely accepted economic theory regarding the three stages of economic development, the GCI assumes that in the first stage of development, the economy is “factor-driven” and countries compete based upon their factor endowments, which are primarily unskilled labour and natural resources. Companies compete on the basis of price and sell basic products (e.g. commodities), and low wages reflect low productivity. Maintaining competitiveness at this stage of development hinges primarily on well-functioning public and private institutions, well-developed infrastructure, stable macroeconomic environments, and healthy workforces with basic education.

As a country becomes more economically competitive, its productivity and wages increase, moving into an “efficiency-driven” stage of development. Companies in these economies develop efficient production processes and increase product quality to maintain competitiveness and avoid passing labour costs onto pricing. These countries have large domestic markets, or access to foreign markets, and harness existing technologies and improved higher education and training and leverage efficient goods, well-functioning labor (Pillar 7) and developed financial markets. In efficiency-driven economies, governments focus (or should focus) on ensuring smooth mechanisms, such as the proper functioning and development of the previously mentioned markets, higher education systems and technology infrastructure.

Finally, as countries enter the “innovation-driven” stage, higher wages and the requisite standard of living are sustainable only when businesses can compete with sophisticated production processes and innovative products. In these economies, high labour costs cause innovation to be more important levers of economic development than efficiency enhancers.<sup>4</sup>

Table 1.2.1: Economies by development level and geographic region

	Factor-Driven	Efficiency-Driven	Innovation-Driven
Asia Pacific & South Asia		Malaysia, China	Japan, Korea, Taiwan
European Union		Croatia, Hungary, Latvia, Romania	Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Slovenia, Spain, Sweden, UK
Latin America & Caribbean		Argentina, Brazil, Chile, Colombia, Ecuador, Guatemala, Jamaica, Mexico, Panama, Peru, Uruguay	Trinidad & Tobago
Middle East & North Africa	Algeria		Israel
Non-European Union		Bosnia and Herzegovina, Russia	Norway, Switzerland
North America			United States
Sub-Saharan Africa	Uganda	South Africa	

The 44 countries in this sample cover the range of economic competitiveness as assessed by the GCI. Switzerland is the most competitive country in the sample as well as being the most competitive country in the overall survey of 144 countries in the 2014/15 GCI. Uganda is the least competitive country in this study, ranking 122nd of 144 economies in the 2014/15 GCI. Overall, the sample in this report's study is more competitive than the universe of 144 countries in the GCI. While the median competitiveness score in the GCI universe is 4.2, the median score for the 44-country sample for this study is 4.4. Less than 5% of the countries in the sample score below 4, compared with 38% in the full GCI universe.

For the purpose of this report only, economies are separated into three groups: "high competitiveness", which comprise countries with overall scores of 5 and above; "moderate competitiveness" for scores of 4 to 5; and "low competitiveness" for scores below 4 (see Figure 1.2.2).

Figure 1.2.2: Competitiveness map

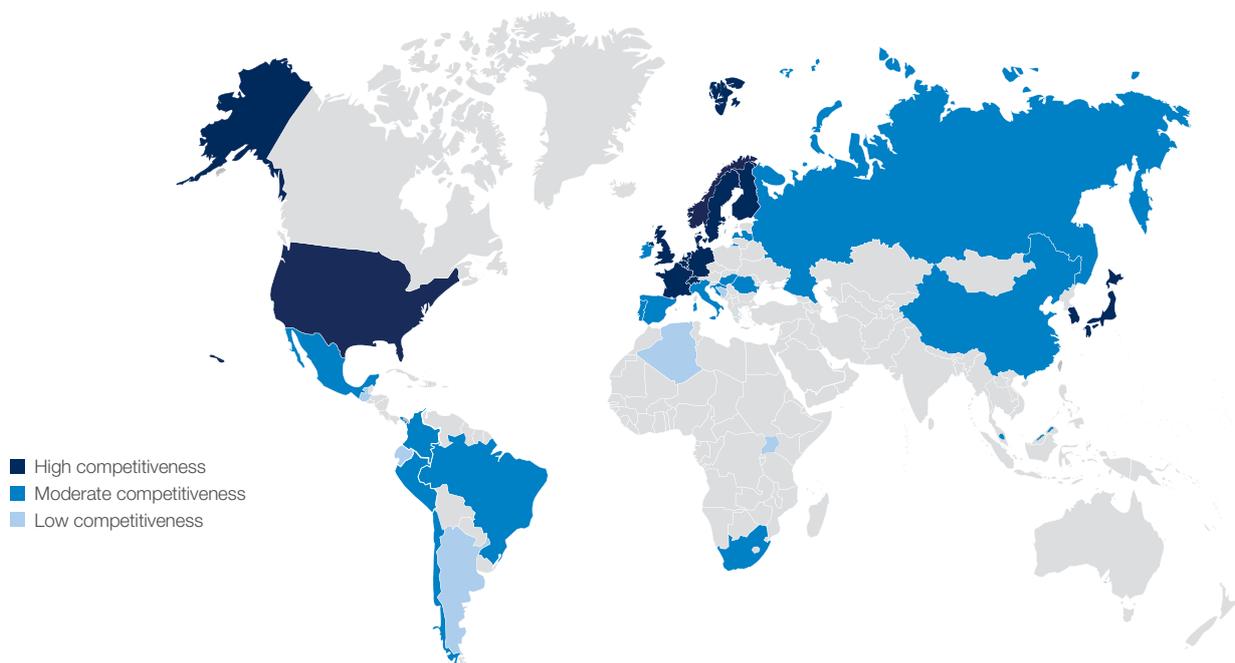
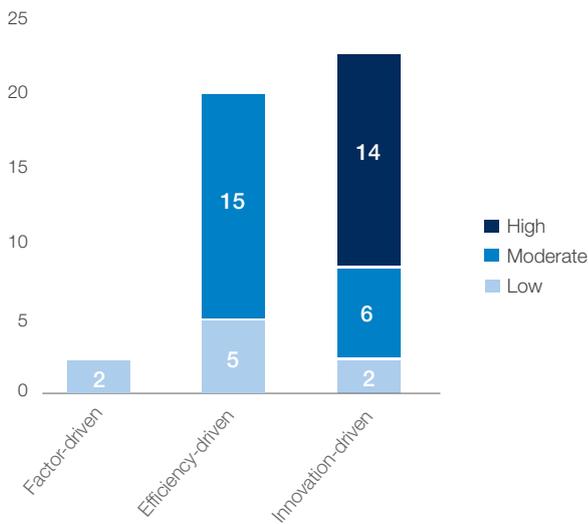


Figure 1.2.3 shows how the development stages (see “Development Stages” Box) and range of competitiveness of the economies of the 44 countries translate into this study’s unique competitiveness scores. All 14 highly competitive economies in the study’s 44-country sample are also innovation-driven economies while among the remaining eight innovation-driven economies, six are moderately competitive and two low competitive.

**Figure 1.2.3: Competitiveness by development level (number of economies)**



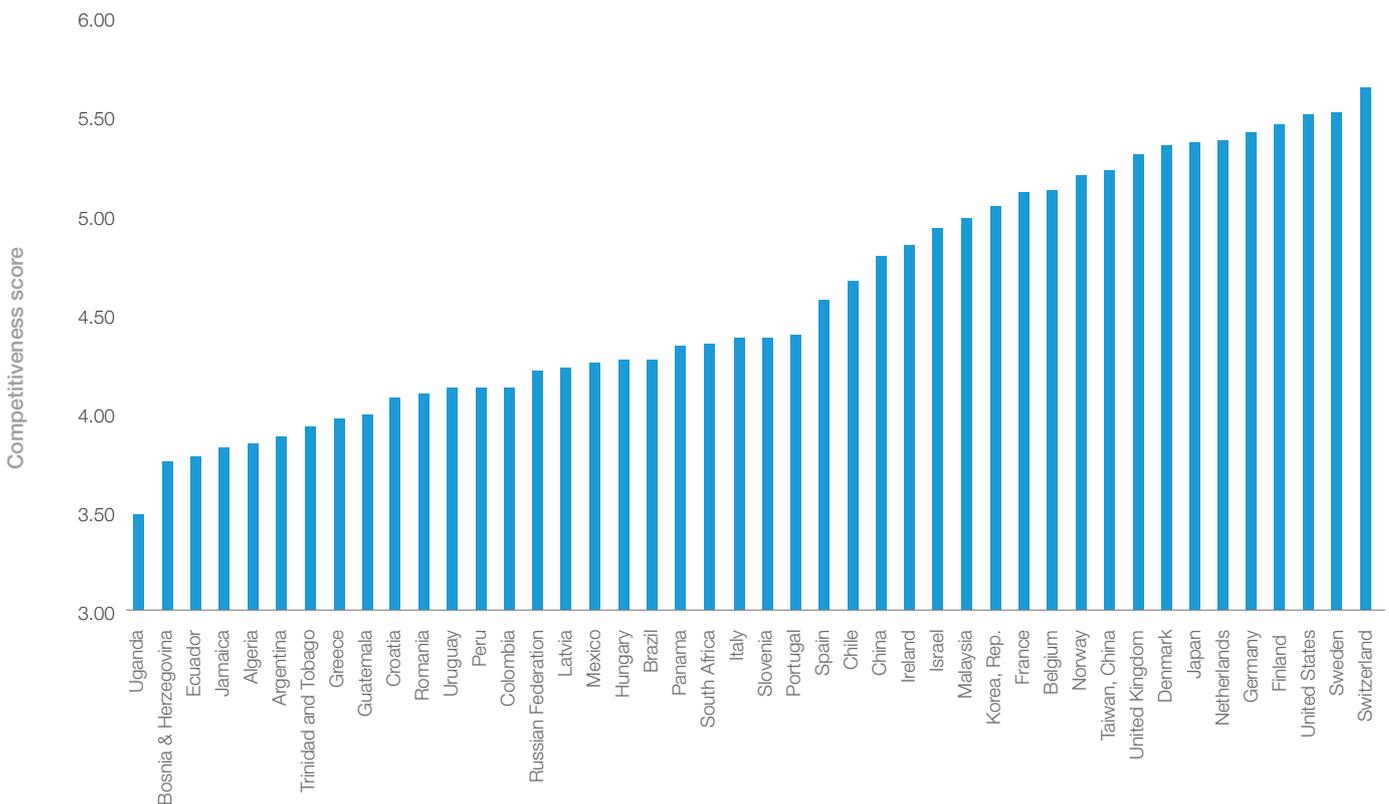
The majority (15 out of 20) of efficiency-driven countries in the sample are moderately competitive, with five in the low competitive stage of development. Both factor-driven countries in the study’s sample are low competitive.

Switzerland is the most competitive country in the sample, with a score of 5.66. The least competitive of the 22 innovation-driven economies is Trinidad and Tobago with a score of 3.94. Malaysia is the most competitive of the efficiency-driven countries, falling just short of being grouped with the highly competitive countries, with a score of 4.99. At 3.7, Bosnia and Herzegovina is the least competitive efficiency-driven country. Factor-driven countries Uganda and Algeria have GCI scores of 3.48 and 3.84 (see figure 1.2.4).

### 1.3 Report Structure

The report is structured as follows: In Section 2, it introduces the three dimensions of entrepreneurship, showing how they are distributed across the study’s sample of 44 countries, and examines the correlations of these dimensions to competitiveness rankings. In Section 3, the report clusters the countries into five distinct types of entrepreneurship profiles and develops a framework to understand their unique entrepreneurial context. Lastly, in Section 4, the study draws conclusions and discusses policy implications. Interviews with entrepreneurs are dispersed throughout the report to underline the analysis with the entrepreneurial experience.

**Figure 1.2.4: Competitiveness by economy**





# Entrepreneurship and Competitiveness: A Complicated Relationship

Competitiveness matters for entrepreneurship, but not in any simple or straightforward way. The most competitive economies are not the ones with the most new business creators, yet on a per-entrepreneur basis, their economies tend to derive greater benefit from their smaller concentration of entrepreneurs than do less competitive economies. To see why, this section will dissect entrepreneurship and examine how competitiveness impacts each dimension of it.

Not only does the rate of entrepreneurship vary significantly by country, but also the type of entrepreneurs that are most prevalent in different countries. This section discusses three dimensions of entrepreneurship and how they map across the globe:

- **Early-stage Entrepreneurial Activity** refers to the percentage of the population aged 18 to 64 years that comprise either nascent entrepreneurs<sup>5</sup> or owner-managers of new businesses.<sup>6</sup> This measure provides insights into the early stages of entrepreneurial activity and the environment that enables these early-stage entrepreneurs.<sup>7</sup>
- **Ambitious entrepreneurs** need to build a significant organization to fulfill their goals; they cannot achieve them on their own. Therefore their estimate of how many people they will employ in the medium term is a good proxy for their ambition. In this report, we distinguish between those who expect to employ at least 20 people in five years, and those who expect to employ less than 20, as one way of identifying more ambitious from less ambitious entrepreneurs. The proportion of ambitious entrepreneurs is critical for measuring the job creation aspect of entrepreneurship.<sup>7</sup>
- **Innovative entrepreneurs** are measured in the study as the proportion of early-stage entrepreneurs that introduce a new, unique product or service into a market. This is only one dimension of innovation, but it may indicate the level of sophistication of entrepreneurs in an economy.

All three dimensions are impacted by a country's competitive environment. Particular conditions facilitate the ability to start a business, to develop and introduce innovations, and to grow businesses.

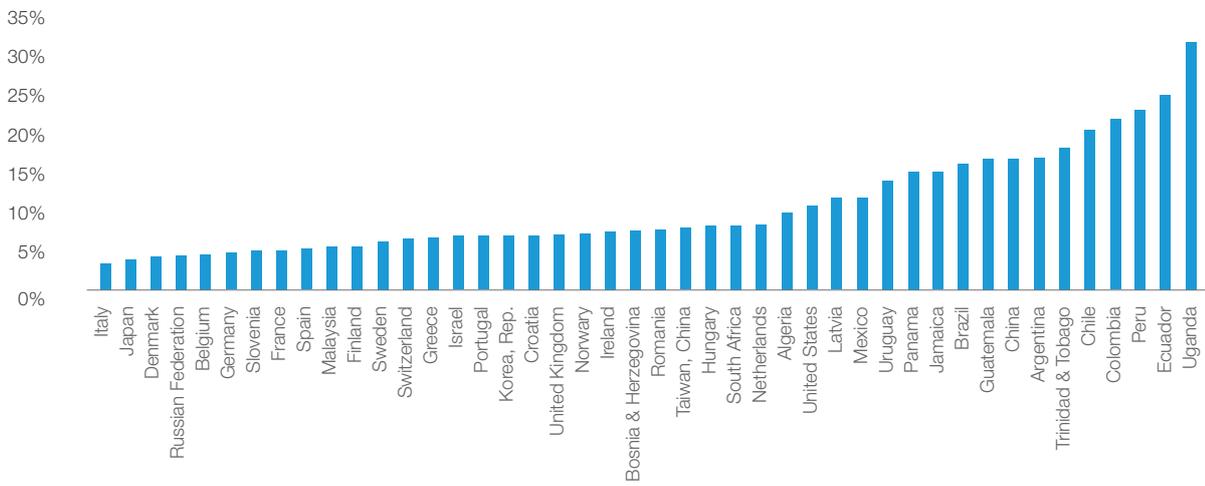
## 2.1 Early-stage Entrepreneurial Activity

Early-stage entrepreneurial activity is the base metric for examining the significance of entrepreneurship in an economy. A high rate of early-stage entrepreneurial activity does not necessarily equate to high-impact outcomes. In fact, as will be discussed later, on average, economies in which more entrepreneurs choose to be entrepreneurial for their employers, rather than create stand-alone entrepreneurial enterprises, tend to be more competitive and wealthier.

### 2.2.1 Entrepreneurial Activity across the Globe

Only a few countries' economies in this sample have high rates of early-stage entrepreneurial activity, and none of them are highly competitive, according to the GCI definition. Approximately two-thirds of the countries in the sample have early-stage entrepreneurship rates under 10%. In Italy only 3% of the working-age population comprise early-stage entrepreneurs. Japan, Denmark, Russia and Belgium complete the bottom five, each with rates of less than 5%. At the other end of the spectrum, in only 5 countries is more than 20% of the working-age population engaged in early-stage entrepreneurial activity. Uganda is an outlier, with over 30% of the working-age population showing early-stage entrepreneurial activity, while Ecuador, Peru, Colombia and Chile complete the top 5 (see Figure 2.1.1). The median rate of early-stage entrepreneurial activity is 7.7% and the average is 10.6%.

**Figure 2.1.1: Early-stage entrepreneurial activity by economy (% of total population)**



As a region, Latin America and the Caribbean has the highest concentration of early-stage entrepreneurial activity in the sample, while European countries generally exhibit low levels of activity. As shown in Figure 2.1.2, with the exception of Uganda and China, the top quartile is occupied by Latin American and Caribbean economies, while none in this region are in the bottom half of the sample. European countries make up most of the bottom quartile, with 9 of the 11 countries showing the lowest entrepreneurship rates. Only four European countries are represented in the top half of the ranking.

### 2.1.2 Competitiveness and Early-stage Entrepreneurial Activity

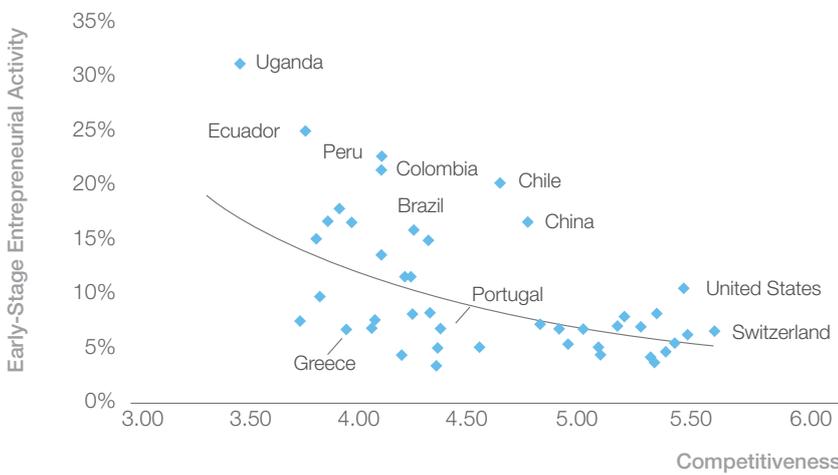
High early-stage entrepreneurial activity is exclusive to economies with low competitiveness. As economies move up the competitiveness spectrum, they converge around a narrow band of early-stage entrepreneurial activity of between approximately 4% and 11% of their working-age population. Countries lower on the competitiveness scale exhibit greater variance in early-stage entrepreneurship, with some exhibiting significantly high percentages of early-stage entrepreneurial activity.

**Figure 2.1.2: Early-stage entrepreneurial activity by quartile**



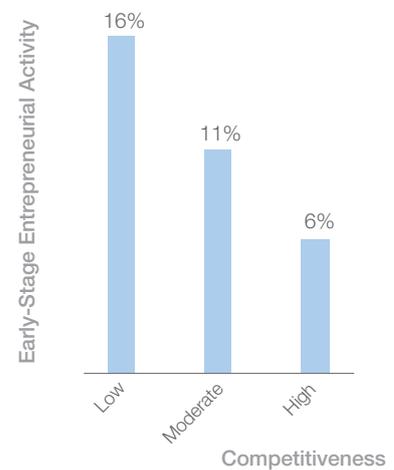
Accordingly, Uganda, the country with the lowest competitiveness score among the 44 countries sample, exhibits the highest rate of early-stage entrepreneurial activity, while Switzerland, the most competitive economy in our sample, is deep in the bottom half of the spectrum, at only 7% of the working-age population. Of the highly competitive economies, the United States has the highest percentage of early-stage entrepreneurship, at 11%, and in the moderately competitive group, Latin American and Asian countries, such as China, Colombia, Chile and Brazil, have the highest percentages, while European countries in the sample have lower early-stage entrepreneurial activity (see Figure 2.1.3).

**Figure 2.1.3: Distribution of early-stage entrepreneurial activity (% of population) by competitiveness (score)**



When each of the three competitiveness bands are looked at as wholes, this general pattern about early-stage entrepreneurial activity is clearly revealed, with highly competitive countries as a group seeing 7% of their working-age population engaged in early-stage entrepreneurial activity compared to 12% for moderately competitive and 16% for low competitive economies (see Figure 2.1.4).

**Figure 2.1.4: Average rate of early-stage Entrepreneurial activity (% of population) by competitiveness (level)**



As Figure 2.1.5 shows the results that the study found that there are no countries with economies that exhibit both high levels of competitiveness and high levels of early-stage entrepreneurial activity. On the contrary, six countries with high competitiveness fall into the lowest quartile of early-stage entrepreneurial activity, and five countries with low competitiveness fall into the highest quartile of early-stage entrepreneurial activity.

**Figure 2.1.5: Early-stage entrepreneurial activity by quartiles by competitiveness (level)**

	Low Competitiveness	High Competitiveness
<b>Top Quartile for Early-Stage Entrepreneurial Activity</b>	Uganda, Ecuador, Jamaica Guatemala, Trinidad and Tobago	
<b>Bottom Quartile for Early-Stage Entrepreneurial Activity</b>		Japan, Denmark, Belgium Germany, France, Finland

Hence, the study suggests that as competitiveness in an economy increases, lower proportions of the working-age population start entrepreneurial enterprises. Several hypotheses exist to explain this statistic. Following are a few: First, in highly competitive economies, there are a larger number of attractive existing employment opportunities than in less competitive economies, which raises the opportunity costs of starting a business in these highly competitive economies; second, the higher skill level required to start a business that can compete in a highly competitive market environment raises the barrier to entry for new entrepreneurs in highly competitive economies; third, the differences of early-stage activity between Latin American and European economies in the same moderately competitive group point to a hypothesis that cultural factors involving greater risk-aversion could play a role in reduced entrepreneurial motivations.

### 2.1.3 Entrepreneurial Employee Activity (EEA)

Interestingly, the study suggests that despite lower rates of early-stage entrepreneurial activity in highly competitive countries, entrepreneurial drive is not low in these more competitive economies, but, rather becomes more formalized, with higher rates of “entrepreneurial employee activity” (EEA)<sup>9</sup>. In fact, EEA, also known as “Intrapreneurship”, is most predominant in the higher competitive economies. Figure 2.1.6 plots early-stage entrepreneurial activity and EEA as a percentage of working-age population and level of competitiveness. The graph clearly depicts a pattern that while lower percentages of working-age populations start businesses in more competitive economies, greater percentages of these same working-age populations become entrepreneurial employees.

**Figure 2.1.6 Rate of entrepreneurial employee activity and early-stage entrepreneurial activity by competitiveness**

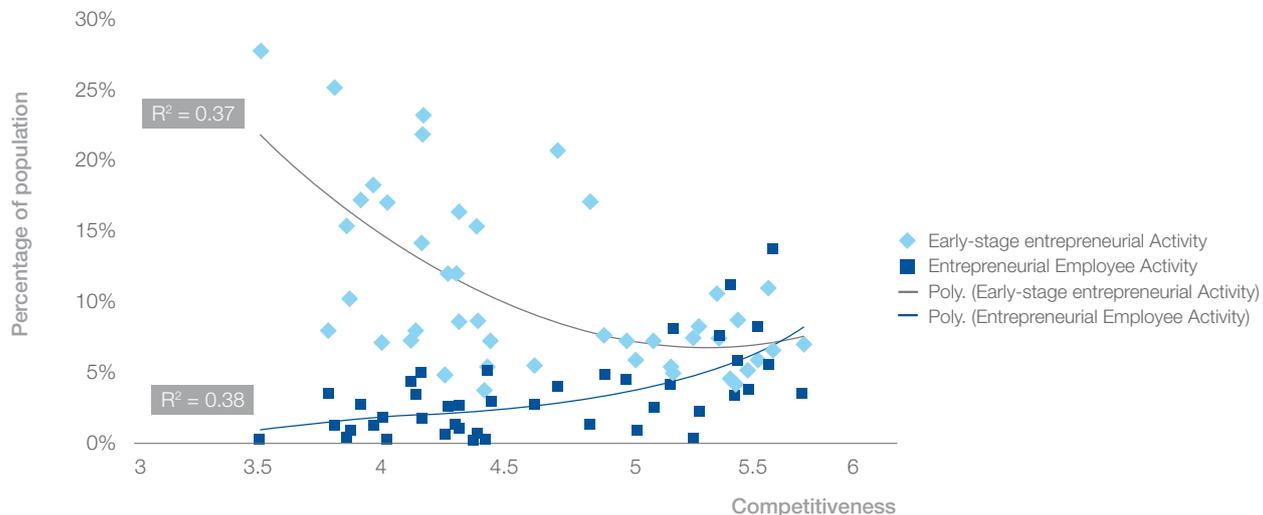


Figure 2.1.7 shows that early-stage entrepreneurial activity and entrepreneurial employee activity are markedly inversely correlated. Scandinavian and Benelux countries (Belgium, Netherlands, and Luxembourg), along with the United Kingdom, have more than twice the 44-country sample median of entrepreneurial employee activity as a percentage of the working-age population, while most Latin American countries have less than the median (Uruguay and Chile are notable outliers). Switzerland is an unusual outlier as a wealthy country with low rates of both early-stage entrepreneurial activity and entrepreneurial employee activity. Also, the United States and Uruguay are outliers to this inverse correlation as both have close to double the median rates of both early-stage entrepreneurial activity and entrepreneurial employee activity.<sup>10</sup>

The entrepreneurial picture that this inverse correlation depicts is fairly intuitive as employers in more competitive economies are better equipped to extract value from an employee to encourage EEA. However, in addition to the stage of development in an economy, culture could also be a factor, such as the “American Dream” working-culture impetus in the United States, for example, or the collective nature of Scandinavian societies that may naturally lend to entrepreneurial employee activity.

Figure 2.1.7 exhibits the nuances by country. The correlation between early-stage entrepreneurial activity and EEA in the United States, the UK and Switzerland are approximately correlated, while European countries Sweden, Denmark, Finland and Denmark exhibit inverse correlations with high EEA and low early-stage entrepreneurial activity, and Latin American countries Chile, Colombia, Ecuador, Argentina and Peru exhibit inverse correlations with high early-stage entrepreneurial activity and low EEA.

**Figure 2.1.7** Distribution of early-stage entrepreneurial activity and entrepreneurial employee activity, average of 2011 and 2012 estimates.

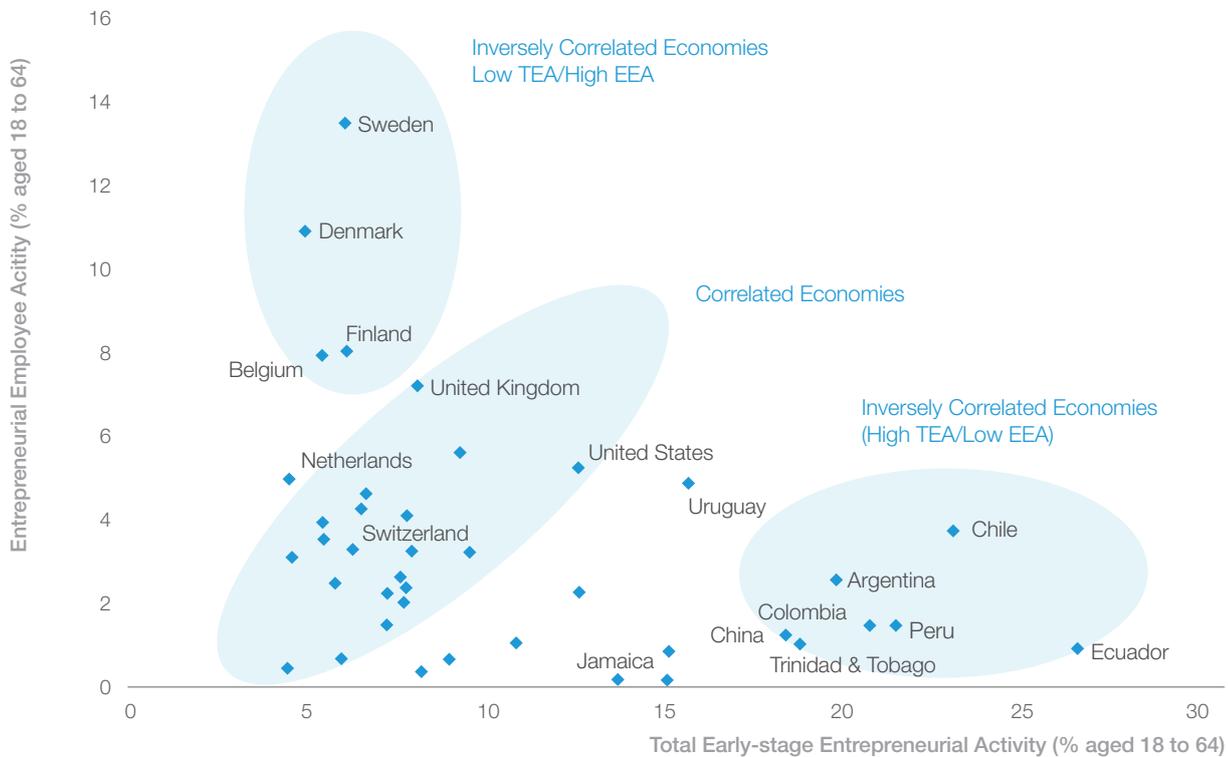
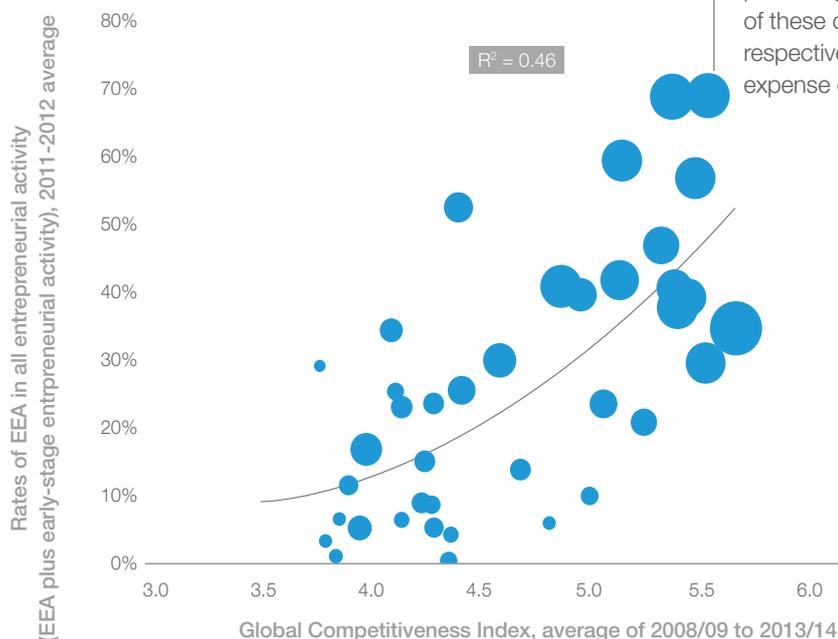


Figure 2.1.8 shows the correlation between competitiveness and entrepreneurial employee activity as a proportion of all types of entrepreneurial activity (early-stage entrepreneurial activity *plus* entrepreneurial employee activity). As competitiveness increases, so does the proportion of entrepreneurial activity that is expressed as entrepreneurial employee activity. The correlation is moderate,

**Figure 2.1.8:** Rate of EEA in all entrepreneurial activity and national competitiveness, showing wealth per capita, for 40 countries' economies



but as the increasing size of the economy “bubbles” in the graph suggest, the correlation with wealth (GDP per capita) is even higher.<sup>11</sup>

This inverse correlation between EEA and early-stage entrepreneurial activity is likely the result of virtual cycles of reinforcement; as economic development encourages the growth and development of multi-employee corporation employers, more opportunities arise for individuals employed by them to be entrepreneurial employees, if the corporate culture permits. Similarly, if a larger percentage of the workforce in a country becomes employees of these corporations, the legal and regulatory system of the respective country is likely to respond to their needs at the expense of the self-employed.

These associations lead to a hypothesis that entrepreneurial drive does not dissipate in an economy with growing competitiveness, but instead growing competitiveness brings an increased institutionalization to entrepreneurship that constrains the attractiveness of early-stage entrepreneurial activity.

## 2.2 Ambitious Entrepreneurship

Ambitious entrepreneurs are not content with self-employment. They need to create a significant organization to pursue and fulfil their goals. The ambitious entrepreneur, for the purpose of this report, is defined as the early-stage entrepreneur expecting to employ 20 or more people in five years. Entrepreneurship is inherently risky, which is captured in the statistic that a large percentages of start-up businesses fail, or simply do not achieve expected growth targets. Ambition is important, because without ambition, entrepreneurs are much less likely to achieve growth.<sup>12</sup> Countries with large numbers of ambitious entrepreneurs are more likely to create more jobs when the expectations of these types of entrepreneurs materialize.

### 2.2.1 Ambitious Entrepreneurs across the Globe

Most early-stage entrepreneurs do not have high growth ambitions. In over half (56%) of the countries in our sample, less than 10% of early-stage entrepreneurs are ambitious. At the bottom of the ranking of the sample countries by ambitious entrepreneurs is Guatemala, with a relative prevalence of ambitious entrepreneurship of just over 1% of early-stage entrepreneurs, followed by Mexico, Uganda, Jamaica and Panama, all of which have rates below 3%. The median and average rate of ambitious entrepreneurs in the sample are both just above 9% of early-stage entrepreneurs. Eight countries' economies (or approximately 20%

of the sample) have ambition rates of over 15%, one of which, Taiwan, has a rate of above 25%. Completing the top five are Colombia, Latvia, Japan and China, which have a greater share of entrepreneurs with high growth expectations than the other countries in our sample not mentioned in this paragraph (see Figure 2.2.1).

Ambitious early-stage entrepreneurship is much less geographically clustered than rates of early-stage entrepreneurial activity. As Figure 2.2.2 displays, the geographical layout of quartiles for ambitious early-stage entrepreneurship is very different from that of overall early-stage entrepreneurial activity. While Europe generally shows low early-stage entrepreneurial activity, at least some European countries are in the top half quartile for ambitious (for example, Germany, Ireland, France and the United Kingdom) early-stage entrepreneurs as a percentage of their total early-stage entrepreneurs. Meanwhile, the picture is reversed for Latin America and Africa, where some of the top performers for early-stage entrepreneurial activity in general slip to the bottom quartiles in terms of those early-stage entrepreneurs who can be defined as ambitious (e.g. Guatemala, Brazil, Colombia and Peru). Overall, rates of ambitious early-stage entrepreneurship are much less grouped by geography than are early-stage entrepreneurial activity rates in general.

### 2.2.2 Competitiveness and Ambition

Generally, the more competitive an economy, the greater the share of ambitious early-stage entrepreneurs among all early-stage entrepreneurs, although the correlation is weak at 0.30, where 1.0 is perfectly correlated (see Appendix 1). Much like entrepreneurial activity overall, the correlation between competitiveness and the percentage of entrepreneurial activity that is ambitious is too

Figure 2.2.1: Proportion of early-stage entrepreneurs that are ambitious, by country (% of entrepreneurs)

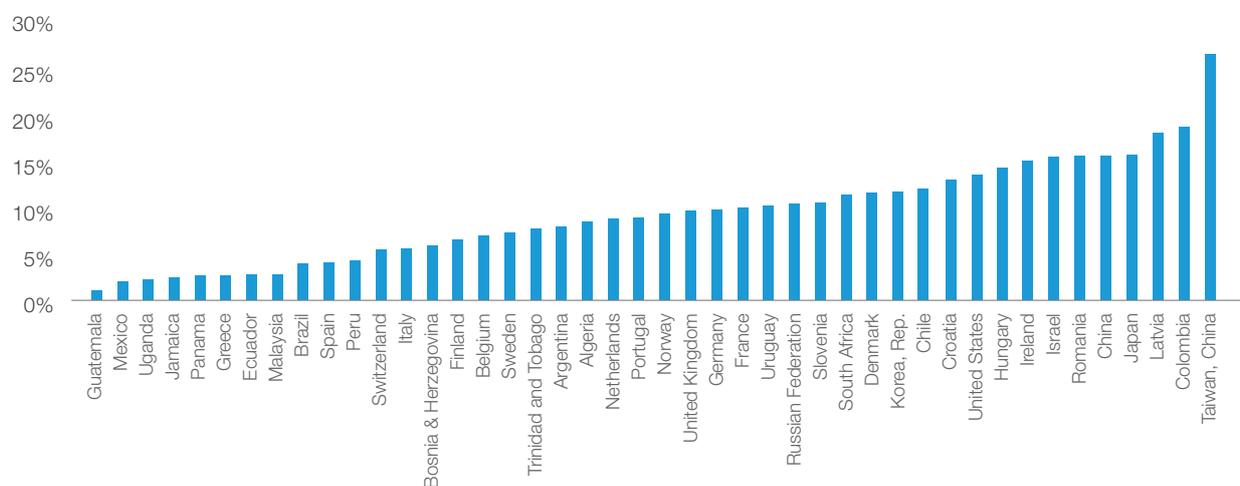
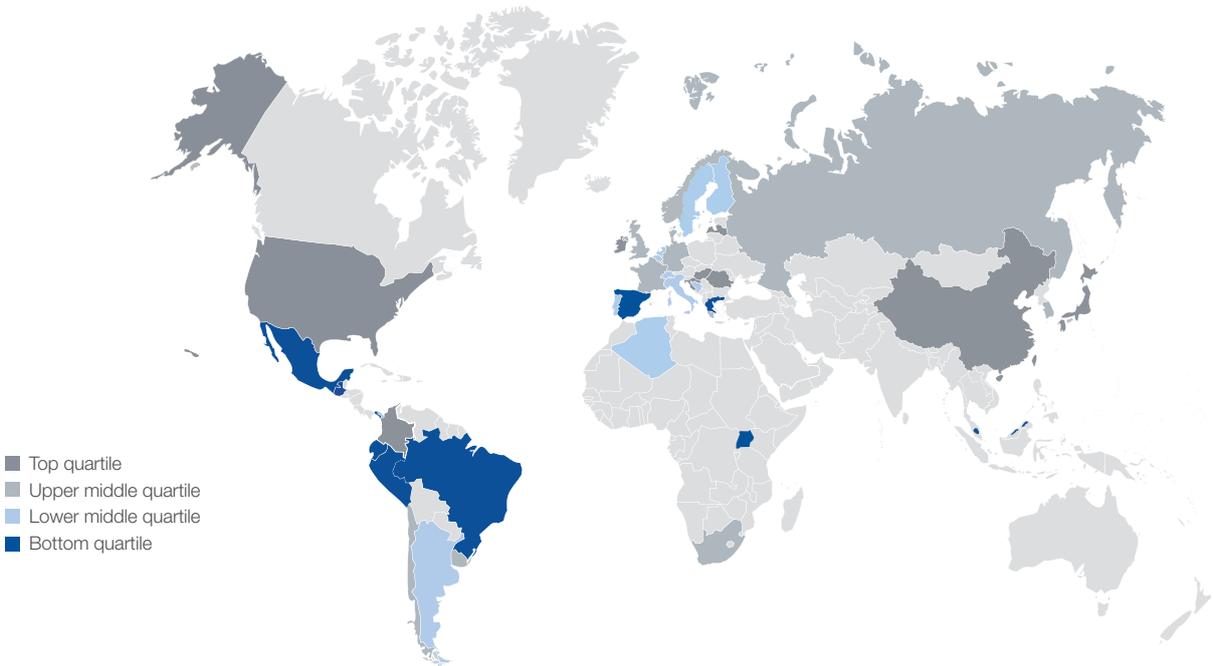


Figure 2.2.2: Early-stage entrepreneurial activity by quartile



weak to suggest a strong causal relationship in either direction. Nevertheless, the distribution shown in Figure 2.2.3 shows a very different pattern than that in Figure 2.1.3 and indicates that the proportion of ambitious early-stage entrepreneurship is more evenly spread across all levels of competitiveness.

Unlike for early-stage entrepreneurial activity, no countries with low levels of competitiveness are at the same level of, or above, the average rate of ambitious early-stage entrepreneurs of the sample of countries overall. Accordingly, the economy with the highest level of ambitious entrepreneurs, Taiwan, is highly competitive, as are Japan and the United States, and Uganda, with the lowest competitiveness score in the sample, also exhibits one

of the lowest proportions of ambitious entrepreneurship among its otherwise high percentage of early-stage entrepreneurs among its working-age population.

In short, unlike early-stage entrepreneurial activity in general, higher proportions of ambitious early-stage entrepreneurs are found in highly competitive economies. As Figure 2.2.4 shows, as countries move up in competitiveness scores, the average proportion of ambitious entrepreneurs by competitiveness group increases, from below 5% of early-stage entrepreneurs for the lowest competitiveness group, to approximately 10% for moderately competitive countries and 11% for highly competitive countries.

Figure 2.2.3: Distribution of proportion of early-stage entrepreneurs that are ambitious (% of early-stage entrepreneurs) by competitiveness (score)

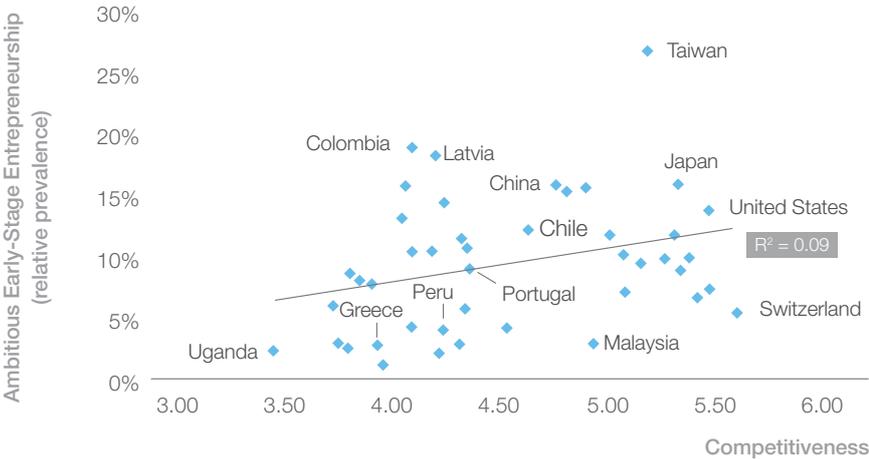
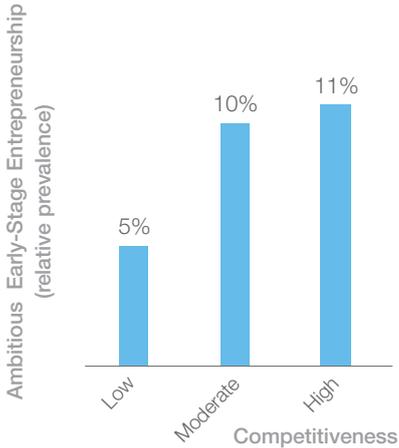


Figure 2.2.4: Average proportion of early-stage entrepreneurs that are ambitious (% of early-stage entrepreneurs) by competitiveness (level)



As Figure 2.2.5 shows, there are no countries with low competitiveness scores that have a high proportion of ambitious early-stage entrepreneurs. Instead, five countries with low levels of competitiveness are in the bottom quartile. Meanwhile three highly competitive economies – Taiwan, Japan and the United States – have early-stage entrepreneurs that include a sizeable proportion of ambitious early-stage entrepreneurs. As Figure 2.2.5 depicts, there are no highly countries with competitive economies in the bottom quartile for ambitious early-stage entrepreneurship.

**Figure 2.2.5: Ambition of early-stage entrepreneurs by quartiles by competitiveness (level)**

	Low Competitiveness	High Competitiveness
<b>Top Quartile: Ambitious Early-Stage Entrepreneurship</b>		Taiwan Japan United States
<b>Bottom Quartile: Ambitious Early-Stage Entrepreneurship</b>	Uganda, Ecuador Jamaica Greece Guatemala	

### 2.2.3 Motives and Profiles of Ambitious Early-Stage Entrepreneurs

While entrepreneurship brings to mind individuals who choose to take risks to start their own businesses driven by ambition and unique opportunities, in reality, many entrepreneurs start businesses primarily because they have no better employment options. The latter have been labelled “necessity entrepreneurs”, and while in less competitive economies many people start new businesses because they seek a source of income for themselves and their families that do not exist elsewhere, others, predominantly in more competitive countries, may start businesses because they do not believe the options afforded them by employers are desirable, and believe that being self-employed is their best career path. Both of these types of entrepreneurs fall under the category of “necessity entrepreneurs”, those who start businesses out of desperation and those who prefer to do so because they believe it is their best employment option.

Overall, only 18% of ambitious early-stage entrepreneurs in this study reported starting businesses out of necessity, compared with 28% of those who are not considered ambitious. This metric translates into ambitious early-stage entrepreneurs being more likely to have started businesses primarily to pursue an opportunity, rather than for reasons regarding lifestyle.

The typical profile of an ambitious early-stage entrepreneur is male, highly educated and working with a team of other owner-managers. The age profile, however, does not seem to differ markedly from the age profile of other early-stage entrepreneurs. In general, entrepreneurs are younger in factor-driven economies and the average age is older in economies with higher levels of economic development. Ambitious early-stage entrepreneurs, however, have a similar age distribution to early-stage entrepreneurs in general.

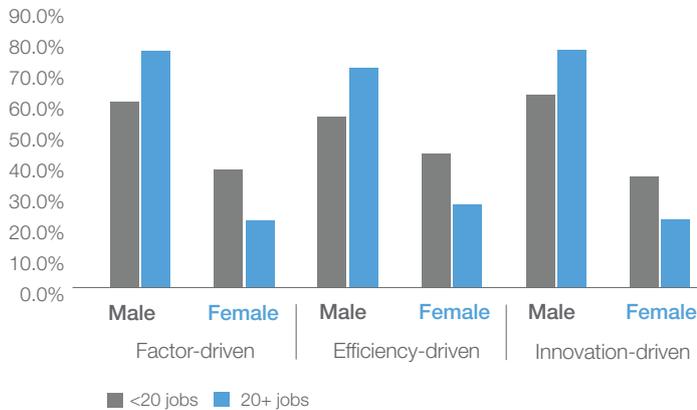
Generally, men report themselves to be more engaged in early-stage entrepreneurship than women. This gender difference is also apparent among ambitious early-stage entrepreneurs. As Figure 2.2.6 demonstrates, males account for a higher proportion of ambitious early-stage entrepreneurs. About three-quarters of ambitious early-stage entrepreneurs are male, compared with 60% of males among the lower growth-oriented entrepreneurs. Due to the self-reported nature of the data, this is as likely to reflect well-documented gender biases in assertiveness as much as issues germane to entrepreneurship.

Overall, ambitious early-stage entrepreneurs are more highly educated than their less growth-oriented peers. As proof, in factor-driven economies, just under half of ambitious early-stage entrepreneurs have a post-secondary degree or higher level of education, compared to less than 20% of other early-stage entrepreneurs. And, of course, economic development affects the differences in education among the development stages, as education levels of entrepreneurs in general are highest in more competitive economies, reflecting the education levels of the general populations in these countries.

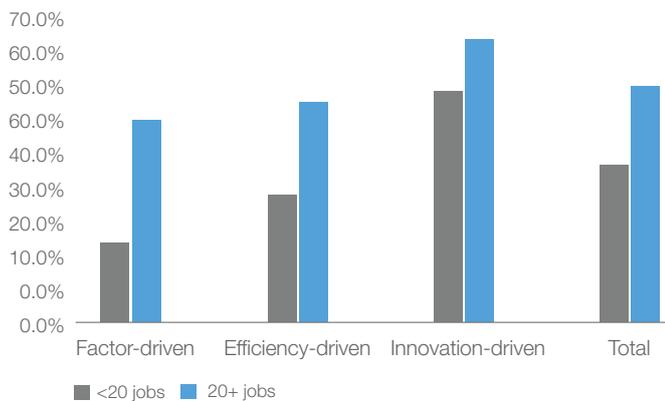
Although the popular image of entrepreneurs as sole business owners is in line with the reality of entrepreneurs in general, this is also how ambitious entrepreneurs are portrayed in the media: as one-person dynamos such as Steve Jobs, Richard Branson, Jack Ma, Oprah Winfrey or Mohammad Yunus. However, this image does not accurately describe the ambitious entrepreneur. In all of the 44 countries’ economies studied for this report, ambitious entrepreneurs were instead much less likely to start a business on their own. Rather, they were more likely to start enterprises in teams of three or more people. Overall, 63% of entrepreneurs with lower growth ambitions were starting businesses on their own, but only 40% of ambitious entrepreneurs were single founders.



**Figure 2.2.6: Gender breakdown of ambitious entrepreneurs (growth expectations of <20 jobs versus 20+ jobs in five years) by stage of development of economies**



**Figure 2.2.7: Percentage of entrepreneurs with a secondary degree or higher for those expecting growth of <20 jobs versus >20 jobs in five years**



### 2.2.4 Ambitious Entrepreneurial Employee Activity

Ambitious entrepreneurial employees expect the activities they lead to result in significant job creation. The relationship between the proportion of ambitious entrepreneurs and that of ambitious entrepreneurial employees is similar to that of early stage entrepreneurial activity and entrepreneurial employee activity. To compare the prevalence of ambitious early-stage entrepreneurs with the prevalence of ambitious entrepreneurial employees, we chose a threshold of five or more employees in five years (as opposed to 20), because our data was only available for one year.<sup>13</sup> With this new threshold, we examine medium-to-high ambition early-stage entrepreneurial activity and medium-to-high ambition entrepreneurial employee activity.

### Rafael Bottós, Welle Tecnologia Laser (Brazil)

**Company Description:** Hoping to dominate a niche market in the manufacturing sector, Welle is innovating the Brazilian laser-cutting industry by providing reliable and efficient equipment to clients that will, in turn, provide better products and services to consumers. Currently, most laser machines on the market are needlessly expensive and energy-consuming. Welle manufactures cost-effective, durable, and precise laser cutting, tracing and cleaning machines that better fit the needs of most of the firms it serves. Barely six years-old, Welle is already Brazil's leading laser technology supplier, with clients including Whirlpool, Bosch, and Petrobras, among others.

#### *Why did you start an ambitious company with “big goals”?*

My greatest desire is to achieve my own goals and see my dreams come true before my eyes. I want to change the world by little parts, creating opportunities that will inspire other people to do the same.

#### *How did the environment in your country accelerate or slow down the growth of your company?*

Brazil has an internal policy to protect national producers, so this helps a little bit. Also, as a Brazilian, I know how to deal with the bureaucracy and culture in a way that few foreigners do.

The biggest challenge is the same politics. Corruption and bureaucracy are some of the things that make everything in Brazil less efficient. Let me give you one simple example:

If you purchase an item for your production line and it comes from the harbor, it will cost 20 times more than in Germany just to release the cargo. Also, you are paying 2 times more to pay the taxes for the government. Then, you hire truck to transport the item to your company. The truck is full of other things to be cost effective and the roads are destroyed because of that.

After you produce your product, you have to ship it to your customer. You hire a transport company that charges you 30 times more than in another country because they have to pay for extra costs on the truck maintenance (bad roads), cargo robbery, traffic and the high costs of fuel.

#### *Why is high-growth entrepreneurship important for your country?*

Small and middle size companies are the most important types of entrepreneurs, since they employ more people than anyone else in the country. At the same time, these companies usually face the worst scenarios when we talk about bank credit, qualified human resources, and capability to achieve new investments.

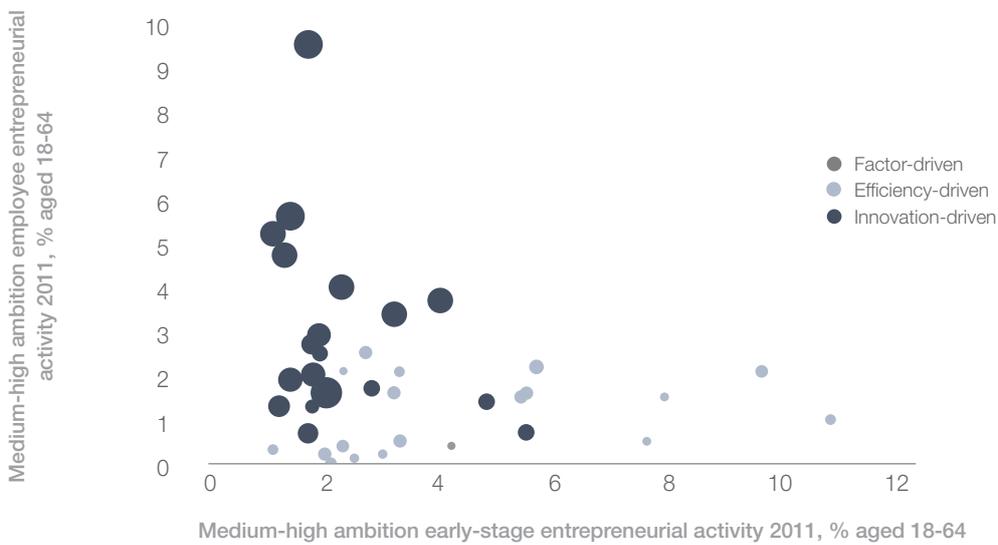
#### *What advice do you have for other ambitious founders across the world?*

Work hard! Be resilient! Try harder! Everything will be fine! The future is only yours to make. If there are heroes in the world, you can bet you are one of them just by trying to do what almost everyone is afraid of.

*What unique challenges do manufacturing entrepreneurs face in your country?*

Our government is unique and very bad. We also don't have a culture in manufacturing, so it's very hard to be competitive in a country that has no infrastructure and few suppliers. However, on the other side, you have a wide range of opportunities to pursue.

**Figure 2.2.8: Medium-to-high ambition entrepreneurial employee activity and medium-to-high ambition early-stage entrepreneurial activity, showing wealth per capita, for 40 economies, 2011 data<sup>14</sup>**



**Figure 2.2.9: Relative prevalence of medium-to-high ambition entrepreneurial employee activity in all medium-to-high ambition entrepreneurial activity and competitiveness, showing wealth per capita, for 38 economies, 2011 data<sup>16</sup>**

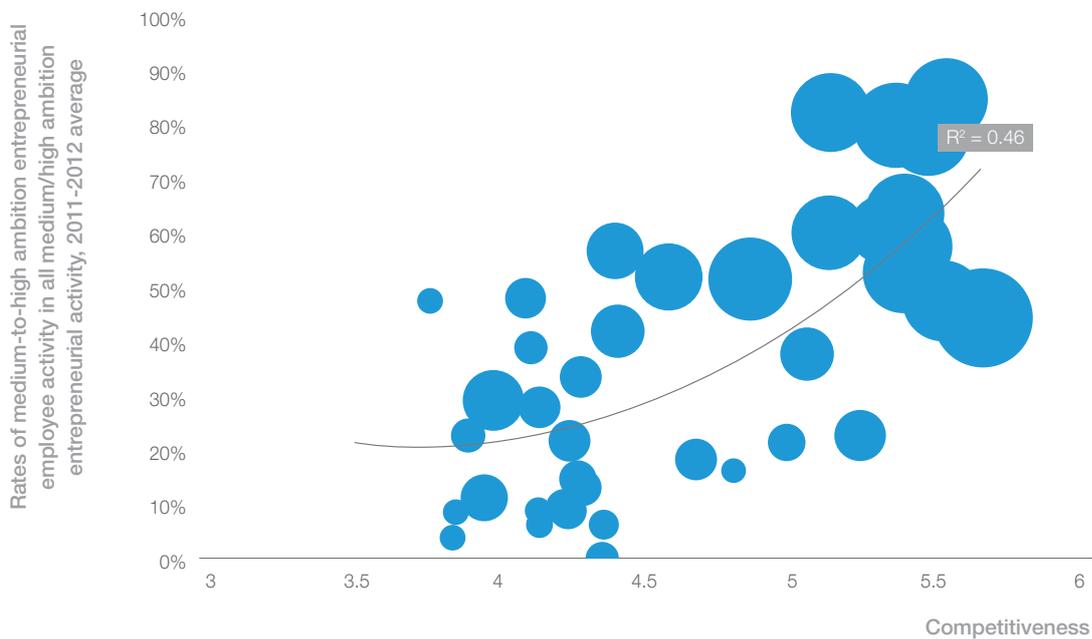


Figure 2.2.8<sup>15</sup> shows a pattern similar to that for early-stage entrepreneurial activity and entrepreneurial employee activity (see Figure 2.1.7 above), but perhaps even more marked, with wealthier economies exhibiting higher proportions of medium-to-high ambition entrepreneurial employee activity and relatively low rates of medium-to-high ambition early-stage entrepreneurial activity.

The association between ambitious entrepreneurial employee activity, and especially the relative prevalence of ambitious entrepreneurial employee activity, and competitiveness as shown in Figure 2.2.9 is somewhat stronger than the association between all entrepreneurial employee activity and competitiveness.<sup>17</sup>

### 2.3 Innovative Entrepreneurship

Innovation is both a critical driver and key outcome of competitiveness. And innovative early-stage entrepreneurial activity is one of the means through which significant innovation occurs. However, as with the rate of entrepreneurship in general, and with early-stage ambitious entrepreneurial activity, the rate of innovative entrepreneurship varies significantly across the economies in this study, ranging from almost no innovative entrepreneurial activity in Brazil to innovative activity accounting for over 50% of early-stage entrepreneurial activity in Chile (see Figure 2.3.1).

#### This Study's Definition of Innovation

In this report, the innovative entrepreneur's product or service is new to some, if not all, consumers in a given market in which few, or no, other businesses offer the same product. This definition implies that innovation is not perceived the same way across economies as what is new to consumers in one economy may already be familiar to consumers in another. Hence, innovation is

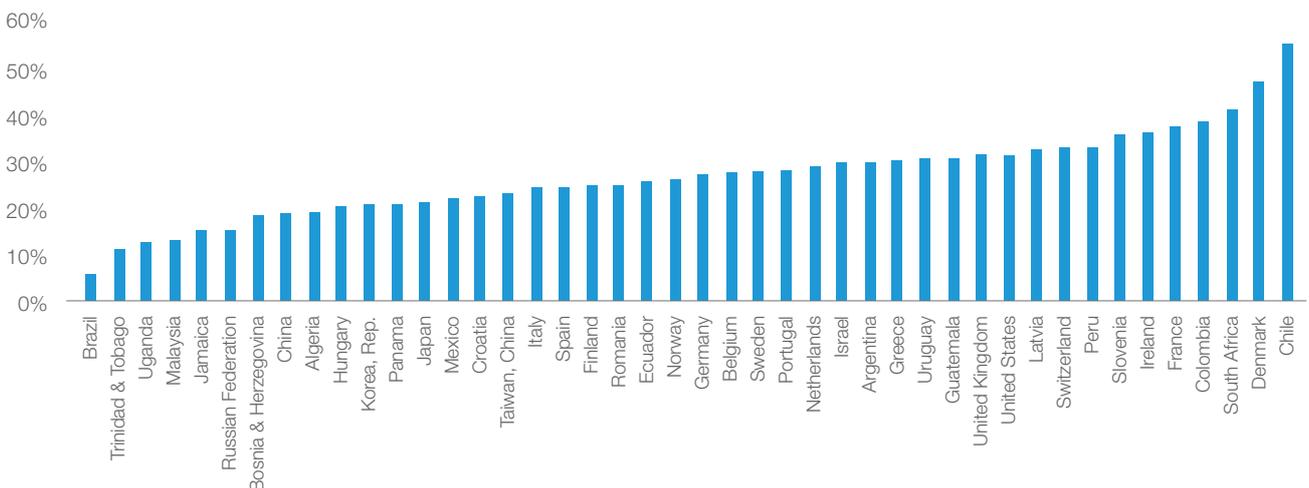
context-dependent, which means that an innovative entrepreneur can be one who introduces an entirely new product or service to the world, or one who introduces a product or service that is already offered in one market into another where it had previously not been offered. This distinction is similar to Peter Thiel's analysis of vertical and horizontal progress, where vertical progress is akin to the development of new technologies and horizontal progress is globalization.<sup>18</sup>

This definition differs from other measures used to assess the "innovativeness" of an economy, such as the number of patents, or the level of research and development (R&D) expenditure. For this report, the definition of innovation is used as a means to point out that innovative entrepreneurs are not all the same, yet all provide an important function to their respective economies in that they make products and services available to consumers that previously had not been available. In doing so, they represent an important driver for the progress of an economy. Hence, this study's definition of innovation most accurately captures the distinctive impact of entrepreneurs who locally expand the pool of available goods to customers.

Two economies that perform highly on the proportion of innovative entrepreneurs may therefore do so for different reasons: a highly competitive economy with a high proportion of innovative entrepreneurs is more likely to have "vertical innovation" than a less competitive one, in which innovative entrepreneurs are more likely to innovate "horizontally".

This section shows that the greater the percentage of early-stage entrepreneurs that are innovative, the more competitive the economy. Care needs to be taken with this association, however. There is also a negative correlation between the percentage of working age individuals who are innovative early-stage entrepreneurs and competitiveness (see Appendix 1). This seeming paradox is explained in this section. As shown in previous sections, different modes of entrepreneurship must be taken into account, if the contribution of innovative entrepreneurs is to be understood.

**Figure 2.3.1: Proportion of early-stage entrepreneurs that are innovative by economy (% of early-stage entrepreneurs)**



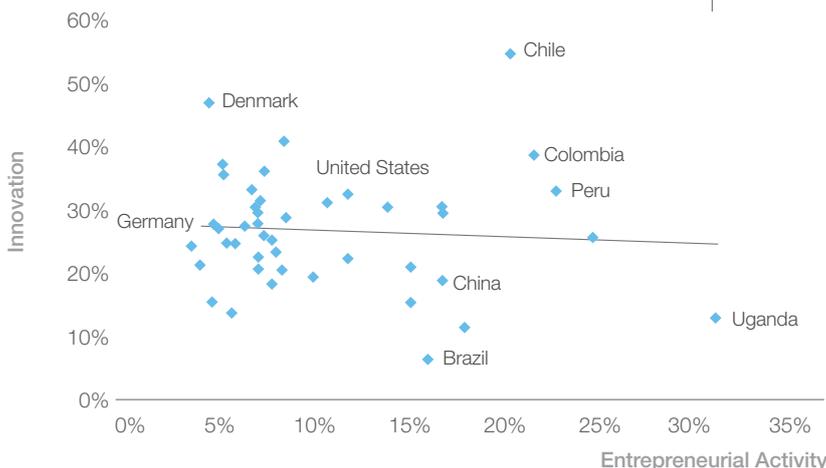
**Figure 2.3.2: Geographic distribution of innovative early-stage entrepreneurs**



**2.3.1 Innovative Entrepreneurs across the Globe**

Innovative early-stage entrepreneurs are more prevalent than ambitious ones, but remain a minority in all economies but one. In two-thirds of the countries in the study’s sample, less than 30% of early-stage entrepreneurs are innovative. Three countries – Chile with a rate of over 50%, Denmark and South Africa – have innovative entrepreneur rates over 40% of total early-stage entrepreneurs. Completing the top 5 are Colombia and France. At the bottom of the ranking are Brazil, with innovative entrepreneurship accounting for only 6% of total early-stage entrepreneurial activity, preceded by Trinidad and Tobago, Uganda, Malaysia and Jamaica, all of which have proportions below 15% of total early-stage entrepreneurial activity. To put these proportions in context, the median and average proportion of innovative early-stage entrepreneurs in the sample are both just above 26%.

**Figure 2.3.3: Proportion of innovative early-stage entrepreneurs (% of early-stage entrepreneurs) by early-stage entrepreneurial activity (% of population aged 18-64)**



Curiously, Europe, Latin America and Africa comprise economies along the full spectrum of innovation rates, while all the Asian countries’ economies in our sample are found in the bottom half of the spectrum for this metric (see Figure 2.3.2).

**2.3.2 Early-Stage Entrepreneurial Activity and Innovation**

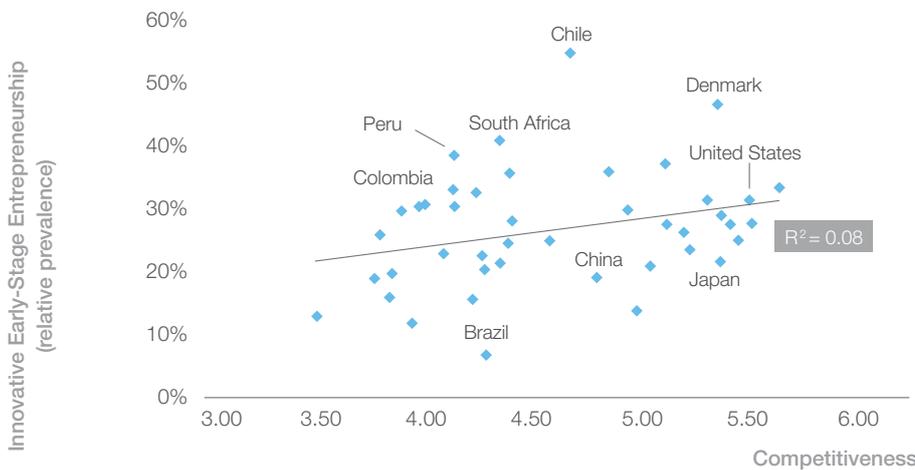
No correlation between the rate of early-stage entrepreneurial activity and the proportion of entrepreneurs who are innovative is revealed by the study (see Figure 2.3.3). For example, countries such as Colombia, Chile, Peru and Ecuador have high proportions of innovative entrepreneurs, matching their top-quartile rates of early-stage entrepreneurial activity, yet Uganda, despite having the highest early-stage entrepreneurship rate in the 44-country sample lands amidst the bottom five countries for innovative entrepreneurship. On the contrary, Denmark has few early-stage entrepreneurs, but a high proportion of them are innovative.

### 2.3.3 Competitiveness and Innovative entrepreneurship

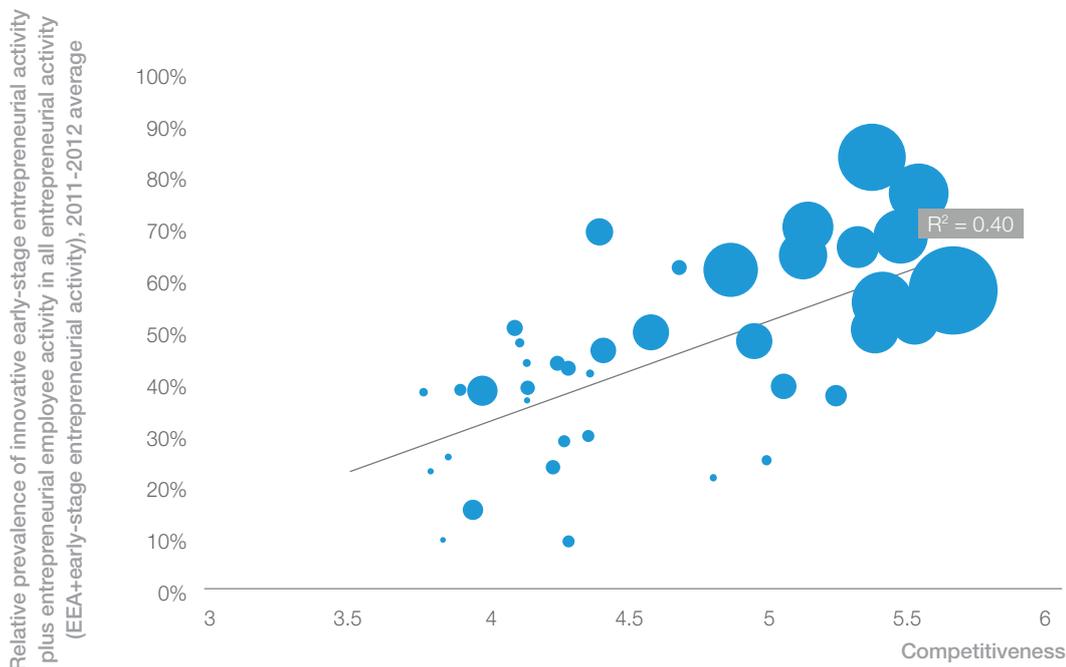
The relationship between innovative early-stage entrepreneurs and competitiveness is weak across our sample (see Figure 2.3.4).<sup>19</sup> This reflects the nature of the definition of innovation in this report: while Colombia, Israel and the United States have approximately the same proportions of innovative early-stage entrepreneurs those economies have very different levels of competitiveness. And though all innovative early-stage entrepreneurs introduce new products or services into their respective markets, only few will introduce products or services that are new to the world. It is likely that new-to-world entrepreneurs are more prevalent in more competitive economies.

This hypothesis is supported by the fact that a stronger correlation with competitiveness is found by combining innovative early-stage entrepreneurs with innovative entrepreneurial employees (see Figure 2.3.5). As economies become more competitive, the conditions for innovation throughout the economy become more positive: there are more educated individuals, a richer flow of information about opportunities and resources and more opportunities for benefiting from innovation without theft of intellectual property. Thus, more individuals have the opportunity to be innovative as employees, without having to risk their own assets or career prospects by setting up a new business.

**Figure 2.3.4 Proportion of innovative early-stage entrepreneurs (% of early-stage entrepreneurs) by competitiveness (score)**



**Figure 2.3.5 Relative prevalence of innovative early-stage entrepreneurial activity and entrepreneurial employee activity in all entrepreneurial activity (EEA and early-stage entrepreneurial activity combined) and national competitiveness, showing wealth per capita, for 40 economies, 2011 and 2012 averaged data.**



### 2.3.4 Motives and Profiles of Innovative Early-Stage Entrepreneurs

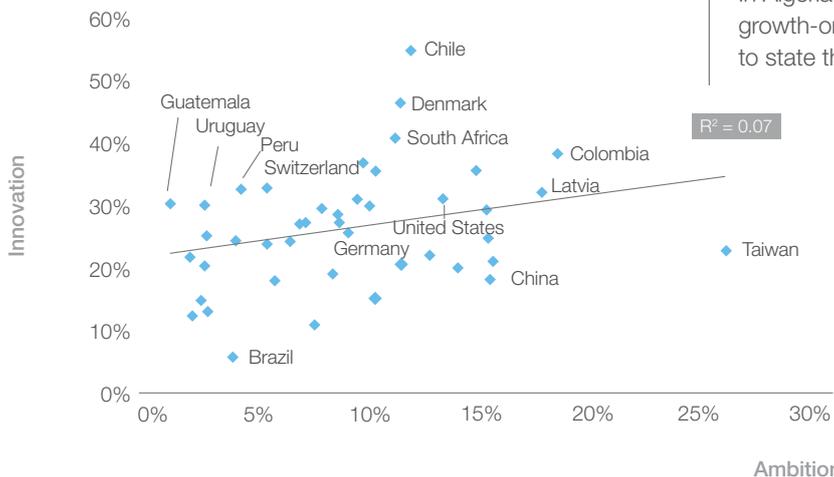
Innovative early-stage entrepreneurs, as with ambitious early-stage entrepreneurs, were less likely to have a necessity motive to start their business. Approximately 30% of non-innovative early-stage entrepreneurs were motivated by necessity, compared to 20% of innovative early-stage entrepreneurs. These results suggest that, while necessity may be the mother of invention, opportunity is more likely to be the mother of innovation.

With regard to age, there is almost no difference in the age profile of innovative versus non-innovative early-stage entrepreneurs, both overall and at each economic stage of development level, which is similar to what was found among ambitious entrepreneurs.

While ambitious early-stage entrepreneurs were more likely to be male, this was not the case for innovative early-stage entrepreneurs. Women were just as likely as men to identify products or services that they offered as innovative. The gender gap in early-stage entrepreneurship therefore is evident in start-up rates and growth ambitions, but not regarding entrepreneurial innovation.

Education, however, seems to affect innovative early-stage entrepreneurial rates the same as it does ambitious entrepreneurial rates. Across the sample, 76% of innovative early-stage entrepreneurs had a post-secondary degree or higher level of education, compared to 61% of non-innovative early-stage entrepreneurs. And as with the ambitious entrepreneurial category, the gap was higher at lower development levels and narrowed with higher economic development, due to reasons explained in the ambitious entrepreneurship section.

**Figure 2.3.6: Proportion of innovative early-stage entrepreneurs (% of early-stage entrepreneurs) by proportion of ambitious early-stage entrepreneurs (% of early-stage entrepreneurs)**



### 2.3.5 Ambition and Innovation

Many, but not all, economies with high proportions of entrepreneurs who are innovative also have high proportions of entrepreneurs who are ambitious. (see Figure 2.3.6). Countries, such as Colombia and Latvia, with high levels of ambitious entrepreneurial activity, also have high rates of innovative activity, while Chile and Denmark perform well on at least one metric and above average on the other. Germany is an example of a highly competitive country that is middling on both metrics, whereas Brazil supports the correlation by performing poorly on both.

This hypothesis is supported by Figure 2.3.7, which shows that ambitious early-stage entrepreneurs are more likely to state they have innovative products or services. In fact, across the entire 44-country sample, growth-oriented early-stage entrepreneurs are, on average, 50% more likely than non-ambitious entrepreneurs to state that they have innovative products or services.

**Figure 2.3.7: Ambitious vs non-ambitious early-stage entrepreneurs who are also innovative (% of early-stage entrepreneurs) by development level**

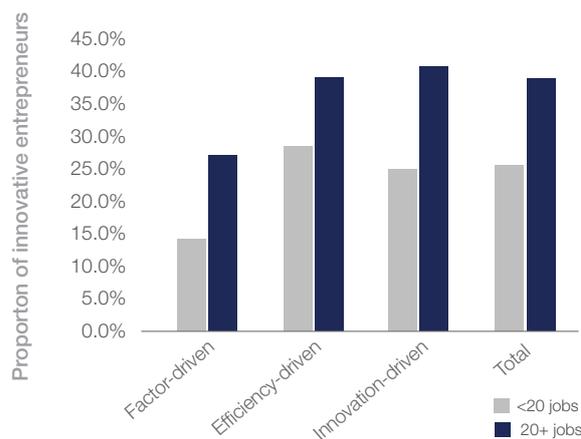


Figure 2.3.7 also shows that, regardless of growth-orientation, entrepreneurs in factor-driven economies are less likely to state that they are innovative compared to those in other economies. In Algeria, innovation levels are pulled down by the fact that lower growth-oriented, early-stage entrepreneurs are only half as likely to state that they have innovative products and services.

Additionally, the gap in innovation between ambitious and non-ambitious early-stage entrepreneurs is greater for the innovation-driven economies than for the efficiency-driven economies. Chile, an efficiency-driven economy, for example, reported high levels of innovative early-stage entrepreneurship, with little difference between growth-oriented and other early-stage entrepreneurs. Korea and Switzerland, both innovation-driven economies, on the other hand, show high levels of innovation among the growth-oriented early-stage entrepreneurs, but only half of these levels among those who were not ambitious entrepreneurs.

Yet, the efficiency-driven economies also vary greatly in terms of their levels of innovative entrepreneurship. The BRIC countries—Brazil, Russia and China—are among those with low innovation levels. In contrast, over half the growth-oriented early-stage entrepreneurs in Chile and Argentina reported having innovative products or services. In short, while less competitive economies may present many opportunities for entrepreneurship, the chance that these opportunities result in creating novel solutions varies considerably by country.

In the innovation-driven economies, there is generally a higher link between entrepreneurial innovation and ambitious entrepreneurship. It may be the case that ambitious entrepreneurs perceive the need to provide a unique product or service to achieve their growth aspirations, or that the conditions for profiting from growth are more favorable for innovative entrepreneurs in innovation-driven economies. Whatever the reason for this association, the data shows that ambitious early-stage entrepreneurs are more likely to be innovative, lending evidence that these types of entrepreneurs merit attention as both key drivers for job creation and initiating change in the market and competitive environment.

## 2.4 Summary

To summarize, the study's analysis of early-stage entrepreneurial activity across countries and regions revealed high levels of early-stage activity, ambition and innovation, but rarely all three metrics in a single country. Less competitive economies with high levels of early-stage entrepreneurial activity, such as Uganda, tend not to provide the environment necessary for ambitious and innovative entrepreneurs to develop and thrive. But, then competitive economies with low levels of early-stage entrepreneurial activity, such as Denmark, have twice as much EEA as early-stage entrepreneurs, and high rates of ambitious and innovative entrepreneurship as a proportion of their low early-stage entrepreneurial activity. In Section 3, the study attempts to make sense of the various permutations in which the three early-stage entrepreneurial metrics are combined, by employing cluster analysis that, along with taking EEA into account, provides greater value for understanding the link between entrepreneurship and competitiveness.

### Maha Arayssi Rifai, Beesline (Lebanon)

**Company Description:** Founded in 1993, Beesline is a rising brand of natural personal care products developed and produced entirely in Lebanon. Based on apitherapy (the medicinal use of bee by-products), the company's products are rich in natural active ingredients that are free of any additives. With its high-profile product development capacities, the company continuously creates and manufactures new, cutting-edge natural products. Beesline products are sold in thousands of retail outlets, such as pharmacies and supermarkets, across the region.

#### *Why did you start an ambitious company with “big goals”?*

As an educated woman, raised in the Arab world, I always felt the challenge and the need to prove that women and men are equal in terms of how much they can achieve. I have set my goals high from the very beginning. This feeling was nurtured by my dad, a self-made man who encouraged us to get the best education possible. Although he was a lawyer, he had always advised us to work in the manufacturing field.

#### *How did the environment in your country accelerate or slow down the growth of your company?*

Lebanon has long been a difficult environment. Any normal routine such as going daily to our lab, or maintaining the manufacturing process and export activity under a sky crisscrossed by bombing airplanes was a huge achievement. But we Lebanese are adaptable, willing to work by faking that everything is normal until we believe that it is. On the other hand introducing our first 100% natural Beesline Beeswax Jelly to Lebanese dermatologists and pharmacists was a big challenge. Their first reaction was a determined refusal since “Lebanese woman rejects Lebanese cosmetics”. Because life is a big adventure; we cherished any positive result, turning it into a huge motivator, and a boost to help us accomplish the best in our field. Our growth was only based on continuous perseverance in the field of research and development in order to find safe and effective products with an innovative edge to the consumer.

#### *Why is high-growth entrepreneurship important for your country?*

I believe that entrepreneurship is at the heart of the economic growth of any nation. It is through entrepreneurship that important innovations enter the market, opening up new employment opportunities. In a nutshell, entrepreneurship is the pulse of economic growth. In a country like Lebanon with no natural resources, and where tourism was naturally banned by the war installation, economic growth relies only on personal effort. It is mainly by encouraging Lebanese entrepreneurship that our economical growth could be revived. This was never the responsibility of the Lebanese government. Fortunately, Endeavor came to the rescue.

#### *What advice do you have for other ambitious founders across the world?*

Always be hungry to learn. And remember— if plan A doesn't work, there are 25 more letters in the alphabet. Meaning that the road of entrepreneurship is hard especially in poor societies. Ambition is not sufficient to succeed. You will need a lot of

patience, perseverance and above all the faith that what you do will have some positive repercussion on your society to begin with and maybe later on, on the whole world.

***How did you make a connection between the innovativeness of your idea and the growth potential of your company?***

Innovation is the key of any company's growth. We at Beesline, have an R&D Lab with 7 researchers (chemists, biochemists, and a chemical engineer) working 5 days a week to develop new formulas and improve old ones. One of our strategies is allowing ideas to blossom by encouraging our people to think out of the box. Our continuous research enables us to always come with new ideas that fit the market needs, this research is always supported with high levels of curiosity and perseverance.

**Daphne Loukas, Out There Media (Greece)**

Company Description: Out There Media is a leading mobile engagement company that leverages unique, real-time user data through its proprietary mobile engagement platform, Mobucks™, enabling mobile operators to monetize their data and providing advertisers with the capability to target and engage with their audiences. Through this continuous flow of interactivity (video- and location-based marketing), advertisers can cultivate deep consumer insight and sustainable customer relationships.

***Why did you start an ambitious company with “big goals”?***

The mobile phone is the only medium we carry with us 24/7. Currently there are seven billion people on the planet. Six billion have mobile phones, whereas only four billion have toothbrushes. So the global market potential is huge. Our initial aspiration in founding the company was to enable advertising on this “first personal mass medium” —on a global scale, enabling advertisers to target the right audience with the right message at the right time while at the same time delivering relevant content to consumers. My personal aspiration was to create and grow a new business, to lead the way down an unbeaten path (we were some of the first pioneers of this industry) and to create jobs and opportunities for young talent.

***How did the environment in your country accelerate or slow down the growth of your company?***

We started the company in Austria. However, we quickly grew into other markets and today, almost 90% of our business comes from the Asia-Pacific region, while research and development are located in Greece. There is excellent mobile talent in Greece, so that helped accelerate our growth, even though the general environment was not very founder-friendly back then—no incentives, no subsidies, no mentor networks, etcetera. Only recently have initiatives been launched to attract new investments and enable high-growth entrepreneurship. The launch of Endeavor, a high-impact entrepreneurship network capable of providing expertise, support and a large mentor network, is definitely a game changer. The environments in Austria (our global HQ) and Singapore (our regional HQ) are far more developed and capable of accelerating our growth, with Singapore in particular leading the way.

***Why is high-growth entrepreneurship important for your country?***

Taking into account that our research and development is located in Greece, high-growth entrepreneurship really is important in order to fuel the growth of the country, come up with new ideas to service the global market, inspire the youth after years during which there was not much hope for recent graduates and, of course, to create more jobs. We also can't forget the “psychological effects”: optimism, new perspectives and a sense of “yes, we can”.

***What advice do you have for other ambitious founders across the world?***

It may sound like a cliché but it really is about focus and persistence: never, never, never give up. And make sure you get the right people on board early on, the right human talent and the right advisors, mentors and investors who can really add value to your business beyond simply funding it.

***Why did you target international markets from the early days of your business? Did you face any unique challenges due to this strategy?***

Because we quickly realized that the opportunity for growth lay elsewhere, based on the facts that the emerging markets will constitute over 50% of global GDP and more than 80% of the world's population by 2017. More importantly, in the Asia-Pacific markets, the rapidly growing and urbanizing middle classes have moved directly to mobile as fixed telecom infrastructure does not exist and brands and agencies are struggling to find a solution that will help reach consumers in this “mobile only” environment. So we set out to focus on those high-growth emerging markets and to become the solution to this unique problem by reaching and engaging with these growing audiences via our Mobucks™ technology.



# Five Clusters of Entrepreneurial Economies

The previous section described how early-stage entrepreneurial activity, ambitious early-stage entrepreneurial activity and innovative early-stage entrepreneurial activity are distributed across countries and how competitiveness is correlated to each of those variables. To develop a deeper understanding of how entrepreneurship, ambition and innovation interact and are in turn related to competitiveness, this study includes a cluster analysis to assign the countries' economies in our sample into five clusters of similar economies. This analysis allows for a more nuanced examination of the role of competitiveness in entrepreneurial ecosystems (see Appendix 3 for detailed methodology).

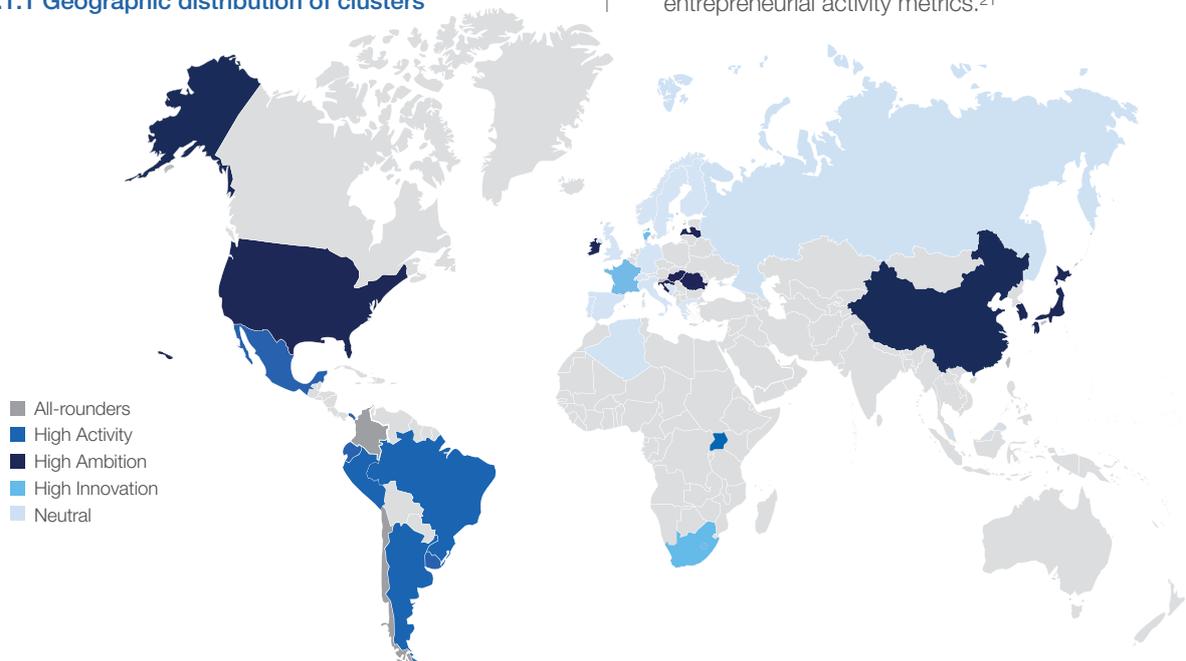
The map below shows the geographic distribution of the five clusters (see Figure 3.1.1). While the pattern is not geographically conclusive, none of the All-rounder Economies or High-Activity Economies are found in Europe, while none of the Neutral or High-Innovation Economies are found in the Americas.

## 3.1 Five Types of Entrepreneurial Economies

Through this analysis we identified five broad clusters:

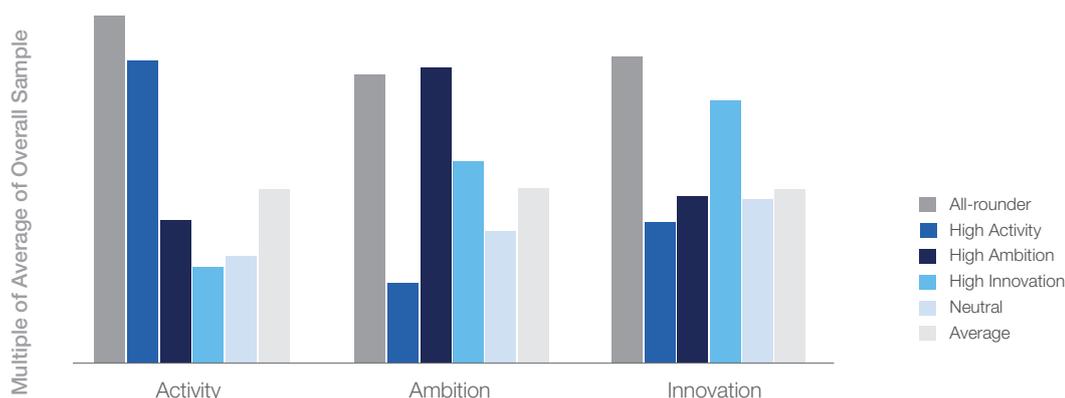
1. **All-rounder Economies** exhibit high rates of entrepreneurial activity, high rates of entrepreneurs that are ambitious and high rates of entrepreneurs that are innovative.
2. **High-Activity Economies** exhibit high rates of early-stage entrepreneurial activity, but low rates of ambitious and innovative entrepreneurial activity.
3. **High-Ambition Economies** exhibit low rates of entrepreneurial activity, but a high proportion of entrepreneurs that are ambitious, yet not innovative.
4. **High-Innovation Economies** exhibit low rates of entrepreneurial activity, with low proportions of ambitious entrepreneurs, but high proportions of entrepreneurs that are innovative.
5. **Neutral Economies** exhibit low rates on all three early-stage entrepreneurial activity metrics.<sup>21</sup>

Figure 3.1.1 Geographic distribution of clusters



The five clusters described above highlight five different patterns of early-stage entrepreneurial activity, and proportions of ambitious and innovative early-stage entrepreneurs across the study's sample of economies. These patterns are summarized in Figure 3.1.2 and described in more detail in the following sub-sections.

**Figure 3.1.2: Entrepreneurial performance across clusters as multiple of overall sample**

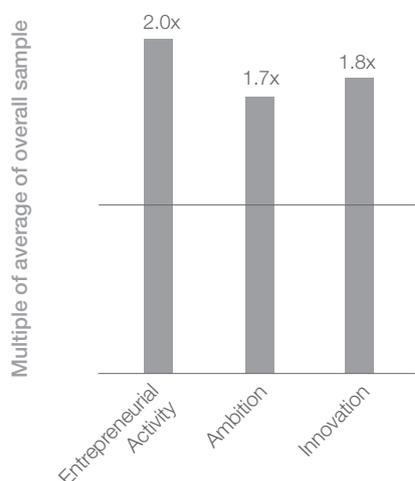


### 3.1.1 All-rounder Economies

All-rounder economies in the sample are especially distinct from the other clusters. They exhibit high rates on all three metrics of entrepreneurship. There are just two countries in this cluster: Colombia and Chile.

On average, this cluster has an early-stage entrepreneurial activity rate of 21.1% of the working-age population, which is more than double the rate of the overall average of the sample (see Figure 3.1.3 and Table 3.1.1). On average, 15.1% of entrepreneurs in this cluster are ambitious and 46.4% of entrepreneurs introduce new products or services into their market.

**Figure 3.1.3: Entrepreneurial performance of All-rounders compared to average of overall sample**



**Table 3.1.1: Entrepreneurial performance of All-rounders**

Top Performing Cluster	Entrepreneurial Activity	Growth Ambition	Innovation
Chile	20.4%	12.1%	54.6%
Colombia	21.7%	18.8%	38.2%

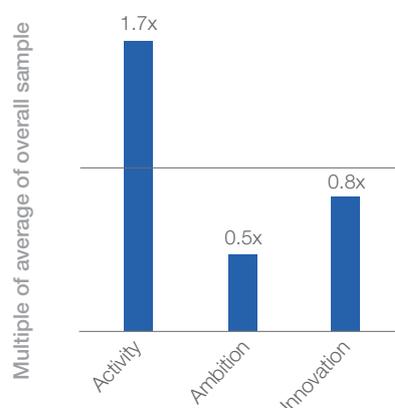
All-rounders leverage the most benefits from early-stage entrepreneurial activity for their economies, including job creation and new products and services.

### 3.1.2 High Activity Economies

High-Activity economies are distinct from the other clusters in having high rates of early-stage entrepreneurial activity, but average or low rates of ambition and innovation among early-stage entrepreneurs. There are 11 countries in this cluster: Argentina, Brazil, Ecuador, Guatemala, Jamaica, Mexico, Panama, Peru, Trinidad and Tobago, Uganda and Uruguay. Geographically, this cluster is over-represented by Latin American and Caribbean countries. With regard to development level, there is one factor-driven economy (Uganda) and one innovation-driven economy (Trinidad and Tobago); the remaining seven are middle-stage, efficiency-driven economies.

On average, this cluster has an early-stage entrepreneurial activity rate of 19% of the working-age population, which is 1.8 times the rate of the overall sample average. Yet, only 3% of entrepreneurs in this cluster are ambitious, which is one-third the rate of the overall sample, and 19% introduced new products or services into their market, which is approximately three-quarters the rate of the overall sample average (see Figure 3.1.4). Interestingly, all these countries have low rates of entrepreneurial employee activity (EEA estimates are not available for Guatemala and Uganda).

**Figure 3.1.4: Entrepreneurial performance of High Activity Economies as percentage of overall sample**



Though the pattern of proportionally high levels of entrepreneurship with low ambition and innovation holds for each country in the cluster, the actual levels of each metric vary across countries. To better understand the variance within the cluster, the countries are grouped by their performance on each metric, using as benchmark performance against the average of the overall sample. Performance above 1.5 times the average is considered high, and performance below 0.5 times the average is low. The results are summarized in Table 3.1.2.

**Table 3.1.2: Performance thresholds for High-Activity cluster**

	Activity	Ambition	Innovation
<b>High threshold</b>	>15.8%	>14.0%	>39.4%
<b>Low threshold</b>	<5.3%	<4.7%	<13.1%

Uganda is the core representative of this cluster, with a highest rate of early-stage entrepreneurial activity at 31% of the working-age population and low levels of ambition and innovation at 2.2% and 12%, respectively. Entrepreneurs in Uganda almost never expect to grow at a fast pace, and only very infrequently introduce new products into the national economy. Ecuador, Peru, Guatemala, Panama and Jamaica fall into a second group within the cluster, each with high early-stage entrepreneurial activity, low proportions of ambitious entrepreneurs and average proportions of innovative entrepreneurs. Trinidad and Tobago stands alone, and is distinct from the previous group, with fairly high early-stage entrepreneurial activity, an average proportion of ambitious entrepreneurs, but a low proportion of innovative entrepreneurs. Brazil performs similarly to Uganda, but with well below the average of both ambition and innovation. Argentina and Uruguay have very similar profiles, both countries within a similar range of slightly above average early-stage entrepreneurial activity and average proportions of ambitious and innovative entrepreneurs. At 12% Mexico performs just above the average of the overall sample for early-stage entrepreneurial activity, making it the weakest economy in this cluster on this metric, and the country's entrepreneurs score low on ambitious and innovative activity (see Table 3.1.3; the shading indicates similar economies in a sub-cluster).

**Table 3.1.3: Entrepreneurial performance of High-Activity Economies**

Economy	Activity	Ambition	Innovation
Uganda	31%	%	12%
Ecuador	25%	3%	25%
Peru	23%	4%	33%
Guatemala	17%	1%	30%
Panama	15%	3%	21%
Trinidad and Tobago	18%	8%	11%
Brazil	16%	4%	6%
Jamaica	15%	3%	15%
Argentina	17%	8%	29%
Uruguay	14%	10%	30%
Mexico	12%	2%	22%

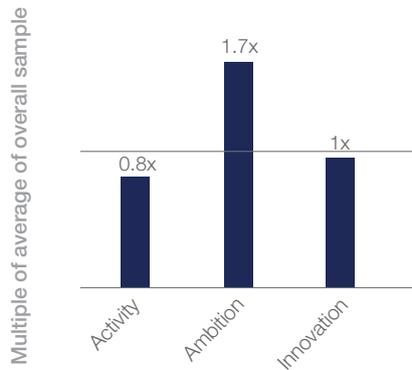
High-Activity economies include many entrepreneurs who have started, or are in the process of starting, businesses. However, these economies are not able to leverage the full spectrum of positive impacts from their entrepreneurs. Entrepreneurial activity that is neither ambitious nor innovative will not deliver high levels of job creation or economic advancement that result from new products and services. Instead, entrepreneurial activity of this form resembles a form of regular employment (and for many entrepreneurs might well be a necessary replacement for it).

### 3.1.3 High Ambition Economies

High-Ambition economies represent the most diverse country profile mixes of the five clusters in this study. There are 11 countries in this cluster: China, Croatia, Hungary, Ireland, Israel, Japan, Korea, Latvia, Romania, Taiwan and the United States. They represent diversity with respect to their stages of economic development and geography, with about half being innovation-driven and the remainder efficiency-driven, represented in five regions: North America, South America, Europe, the Middle East and Asia. They also vary from low to medium in levels of entrepreneurial employee activity.

On average, this group has an early-stage entrepreneurial activity rate of 9.7%, which is just below the average 44-country sample rate of 10.6% (See Figure 3.1.5). The same applies to innovation, where the average rate of entrepreneurs introducing new products or services for this cluster is 25.9%; again just below the average 44-country sample rate of 26.3%. However, these lower levels of entrepreneurial activity and innovation are contrasted by high proportional rates of ambition; almost 15% of entrepreneurs in this group are ambitious (1.6 times the rate of the overall sample).

**Figure 3.1.5: Entrepreneurial performance of High-Ambition Economies as percentage of overall sample**



Again, as with the previously discussed cluster, the proportions vary across countries. Taiwan is the core representative of this cluster, with over one-quarter of its entrepreneurs being ambitious, but only 8% of its working-age population engaged in early-stage entrepreneurial activity and 22% in innovative activity, both slightly below the average of the overall 44-country sample. The United States, Israel, Ireland and Latvia as a group stand out with above average proportions of innovative entrepreneurs, at, or above, 30%. The group made up of Romania, Hungary, Croatia, Japan and Korea exhibits slightly below overall sample average rates of early stage entrepreneurial activity, alongside slightly below proportions of innovative entrepreneurs. China stands alone in a sub-cluster group with high early-stage entrepreneurial activity, above-average ambitious activity and slightly below-average innovative activity (see Table 3.1.4).

**Table 3.1.4: Entrepreneurial performance of High Ambition Economies**

Economy	Activity	Ambition	Innovation
Taiwan	8%	27%	23%
Latvia	12%	18%	32%
Israel	7%	16%	29%
Ireland	7%	15%	36%
United States	11%	14%	31%
Romania	8%	16%	25%
Japan	4%	16%	21%
Hungary	8%	14%	20%
Croatia	7%	13%	22%
Korea, Rep.	7%	12%	20%
China	17%	16%	18%

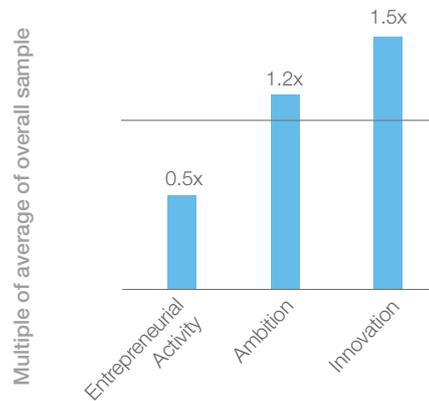
Economies in this cluster benefit from their entrepreneurs having higher than average ambition to grow their businesses quickly and create jobs. But lacking innovative entrepreneurs reduces the potential impact that these entrepreneurs have on social value and unique economic activity.

### 3.1.4 High Innovation Economies

High-Innovation economies have low to average rates of early-stage entrepreneurial activity, low proportions of early-stage entrepreneurs who are ambitious, and high proportions of early-stage entrepreneurs who are innovative. There are four countries in this cluster: Denmark, France, Slovenia and South Africa, with a low diversity of three European countries and one African country.

On average, this group has an early-stage entrepreneurial activity rate of 5.8%, approximately half the rate of the overall 44-country sample average, with a rate of 10.9% of entrepreneurs in this group being ambitious, which is slightly above the sample average, and 39.7% of entrepreneurs introducing new products or services into their market, which is approximately 1.5 times the rate of the overall sample (see Figure 3.1.6).

**Figure 3.1.6: Entrepreneurial performance of High Innovation Economies as percentage of overall sample**



This cluster is small, with South Africa having just a slightly higher early-stage entrepreneurial activity than the others. Denmark has the highest rate of innovation, with 46.3% of entrepreneurs introducing new products or services into the market (see Table 3.1.5). Denmark also has a very high rate of entrepreneurial employee activity, setting it apart from the other members of this group.

**Table 3.1.5: Entrepreneurial performance of High Innovation Economies**

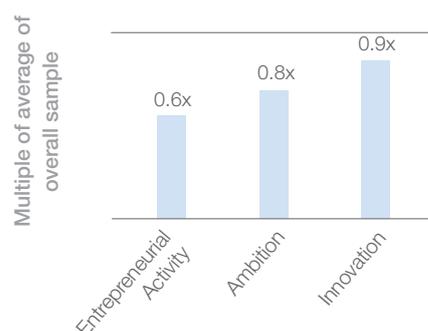
Economy	Activity	Ambition	Innovation
Denmark	4%	12%	46%
South Africa	8%	11%	40%
France	5%	10%	37%
Slovenia	5%	11%	35%

### 3.1.5 Neutral Economies

The Neutral economies have below average rates on all three metrics. There are 16 countries in this cluster: Algeria, Belgium, Bosnia and Herzegovina, Finland, Germany, Greece, Italy, Malaysia, Netherlands, Norway, Portugal, Russian Federation, Spain, Sweden, Switzerland and the United Kingdom. The majority of these economies are in Europe, and in the innovation-driven stage of development.

On average, this group has an early-stage entrepreneurial activity rate of 6.3%, which is two-thirds the rate of the overall sample, with 7.1% of entrepreneurs in this group being ambitious and 24.7% of entrepreneurs introducing new products or services into their market, the latter being just under the average rate of the overall sample (see Figure 3.1.7).

**Figure 3.1.7: Entrepreneurial performance of Neutral Economies as percentage of overall sample**



The Netherlands is among the core representatives of this cluster, and similar in its profile to many of its European neighbours.

The non-European countries in the cluster show generally lower proportions of innovative entrepreneurs, with comparative high proportions of ambitious entrepreneurs in Russia and Algeria, and overall activity at the higher end of the scale in Algeria and Bosnia and Herzegovina. Malaysia's scores are comparatively low across the spectrum (see Table 3.1.6).

**Table 3.1.6: Entrepreneurial performance of Neutral Economies**

Economy	Activity	Ambition	Innovation
Switzerland	7%	5%	33%
United Kingdom	7%	10%	31%
Netherlands	8%	9%	28%
Norway	7%	9%	26%
Portugal	7%	9%	28%
Sweden	6%	7%	27%
Germany	5%	10%	27%
Belgium	5%	7%	27%
Spain	5%	4%	24%
Finland	6%	7%	24%
Italy	3%	6%	24%
Greece	7%	3%	30%
Algeria	10%	9%	19%
Bosnia and Herzegovina	8%	6%	18%
Russian Federation	4%	10%	15%
Malaysia	6%	3%	13%

In this cluster, some countries are mobilizing alternative modes of innovative and ambitious entrepreneurship. As Figure 2.1.7 in section 2.1.1 shows, Sweden, Finland, Belgium, United Kingdom and Netherlands all have at least double the median level of EEA. And a GEM special report on EEA demonstrated that entrepreneurial employees tended to be more ambitious (in job creation expectations for their entrepreneurial endeavor) than individuals who were setting up or running their own new businesses.<sup>22</sup>

### Caio Bonatto, TecVerde (Brazil)

**Company Description:** Brazilians frequently wrestle with an inefficient, unpredictable, and costly home-buying experience. TecVerde eliminates the uncertainty, delivering high-end, eco-friendly homes with a guaranteed rapid construction time, fixed costs, and convenient financing arrangements.

#### *Why did you start an ambitious company with “big goals”?*

We wanted to change the construction industry. We wanted to transform our industry in terms of industrialization and sustainability.

#### *How did the environment in your country accelerate or slow down the growth of your company?*

It was a huge roadblock for our company. Bureaucracy, weak regulation, a lack of qualified laborers, and many other issues slowed down our growth. And all that at the same time as the biggest housing program in our history.

#### *Why is high-growth entrepreneurship important for your country?*

The greatest number of jobs in Brazil are originated by small- to medium-size companies. Those companies are able to push the growth of our country but they are obstructed by tax, bad regulation, high labor costs... We are losing competitiveness.

#### *What advice do you have for other ambitious founders across the world?*

Prepare yourself for a roller coaster. That is what entrepreneurship means. A huge dream is essential. Learn to say NO to 99% of your ideas! Saying yes is always easier... But you should say yes just to those ideas that are really, really good.

#### *How did you make a connection between the innovativeness of your idea and the growth potential of your company?*

That is one of the biggest challenges that entrepreneurs face. Being the most creative and innovative entrepreneur will not guarantee the growth of your company. It is very important to have a good balance between innovation, sales and operation. That engine should roll smoothly.

Thus, it would be a mistake to conclude that these countries are not entrepreneurial. In fact, to the contrary, it is more likely that their economic systems are just as, if not more, conducive to EEA as other countries are to early-stage entrepreneurial activity.

### 3.2 Understanding the Clusters

To develop a better understanding of why countries fall into certain clusters, the study compares clusters across a range of indicators representing conditions for entrepreneurship, entrepreneurial approaches and competitiveness.

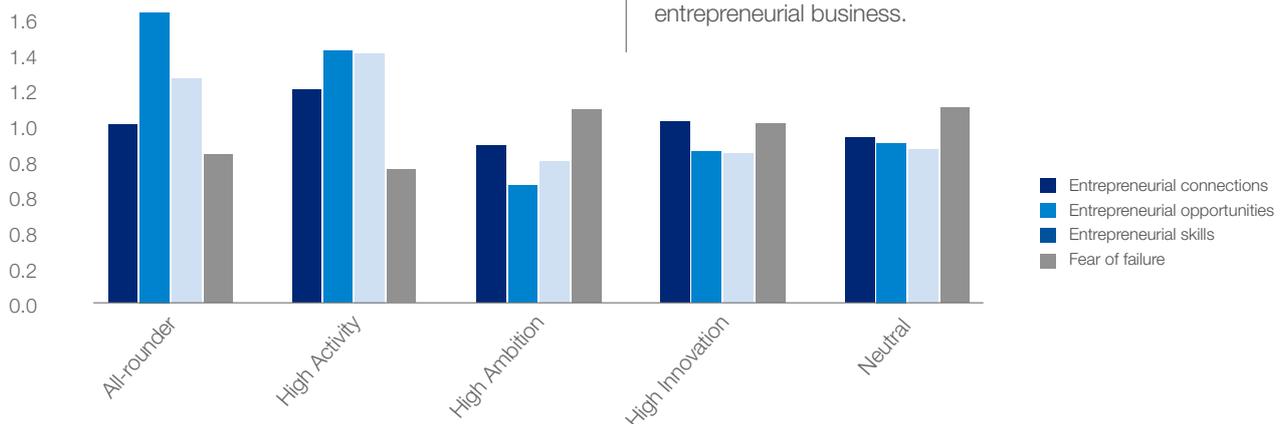
#### 3.2.1 Entrepreneurial Preconditions

Entrepreneurial activity depends on individuals who perceive business opportunities and who have the capability and willingness to pursue them. For their businesses to function, these individuals, in turn, rely on a variety of stakeholders around them that encourage entrepreneurship, including investors, consumers, suppliers, employees, advisors, and even supportive families and friends. The term “preconditions” in this report encapsulates the general conditions in an economic, social, and political environment that generate and support entrepreneurs. The relationship between these preconditions and entrepreneurship is not one-way; entrepreneurial activity can also influence how society, economies, and political systems operate. Below is a short list of preconditions that differ across the five clusters:

- Connections with entrepreneurs,
- Awareness of opportunities,
- Entrepreneurial skills, and
- Willingness to take risks

The preconditions for entrepreneurship affect early-stage entrepreneurial activity and not the other metrics (see Figure 3.2.1) in the report. In High-Activity economies, more than 20% more people reported an entrepreneurial connection, i.e. knowing someone who started a business in the past two years. All other clusters fell roughly within or below the average of the overall sample.

**Figure 3.2.1: Performance of clusters normalized to average of overall sample**



This makes sense to the extent that when there are many entrepreneurs in a society, it is likely that more citizens will know at least one personally. The significance of this is that in High-Activity economies, entrepreneurs are ubiquitous and therefore early-stage entrepreneurial activity may be more accepted as a form of economic activity, while early-stage entrepreneurs provide many examples of how to (and how not to) create businesses to potential entrepreneurs. Both All-rounders and High-Activity economies stand out with significantly higher portions of the working-age population reporting available opportunities to start a business. Both clusters exhibit similarly greater percentages of the working-age population reporting to have the skills to start a business. In the same vein, fear of failure is significantly lower in economies in those two clusters and roughly the same across the others. Again, this may be due to the “role model” effects of having lots of early-stage entrepreneurs in an economy.

#### 3.2.2 Entrepreneurial Business Strategies

By observing the actions of entrepreneurs, this study draws conclusions about the capabilities and constraints they face when starting a business and the business strategies they employ, which in turn provides behavioural insights into the dynamics of entrepreneurial economies.

Entrepreneurial business strategies vary greatly by cluster and can explain some of the variance in entrepreneurial activity (see Figure 3.2.2). Fewer entrepreneurs in the High-Activity and All-rounders Economies are internationally oriented compared to their peers in economies across the other clusters. Conversely, the entrepreneurs in High-Ambition and High-Innovation Economies are more likely to be internationally oriented.

While ambitious and innovative entrepreneurs are by nature more likely to seek international markets to a greater degree than their less ambitious or innovative peers, other factors influence their tendency to target markets outside their national borders. For example, entrepreneurs in small countries may seek opportunities abroad because their ability to build economies of scale for their services or goods is limited by small domestic markets. Also, those entrepreneurs operating in highly competitive environments may seek less well-served markets in other countries. In addition, common cultures and languages across countries, as well as free trade policies, can promote cross-border entrepreneurial business.

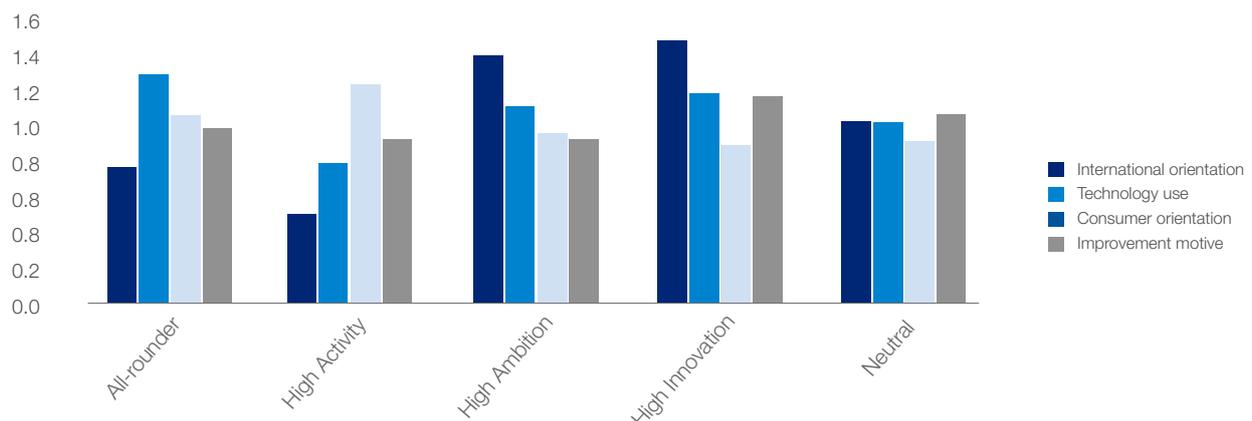
Regarding the use of new technology for entrepreneurial ventures, All-rounders Economies display the highest proportion of entrepreneurs using new technologies, High-Activity Economies have the lowest proportion and the remaining clusters are roughly at the average of the overall 44-country sample.

The industry sector composition of entrepreneurial activity varies immensely across clusters. Two-thirds of entrepreneurs in the High-Activity cluster are starting businesses in the consumer services sector (which is distinct from consumer goods manufacturing sector), including retail, hotel, restaurant, education, leisure and other B2C service-oriented businesses. These are often businesses with low barriers to entry as they do not require high levels of capital or fixed assets and are easily imitated. In the High-Activity cluster, only 7% of entrepreneurs are starting enterprises in the business services sector, mostly knowledge and service-based businesses, such as those in information, communication, finance, real estate, consulting and other professional or administrative services.

Consumer services is the most popular sector for entrepreneurship regardless of development level, but is more prevalent in the early economic development stages. In fact, fewer early-stage entrepreneurs operate in this sector in more competitive economies, as entrepreneurs in more competitive economies tend to engage in transformative businesses and business services. In contrast, less than half of the entrepreneurs in the High-Innovation and Neutral clusters reported engagement in the consumer services sector. Instead, one-quarter of the entrepreneurs in these clusters operate in business services.

For the majority of countries in the High-Activity cluster, rapid economic growth and development supports many consumer services businesses. In High-Innovation and Neutral clusters, on the other hand, these businesses tend to encounter saturated competitive environments. Other work alternatives may look more attractive than competing in these low barrier-to-entry sectors. The low rates of entrepreneurship that characterize these two clusters, therefore, indicate an entrepreneurial preference for operating in the knowledge- and service-based business services sector.

**Figure 3.2.2: Performance of clusters normalized to average of overall sample**



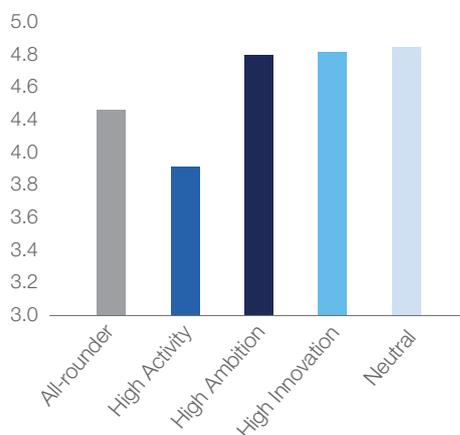
The All-rounders Economies, Colombia and Chile, show evidence of their developing economic status. There is somewhat lower consumer services activity in these countries compared to that in the countries of the High-Activity cluster, and the entrepreneurs in these two countries are increasingly engaging in the business services sector, namely the transforming business services sector, accounting for 27% of entrepreneurs in the cluster, compared to 20% in the High-Activity cluster. Hence, although the consumer services sector still dominates, business services sector is emerging for these entrepreneurs, and manufacturing is also contributing to high levels of entrepreneurship.

### 3.2.3 Competitiveness

In section 2, the study highlighted how competitiveness impacts all three entrepreneurial metrics in different ways. In this section, the study examines how those effects transmit through the various combinations of the three metrics.

Not surprisingly, overall competitiveness scores mirror and support the findings in the previous section (see 3.2.3). High-Activity economies have the lowest competitiveness scores, averaging 4.0, just at the threshold of low and moderate competitiveness. High-Ambition and High-Innovation Economies have moderately high competitiveness scores on average, of 4.7 and 4.8, respectively. Competitiveness scores in those three clusters can be explained in a straightforward manner, by looking at Figure 3.2.3, which shows that competitiveness is mildly negatively correlated to early-stage entrepreneurial activity and mildly positively correlated to ambition and innovation. Economies in the Neutral cluster are also the most competitive, averaging a competitiveness score of 4.8, while the All-rounders average a moderately competitive score of 4.4, implying that high early-stage entrepreneurial activity is negatively correlated with competitiveness. Given the small difference in competitiveness between the High-Ambition, High-Innovation and Neutral clusters as well as the composition of the clusters, and the wide variety of types of economies in some of them (e.g. the High-Ambition cluster includes Western European, Eastern European and Asian economies alongside the United States), it is not possible to draw definitive conclusions as to the relationship between competitiveness and the proportion of ambitious or innovative entrepreneurs in an economy using the cluster methodology.

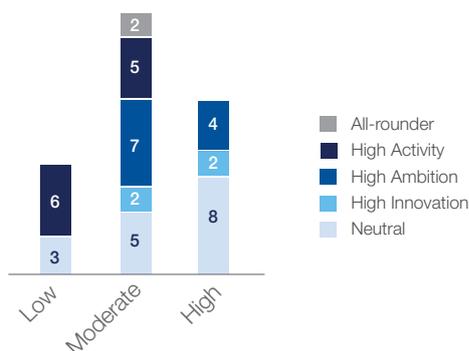
**Figure 3.2.3: Average competitiveness score by cluster**



### 3.3 The Evolution of Entrepreneurial Economies

Figure 3.3.1 shows how clusters are distributed across levels of competitiveness. Highly competitive economies are predominantly featured in the Neutral cluster. Seven of 21 moderately competitive economies are in the High-Ambition cluster, which is completed by four more highly competitive economies and has none of the least competitive economies. Lastly, six of nine low competitive economies are in the High-Activity cluster, making up the majority of the 11 economies in this cluster. Both All-rounders are in the moderately competitive group.

**Figure 3.3.1: Count of economies per cluster by competitiveness level**



#### 3.3.1 Low Competitiveness Economies

The entrepreneurial evolution that economies undergo as they grow more competitive is visible in Figure 3.3.1. Economies at the bottom end of the spectrum are mostly in the High-Activity cluster, which comprise many economies with low entrepreneurial barriers to entry into markets, which are predominantly consumer-oriented. Countries in this cluster are Uganda, Jamaica, Guatemala, Ecuador and Trinidad and Tobago. Those countries essentially comprise societies in which entrepreneurship is common, but while access to entrepreneurship is open, growth opportunities are limited and most entrepreneurs do not expect high growth, nor do they tend to innovate.

Of the other low competitive economies, Greece, Bosnia and Herzegovina and Algeria are in the Neutral cluster. Despite less competitive markets, starting a business in those economies is uncommon. Interestingly, these three economies each represent a different economic stage of development level. Greece is innovation-driven, Bosnia and Herzegovina is efficiency-driven and Algeria is factor-driven. Where generally countries' economies become more competitive as they move along the spectrum of economic stages of development, here there are three economies at three different development stages that are all in the low competitiveness group. While Bosnia and Herzegovina and Greece have slightly higher EEA than the other countries, 3.3% and 1.5% respectively, this is not enough to explain the significant differences observed in early-stage entrepreneurial activity. A possible explanation of the poor competitive performance of these countries is poor governance and high uncertainty.

What can generally be seen, however, is a propensity of less competitive economies to have higher rates of early-stage entrepreneurial activity, with low proportions of ambitious and innovative entrepreneurs.

#### 3.3.2 Moderate Competitiveness Economies

As countries develop and competitiveness increases, the opportunity costs of entrepreneurship rise, which translates into greater job and career opportunities in established organizations, which employ people that might otherwise become entrepreneurs. This trend often results in rising EEA in these economies. Furthermore, as business sophistication increases, more skills are required to start businesses that are capable of being competitive, and entrepreneurs face increasing competitive pressures in the market and a greater degree of openness to internationalization.

Those who start businesses in increasingly competitive environments also more frequently do so with increased ambition and with motives that transcend subsistence. Hence, moderately competitive economies experience greater diversification in their entrepreneur-base.



Hence, although economies at this moderate level of competitiveness are present in all five clusters, a full one-third of the 21 moderately competitive economies are High-Ambition economies, where barriers to entry for entrepreneurs are higher and the relative attractiveness of early-stage entrepreneurship as a career option is decreasing, but the share of entrepreneurs that are ambitious enough to take advantage of growing and opening markets is increasing. Economies that match this description are those of Israel, Ireland, Latvia (these countries also have comparatively high levels of innovative entrepreneurs), Romania, Hungary, Croatia (three countries with economies that have average levels of entrepreneurial innovation) and China, which stands out in this group for its relatively high early-stage entrepreneurial activity.

It is clear that while those countries are all High-Ambition economies, their paths to this state of entrepreneurship diverge as they have grown more competitive. In Israel, Latvia and Ireland innovative entrepreneurs make up a greater proportion of early-stage entrepreneurs than in the other countries, while Romania, Hungary and Croatia – all remain average on this metric. Meanwhile, China takes its own unique path, as its fast-paced catch-up economic growth of the past two decades has provided fertile ground for high levels of early-stage entrepreneurial activity matched with high levels of ambitious entrepreneurial activity.

Two moderately competitive countries are High-Innovation economies: South Africa and Slovenia. Both score average for early-stage entrepreneurial activity and ambitious activity, but outperform their peers on innovation, with a high proportion of entrepreneurs introducing new products into their national markets.

Moderately competitive economies Italy, Spain, Portugal, Russia and Malaysia are in the Neutral cluster, which means they perform at or below average for all three metrics of early-stage entrepreneurship that were examined. None of these economies has a high rate of entrepreneurial employee activity. For Italy, Spain, Portugal and Russia, lack of opportunities for starting businesses could play a significant role, alongside cultural factors that direct would-be entrepreneurs into non-entrepreneurial careers.

Lastly, the two moderately competitive economies Colombia and Chile square the circle of supporting high proportions of ambitious and innovative entrepreneurs while maintaining high rates of entrepreneurial activity. Each economy took its own path to succeed, however (see Box), and their profiles differ in that Chile has a higher proportion of innovative entrepreneurs and Colombia has a higher proportion of ambitious entrepreneurs, suggesting that there is no one route to succeeding in building thriving entrepreneurial ecosystems.

## Chile's and Colombia's paths to becoming All-rounders

With a long history in extractive industries, typical Chilean entrepreneurs historically have started low value-added local businesses, but during the last decade, this trend changed radically when Chile began an economic transformation with a suite of public-private initiatives. The best known among these initiatives is Start-Up Chile, which launched in 2010 and is aimed at creating one of the biggest start-up communities in the world. Through the program, selected entrepreneurs from around the world can work in Chile and receive US\$40,000 in seed capital provided by the government. The initiative has attracted more than 1,000 projects in four years. A critical condition that the government stipulates is that participants take part in events that stimulate entrepreneurship awareness among the local entrepreneurship community. The goal of the government is not only to attract top global entrepreneurial talent, but to leverage this talent to change Chilean business culture to be more enterprising, growth-oriented and innovation-driven, key ingredients to developing a thriving entrepreneurial ecosystem.

Aside from injecting entrepreneurial drive into its people, the government has also made some less known changes that are more structural. A national online platform, for example, created in 2013, enables entrepreneurs to start a new business in one day with zero cost for the entrepreneur, and Chile's "re-entrepreneur" law facilitates easy and low-cost bankruptcies. Both of these initiatives aim to make entrepreneurship in the country as simple and barrier-free as possible.

Colombia took a different approach to becoming an All-rounder as the country faces a host of very different challenges than Chile, including high levels of inequality and political instability. So while the Chilean approach concentrated on changing cultural norms, Colombia has focused its efforts on developing strong institutional frameworks to grow the number and ambition of its businesses. The country's journey started in the 1990s, when the government re-examined its approach to entrepreneurship and shifted from protective industrial policy to supporting small- and medium-size businesses. It was then that the term *política de desarrollo empresarial* (entrepreneurship development policy) was first introduced into government jargon. Since then, Sergio Zuluaga, director of entrepreneurship and innovation in the Ministry of Commerce, Industry and Tourism, which is responsible for promoting entrepreneurship in the country, has described the government's approach as the "Try Fast, Learn Fast, Fail Cheap" model.

Alongside a host of initiatives designed to reduce regulatory barriers and increase capital available to business, two pieces of legislation exemplify this spirit as hallmarks of the Colombian approach. In 2006, legislation was introduced to galvanize entrepreneurship across all industries in the economy by, among other initiatives, generating a national and regional network for entrepreneurship development. In 2009, a national system of science, technology and innovation was created, focusing on helping high-technology, high-impact entrepreneurship.

### 3.3.3 High Competitiveness Economies

As competitiveness increases, so do barriers to entry and the opportunity costs of entrepreneurship. Most Western European countries in the sample have low levels of early-stage entrepreneurial activity and are members of the Neutral cluster, including Netherlands, Norway, United Kingdom, Switzerland, Belgium, Germany, Sweden and Finland. What stands out, however, is that each of these economies performs relatively well (though not outstanding) in terms of the proportion of innovative entrepreneurs they foster. Numerous factors contribute to this result. For one, highly competitive markets require a high skills base for entrepreneurs and a competitive advantage to succeed, which goes far in explaining both low rates of early-stage entrepreneurial activity and high proportions of innovative entrepreneurs. Secondly, cultural and political factors play a significant role in lower rates of activity, with greater risk aversion and greater job protection in Europe – compared to the United States, for example – driving larger shares of European populations into more stable career choices. Lastly, European entrepreneurship policy has been largely innovation-focused for the past decade. This may have affected the resources available for innovative entrepreneurship in Europe.

The United States, Taiwan, Korea and Japan fall in the High-Ambition cluster. The United States stands out in this group with a moderately high proportion of innovative entrepreneurs, which is not seen in Taiwan, Korea or Japan. Innovative entrepreneurs in the United States can also be assumed to be “vertically innovative” to a great degree.

Comparing Taiwan to Korea and Japan, the proportion of ambitious entrepreneurs in Taiwan is roughly double that of the other two countries’ economies, testament to the Taiwanese entrepreneurs who have taken advantage of growth opportunities in international markets. While having a high proportion of ambitious entrepreneurs, Japan and, to a lesser degree, Korea, also has significantly lower early-stage entrepreneurial activity compared to the United States, which means that in absolute terms, the United States has more ambitious entrepreneurs than either of the two countries and highlights an opportunity for improvement in the Korean and Japanese entrepreneurial ecosystems.

The previous discussion shows that entrepreneurs face increasing challenges and attractive alternative options as economies grow more competitive, which does not mean that countries with lower early-stage entrepreneurial activity or a lower proportion of ambitious or innovative entrepreneurs are necessarily economically less successful. In the case of many European economies, entrepreneurial drive manifests itself in formalized, corporate structures, for example. But entrepreneurs, in particular innovative and ambitious ones, do provide a unique type of dynamism, which propagates through an economy and can be a critical factor in job creation and economic progress. Examining each economy also shows that policy can create a positive, or negative, environment for entrepreneurs and affect how ambitious or innovative they are. The concluding section will examine this more closely.

### Lateefa Alwalaan, Yatooq (Saudi Arabia)

**Company Description:** Founded in 2011 by Lateefa Alwalaan, Yatooq makes it easier and faster to brew Arabic coffee, a spicy coffee central to all social gatherings in the GCC. Yatooq’s patented coffee brewer and Arabic coffee blend significantly reduce the time and effort to produce a delicious drink. With Lateefa’s selection, Endeavor Saudi Arabia welcomed the first female entrepreneur to its portfolio.

#### *Why did you start an ambitious company with “big goals”?*

Yatooq was started aiming to create an innovative solution to a local problem – creating high-quality coffee in a faster amount of time. When you are able to create value that serves consumers’ needs, great things can happen.

#### *How did the environment in your country accelerate or slow down the growth of your company?*

The Saudi government is making an effort to create a local tech sector and to support the growth of STEM fields. The number of incubators and accelerators operating in the country has grown in the past few years: Badir, in the King Abdul Aziz City for Science and Technology, is one such incubator. Venture capital and angel investor networks are becoming more active. In addition, the private sector is participating in this new wave as well. Entities like Saudi Endeavor, Aramco Waeed and STC Ventures are supporting local entrepreneurs by providing mentorship, funding and other support. This new wave of entrepreneurship encouragement has helped accelerate our growth.

#### *Why is high-growth entrepreneurship important for your country?*

Growth creates jobs. It also helps localize spending. Most of the economic value created by an entrepreneurial service or product gets captured in the local economy, which in turn affects local GDP positively. The ability to export those services and products to consumers outside the country strengthens the local economy as well.

#### *What advice do you have for other ambitious founders across the world?*

When solving a problem, start small and grow from there. Speak to experienced entrepreneurs. Seek mentors and advisors. Talk to customers. Nothing beats a passionate team. Have fun.

#### *Did you face any gender-related challenges? If so, how did you overcome them?*

Certainly, women in business are not the norm, but I have found that people create their own limits. Once you are able to have confidence, there is no limit to what you can do.

# Conclusion and Implications for Policy

The analysis in this report has produced a number of high-level insights:

- 1. Entrepreneurship is not one-dimensional** and includes three components – 1) starting and running one's own new business; 2) the growth expectations of entrepreneurs, or ambitions; and 3) the innovations entrepreneurs introduce. Unpacking entrepreneurship in this way provides rich insights into the dynamics of entrepreneurship across the globe that would not be captured by a single metric.
- 2. An economy's level of competitiveness affects each of those dimensions in distinct ways.** While less competitive economies exhibit greater levels of early-stage entrepreneurial activity, more competitive economies have on average more ambitious and innovative entrepreneurs. Yet that also is too simplistic a summary. In more competitive countries, entrepreneurial individuals, including those with high growth expectations, are more often entrepreneurial for their employer, not for themselves. For example, in many European economies, some people who choose to work in companies act entrepreneurial in their jobs, improving their performance, which in turn benefits the economy.
- 3. Entrepreneurial preconditions and business strategies** combine with competitiveness to affect the make-up of entrepreneurship in an economy. The four preconditions encompass connections with entrepreneurs, awareness of opportunities, entrepreneurial skills and a willingness to take risks, and are especially important to economies with high rates of entrepreneurial activity, i.e. High-Activity and All-rounders. In others, such as the High-Ambition and High-Innovation economies, it is the nature of the entrepreneurial business strategy that matters most, i.e., internationalization or the sector chosen in which to operate.
- 4. Development Stages** have a significant impact on an economy's entrepreneurial ecosystem. Considering both stage of development and competitiveness, it is important to take into account that innovative entrepreneurs may be different in factor-, efficiency- and innovation-driven economies. The number of opportunities may differ, but also the types. In addition, the challenges and the manner in which they will need to operate to grow will be different as well.
- 5. Entrepreneurial Characteristics.** In general, women exhibit equal levels of innovativeness, but lower expected-growth ambitions than men. Both innovation and growth ambitions tend to follow overall entrepreneurship age patterns, suggesting that analysts must pay attention to the impact that all age groups can have on their societies. Education levels are linked to ambitious and innovative entrepreneurship. The results suggest that knowledge can be leveraged to create innovations and jobs.
- 6. Ambitions, Innovation and Internationalization.** Growth ambitions, innovation, and international sales tend to be associated with each other, emphasizing the importance of fostering all three, if the objective is to create jobs, innovative products and services, and more globally competitive businesses. Economies may have a focus on one or two of these indicators, and there may be many explanations for why this is true. To the extent that nations want to emphasize an aspect that is lower than average, it would be useful to consider the interrelationship between the impact factors, and to possibly learn from other countries.

## Implications for Entrepreneurship Policy

Entrepreneurship policy must fit within the context of an economy and must also recognize the nuance of particular countries' economies, that there is a mix of entrepreneurial expression in operation that is further layered with a range of characteristics, such as gender, age and education. What works in one country might fail in another. While this statement may sound simplistic, implementing tailored policy implications is complex. The implications below are a first approximation of how entrepreneurship policy can be conceptualized in a generalized manner.

The implications for policymakers and governments are as follows:

### 6. Policymakers must set specific objectives for entrepreneurship policy

In light of this study's findings, a policy to "support entrepreneurship" is in a best case scenario underspecified, and in a worst case scenario misguided. If the objective is to stimulate productivity growth then a policy to encourage a rapid rise in the number of early-stage entrepreneurs is an unreliable policy mechanism as it is more often than not indiscriminate and runs the risk of producing a series of conflicting outcomes. Using the knowledge of the strengths and weaknesses of an economy's entrepreneurial make-up, policymakers can clearly define objectives for interventions. In highly innovative economies, for example, it would be useful to focus on increasing the rate of ambitious entrepreneurship.

Being focused on what type of entrepreneurship policy best fits a particular economy is already a step towards increased sophistication in policymaking.

### 7. Policymakers need to situate policy within the context of the entrepreneurial type of their economy

Efforts to simply increase the level of entrepreneurial activity alone are too simplistic. Similarly, efforts to increase innovation might be in vain in a highly innovative economy in which ambition is constrained. Only deep knowledge of the strengths and weakness of the type of entrepreneurial activity in an economy will allow policymakers to identify the opportunities for policy interventions that provide the greatest return.

The case of All-rounder economies, Chile and Colombia demonstrate this point very clearly. Each country tackled its perceived weakness with vigour. Chile took steps to change its business culture and Colombia took steps to increase the stability of its institutions. Their examples show that a country must start by assessing the status quo, identifying weaknesses and developing policy to address those weaknesses.

### 8. Policymakers must understand which levers affect which dimensions of entrepreneurship

Single policy interventions will not address all dimensions of entrepreneurship. Therefore, it is key for policymakers to know which types of interventions affect which dimension. Obtaining better results on establishing entrepreneurial preconditions, for example, will help increase early-stage entrepreneurial activity, but will likely have no effect on ambition or innovation. Designing interventions targeted towards the intended outcomes, rather than a loose collection of measures purporting to support entrepreneurs in general, is essential to avoid programs that lack impact. Alongside this initiative, it is imperative to adopt robust evaluation methodologies (for example, randomized control trials) and to develop longitudinal datasets to facilitate an understanding of medium- and long-term outcomes.

Again, the example of the All-rounder economy Chile makes this clear. Rather than starting an educational campaign to change entrepreneurial attitudes, Chile "imported" talent with highly entrepreneurial attitudes that it intended to diffuse within its own ecosystem. This strategy proved highly successful, affecting change within its own population's approach to entrepreneurship. But as Colombia's example shows, strategy can go beyond individual policy interventions. Sergio Zuluaga, former director of entrepreneurship and innovation in the Ministry of Commerce, Industry and Tourism has described the government's approach as "Try Fast, Learn Fast, Fail Cheap", encapsulating an attitude towards entrepreneurship policy that can be replicated to develop tailored interventions that fit each economy individually.

Developing entrepreneurship policy is difficult. Entrepreneurial ecosystems are dynamic structures that do not respond in a linear manner to policy interventions. Nevertheless, as some successful countries in our sample have shown, policy can have a positive impact on the evolution of entrepreneurship in an economy, and given the stakes, governments would do well take action to craft policies that are tailored to the needs of their entrepreneurs.

The Forum hopes to further meaningful debate on a highly important topic for society, rather than provide set answers. We equally acknowledge that this work exists in an evolved ecosystem of research. In this spirit, we welcome any feedback and constructive input.

# Appendix 1

Correlation matrix for measures of early-stage entrepreneurial activity and pillars of the Global Competitiveness Index

	TEA0913	TEA0913 opportunity	TEA0913 no better choice	TEA0913 high growth expectation	TEA0913 high growth expectation relative prevalence	TEA0913 innovative	TEA0913 innovative relative prevalence
	correl	correl	correl	correl	correl	correl	correl
<b>number of countries</b>	<b>44</b>	<b>44</b>	<b>44</b>	<b>44</b>	<b>44</b>	<b>44</b>	<b>44</b>
GDP (US\$ billions)*	-0.10	-0.12	-0.05	0.12	0.21	-0.11	-0.03
Population (millions)*	0.13	0.06	0.24	0.33	0.19	-0.01	-0.18
GDP per capita (US\$)*	-0.55	-0.47	-0.60	-0.27	0.09	-0.33	0.29
Basic requirements	-0.60	-0.50	-0.68	-0.10	0.27	-0.29	0.30
1st pillar: Institutions	-0.49	-0.41	-0.56	-0.12	0.22	-0.22	0.37
2nd pillar: Infrastructure	-0.68	-0.59	-0.71	-0.23	0.21	-0.39	0.25
3rd pillar: Macroeconomic environment	-0.08	0.00	-0.19	0.20	0.20	0.11	0.18
4th pillar: Health and primary education	-0.64	-0.56	-0.69	-0.13	0.25	-0.39	0.11
Efficiency enhancers	-0.56	-0.49	-0.60	-0.09	0.30	-0.29	0.29
5th pillar: Higher education and training	-0.69	-0.60	-0.72	-0.10	0.36	-0.36	0.32
6th pillar: Goods market efficiency	-0.47	-0.39	-0.55	-0.09	0.26	-0.18	0.37
7th pillar: Labor market efficiency	-0.20	-0.16	-0.22	0.04	0.27	-0.09	0.22
8th pillar: Financial market development	-0.23	-0.14	-0.35	-0.08	0.08	-0.07	0.26
9th pillar: Technological readiness	-0.65	-0.56	-0.69	-0.22	0.25	-0.38	0.30
10th pillar: Market size	-0.34	-0.34	-0.26	0.04	0.23	-0.20	0.02
Innovation and sophistication factors	-0.54	-0.48	-0.55	-0.15	0.26	-0.33	0.23
11th pillar: Business sophistication	-0.50	-0.43	-0.55	-0.17	0.18	-0.28	0.27
12th pillar: Innovation	-0.55	-0.50	-0.53	-0.12	0.32	-0.36	0.20
Global Competitiveness Index	-0.57	-0.49	-0.61	-0.09	0.30	-0.29	0.28

## Appendix 2

Correlation matrix for measures of entrepreneurial employee activity and pillars of the Global Competitiveness Index

	EEA1112	EEA1112 relative prevalence	MHEEA11	MHEEA11 relative prevalence
	correl	correl	correl	correl
<b>GDP (US\$ billions)*</b>	<b>40</b>	<b>40</b>	<b>38</b>	<b>38</b>
Population (millions)*	0.06	-0.02	0.11	0.11
GDP per capita (US\$)*	-0.15	-0.16	-0.07	-0.16
Basic requirements	0.70	0.72	0.66	0.79
1st pillar: Institutions	0.64	0.66	0.62	0.71
2nd pillar: Infrastructure	0.71	0.69	0.67	0.72
3rd pillar: Macroeconomic environment	0.52	0.56	0.49	0.68
4th pillar: Health and primary education	0.20	0.21	0.24	0.11
Efficiency enhancers	0.58	0.59	0.57	0.73
5th pillar: Higher education and training	0.59	0.58	0.57	0.65
6th pillar: Goods market efficiency	0.72	0.72	0.70	0.81
7th pillar: Labor market efficiency	0.56	0.57	0.55	0.59
8th pillar: Financial market development	0.48	0.46	0.44	0.44
9th pillar: Technological readiness	0.41	0.41	0.38	0.35
10th pillar: Market size	0.71	0.71	0.68	0.81
Innovation and sophistication factors	0.04	0.03	0.07	0.16
11th pillar: Business sophistication	0.60	0.62	0.59	0.68
12th pillar: Innovation	0.57	0.60	0.56	0.65
Global Competitiveness Index	0.60	0.62	0.61	0.69
Global Competitiveness Index	0.61	0.61	0.60	0.67

## Appendix 3

Cluster analysis is a statistical method to identify groups or clusters within observed data based on commonality across a set of relevant variables. The groups or clusters, so formed, are “homogeneous within and heterogeneous between,” in the sense that all members belonging to a group or cluster share similar characteristics and they are different from members belonging to another cluster. There are several clustering procedures to form clusters or groups. This study used a Hierarchical Cluster Analysis method, which starts with each case (economy in our analysis) as a separate cluster and then combines the cluster sequentially at each step until one large cluster is formed at the end of the procedure. By forming fewer clusters or groups from a larger set of clusters (or, individual cases), we are most likely adding “dissimilar” objects to be the members of a same group or cluster. The procedure produces a hierarchical tree diagram (“dendrogram”)

to show how the clusters are formed from individual cases and displays the dissimilarity measure of forming fewer clusters from a larger set of cases. Depending on the research objectives and dissimilarity measures, one can select an appropriate number of clusters for the analysis.<sup>23</sup>

In our analysis, we want to identify group of economies that share similar entrepreneurial characteristics into homogenous segments based on three dimensions of entrepreneurship – entrepreneurial activity, ambition, and innovation. Our cluster analysis suggests five groupings among 44 economies. Though the cluster analysis attempts to identify relatively homogenous groups, the use of only three variables might not be enough to form five homogenous groups out of 44 diverse economies. Hence, economies belonging to a group may not be fully homogenous within that group, or, two economies belonging to two different groups may not be fully heterogeneous from each other.

# Acknowledgements

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# Endnotes

- 1 Including the reports *The Bold Ones – High-impact Entrepreneurs Who Transform Industries and High-Impact Entrepreneurship: Global Report 2011*, respectively available at: <http://www.weforum.org/reports/bold-ones-high-impact-entrepreneurs-who-transform-industries> and <http://www.gemconsortium.org/docs/download/295>
- 2 We also examine entrepreneurial employee activity, which is a critical factor, in particular for more competitive economies.
- 3 “2011 High-Impact Entrepreneurship Global Report”, available at: <http://www.gemconsortium.org/docs/download/295>  
The Bold Ones – High-impact Entrepreneurs Who Transform Industries, available at: <http://www.weforum.org/reports/bold-ones-high-impact-entrepreneurs-who-transform-industries>
- 4 For more information see: <http://reports.weforum.org/global-competitiveness-report-2014-2015/methodology/>
- 5 Defined as percentage of the population aged 18-64 years that comprise nascent entrepreneurs, i.e., people 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.
- 6 Defined as percentage of the population aged 18-64 years that are owner-managers of new businesses, i.e. owning and managing a business that has paid salaries, wages, or any other payments to the owners for more than three months, but not more than 42 months.
- 7 In more competitive countries, entrepreneurial individuals, including those with high-growth expectations, are more often entrepreneurial for employers, hence the subset entrepreneurial employee activity (EEA). EEA is different from early-stage entrepreneurial activity and the study will draw comparisons between the two metrics later in the report.
- 8 Numerous studies (e.g. “2011 High-Impact Entrepreneurship Global Report”, GEM and Endeavor. <http://www.gemconsortium.org/docs/download/295>) have demonstrated that ambitious entrepreneurs, or high-growth entrepreneurs, produce a critical share of entrepreneurial employment.
- 9 EEA is measured as the proportion of the working-age population that has, in the previous three years, led the development of new activities for an employer, such as developing or launching new goods and services, setting up a new business unit, or establishing a new subsidiary.
- 10 Note: This analysis excludes Guatemala, Italy, Norway, and Uganda, for which no EEA data was available.
- 11 Linear correlation of 0.61 (on a scale of 0 to 1), where 1 is a perfect correlation, between relative prevalence of EEA and GCI-defined competitiveness. The correlation between the relative prevalence of EEA and GDP per capita is 0.72. Appendix 1 shows a correlation matrix for the main measures of entrepreneurship used in this report and the different pillars that comprise the GCI, for the sample group of countries’ economies examined in this report. They show that EEA, and especially the relative prevalence of EEA, are most highly correlated with the institutions, education and technological readiness pillars. By contrast, early-stage entrepreneurial activity is negatively correlated with these pillars, and in fact negatively correlated, albeit weakly, with most pillars.
- 12 Levie, J. and Autio, E. “Growth and growth intentions- a meta-analysis of existing evidence.” *Enterprise Research Centre*, April 2013.
- 13 The correlation between these two measures is .85, suggesting they are close to equivalent measures of ambition.
- 14 Source: Bosma, N., Wennekers, S., Guerrero, M., Amorós, J.E., Martiarena, M. and Singer, S. (2013) *Global Entrepreneurship Monitor Special Report on Entrepreneurial Employee Activity*. London: Global Entrepreneurship Research Association.
- 15 Shows 38 countries for 2011, the only year in which such data is available.
- 16 Source: Bosma, N., Wennekers, S., Guerrero, M., Amorós, J.E., Martiarena, M. and Singer, S. (2013) *Global Entrepreneurship Monitor Special Report on Entrepreneurial Employee Activity*. London: Global Entrepreneurship Research Association.
- 17 Linear correlation 0.67 (on a scale of 0 to 1, where 1 is a perfect correlation, between relative prevalence of ambitious entrepreneurial employee activity and Competitiveness. Correlation between relative prevalence of MHEEA and GDP per capita is 0.79 (see Appendix 2). This reinforces other research findings on the importance of ambitious entrepreneurship in economies, but broadens the discussion to recognize that ambitious entrepreneurship can take place in different modes in different economies, and that ambitious entrepreneurial employee activity is a particularly significant contributor in the most competitive economies.
- 18 The definition of innovation in this study is different from the definition of innovation that is at the base for the GCI development stages, which relies on absolute, not relative measures to assess the innovativeness of an economy. See also: Peter Thiel and Blake Masters (2014), “Zero to One: Notes on Startups, or How to Build the Future”, Crown Business, New York..
- 19 The correlation between prevalence of innovative entrepreneurs and competitiveness is -0.29, and between the relative prevalence of innovative early-stage entrepreneurs and competitiveness is 0.28.
- 20 The correlation between the proportion of all entrepreneurs who are engaged in innovative activity and competitiveness is 0.64.
- 21 Though they tend to perform better on EEA.
- 22 Bosma, N., Wennekers, S., Guerrero, M., Amorós, J.E., Martiarena, M. and Singer, S. (2013) *Global Entrepreneurship Monitor Special Report on Entrepreneurial Employee Activity*. London: Global Entrepreneurship Research Association.
- 23 For more information, see “Multivariate Data Analysis by Joseph Hair, William Black, Barry Babin, and Rolph Anderson, 7th Edition, Pearson, Chapter 8





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