

**THE SIZE AND SCOPE OF ENTREPRENEURIAL ACTIVITY:
EVIDENCE FROM A LARGE CROSS-COUNTRY DATASET**

by

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Abstract

In this paper, I take a Kirznerian view of entrepreneurship and define the phenomenon as a universal characteristic of human action consisting in the alertness to opportunities for change. Within this context, I use descriptive cross-country evidence, as well as evidence for the United States, to suggest that the entrepreneurial landscape of a country is the outcome of a variety of entrepreneurial ventures with very diverse motivations and scope, that, nonetheless, all contribute to economic activity. I also argue that entrepreneurs are not special individuals but, rather, individuals who react to institutions, and that appropriate institutions are at the origins of sustained and productive entrepreneurial activity in all communities, urban and rural alike. The claim that appropriate institutions are a necessary and sufficient condition for the existence of productive entrepreneurship has significant policy implications.

1. Introduction

The last few years have seen a significant increase in the amount of research on entrepreneurship. Still, there is much we don't know about this important phenomenon and much work remains to be done in the area. Although entrepreneurship scholars have produced many important empirical results, no broad theoretical framework has yet emerged that might give them coherence and order. "We are getting more pieces of the puzzle, but no picture is emerging."¹ Unfortunately, there is no progress without theory. The root cause of this unproductive form of theoretical diversity is the lack of generally agreed upon criteria for what counts as entrepreneurial behavior.

Two competing notions of entrepreneurship seem to dominate its study. On the one hand, *entrepreneurship* may refer to what entrepreneurs are like. On the other hand, it may refer to what the entrepreneur does. This basic division was already in place in 1990 when Gartner published a study showing that the professionals he surveyed fell into two groups, each with a different basic concept of entrepreneurship. The first group thought of the *characteristics of entrepreneurs*; the second group thought of the *outcomes of entrepreneurship* such as creating value or owning an ongoing business.² Gartner's first definition, concerning the *characteristics of entrepreneurship*, is most commonly identified today as *opportunity recognition*. Entrepreneurs are distinguished by their propensity to recognize opportunity. Gartner's second definition, concerning the

¹ R. Koppl and M. Minniti. (2003) p. 81.

² W. Gartner (1990) p. 27, emphasis in original.

outcomes of entrepreneurship, is most commonly identified today as *innovation and firm formation*. Both concepts are quite reasonable and a good case can be made for either one. Unfortunately, because each definition excludes the other, neither one enables us to enjoy the full benefits of the diversity of disciplinary perspectives relevant to entrepreneurship (Gartner 2001). In this paper I argue that Kirzner's work gives us a useful and, indeed, necessary theory of the entrepreneur.

For Kirzner, the term *entrepreneurship* identifies the element in human action that corresponds to the passage of time, that makes things happen, that creates change. In Kirzner's system, "there is present in all human action an element which, although crucial to economizing, maximizing, or efficiency criteria, cannot itself be analyzed in [those] terms."³ The entrepreneurial element in human action is the cause of changes at the individual level. Similarly, the *entrepreneurial role* in the market produces change there. The market process cannot emerge, Kirzner argues, unless entrepreneurship operates.

In Kirzner's theory, market order is produced by entrepreneurship. Without acts of entrepreneurial alertness, our never changing actions would gradually fall further and further away from consistency with the underlying scarcities. The market process is a dynamic process of change driven by alert entrepreneurs who discover new profit opportunities. Throughout the market process, economic incentives exist for people to reallocate resources. People respond to such incentives, but the ability of individuals to recognize incentives and reallocate resources varies. Individuals with superior alertness to changes and to the state of disequilibrium move to exploit opportunities and earn economic profits. Thus, the role of the entrepreneur is to discover and seize market opportunities through the re-allocation of productive resources.

Of course, we study entrepreneurial behavior in order to uncover new and important facts about the world. Thus, the benefit of the Kirznerian approach to the entrepreneur comes from applied studies. Often the operational meaning of *the entrepreneur* will be some measure of founding a business. In empirical studies it can become a delicate matter to decide the operational meaning of founding a business. Although everyone is an entrepreneur, some of us have more entrepreneurial alertness

³ Kirzner 1973, p. 31.

than others. Entrepreneurial studies must continue to produce work on the vital question of why this is so. What are the personal and social, psychological, and institutional factors that influence the degree of entrepreneurial alertness in the system? Baumol (1990) asks the related question of what social factors determine the direction of entrepreneurial alertness. Only the sort of general theoretical vision made possible by Kirzner's theory allows us to absorb and coordinate knowledge from studies asking all these different sorts of questions without falling into conceptual confusion or empty eclecticism.

To summarize, entrepreneurship is a complex and multilayered phenomenon and entrepreneurial actions produce personal and collective changes that, because of the interdependence among individuals, ultimately, change the world we share. If we take seriously the idea that entrepreneurship is a characteristic of human action, than rural entrepreneurship is not different from all other forms of entrepreneurship. This is important because it allows scholars of rural entrepreneurship and policy makers to reclaim a central role in economic debates. It is unfortunate that many identify entrepreneurship exclusively with high-growth high-tech sectors and with industrial parks or selected urban areas. Technological discovery and high-impact innovation are indeed crucial to the long term growth of the economy but they are certainly not its only entrepreneurial contributors. The recent attribution of the Nobel Peace Prize to Dr. Yunus and data from all over the world provide ample empirical support for this claim.

2. Entrepreneurial Activity across Countries⁴

In the previous section I argued that rural entrepreneurship deserves a central role in current academic and policy debates about economic growth and entrepreneurial activity. This claim is supported by cross-country evidence showing that entrepreneurship is a complex phenomenon that can be found in a variety of settings and situations only a very small percentage of which identify with high-tech high-growth activities in industrial parks and urban areas. No single measurement, no matter how precise, can capture the entrepreneurial landscape of a country. As discussed in the introduction, entrepreneurship is a characteristic of human action, and a basic distinction is between the point where the

⁴ This section relies significantly on Minniti et al. 2006.

individual operates along the cycle of the entrepreneurial process, and the characteristics of his or her actions. Someone who is just starting a venture and trying to make it in a very competitive market is an entrepreneur even in spite of not having high-growth aspirations. On the other hand, a person may be an established business owner who has been in business for quite a number of years and still be innovative, competitive, and growth minded. This person is also an entrepreneur.

Several studies have shown the existence of a systematic relationship between the per capita GDP of a country and its level and type of entrepreneurial activity (Minniti et al. 2006). Countries with similar per capita GDP tend to exhibit similar levels and types of entrepreneurial activity, while significant differences exist across countries with different GDP per capita levels. At low levels of per capita income, the entrepreneurial sector provides job opportunities and scope for the creation of new markets. As per capita income increases, the emergence of new technologies and economies of scale allows larger and established firms to satisfy the increasing demand of growing markets and to increase their relative role in the economy. This increase in the role of large firms is usually accompanied by a reduction in the number of new firms, since a growing number of people find stable employment in large industrial plants. As further increases in income are experienced, however, the role played by the entrepreneurial sector increases again, as more individuals have the resources to go into business for themselves in an economic environment that allows the exploitation of opportunities.

To provide descriptive estimate of entrepreneurial activity across countries, I use data collected in 2005 for the Global Entrepreneurship Monitor (GEM) Project.⁵ In each country, it is possible to estimate the level of involvement of the population in entrepreneurial activity by looking at early-stage entrepreneurs (those who are starting or have recently started a business) and at established entrepreneurs (those who have survived the initial crucial stage). Details about the data collection process and the the definitions and construction of the variables are also provided in the Appendix.

Figure 1 shows the prevalence of early-stage entrepreneurial activity in 35 countries in 2005. The vertical bars in the chart display the 95% confidence intervals. Wide variations in early-stage entrepreneurial activity exist across countries. Some

⁵ Additional details and publications on GEM can be found at www.gemconsortium.org

countries, such as Venezuela (25%), Thailand (20.7%), and New Zealand (17.6%), exhibit very high rates. On the other hand, Hungary (1.9%), Japan (2.2%) and Belgium (3.9%) exhibit very low participation rates. Sweden, Slovenia, the Netherlands, Denmark, Italy, Finland, South Africa, Austria, France, and Germany all have comparable (and relatively) low levels of participation in early-stage entrepreneurial activity. Among the more active countries, Norway, Canada, Argentina, Ireland, Australia, Iceland, Chile, Brazil, and the United States show comparable levels of early-stage activity. These results show that countries with the highest entrepreneurial propensity are those with relatively low GDP.

Figure 1 about here

In addition to those individuals who are currently involved in the early-stages of a business, there are also many individuals who have owned and managed a business for a longer time. Figure 2 shows the prevalence rates of established business owners across 35 countries in 2005. As before, the vertical bars represent the 95% confidence interval. Established business owners prevalence rates also vary strongly among countries. At the lower end of the scale are countries like South Africa (1.3%), Mexico (1.9%) and Hungary (2.0%). The highest rate of established business owners is found in Thailand (14.1%), followed by China (13.5%), New Zealand (10.8%), Greece (10.5%), and Brazil (10.1%). A number of countries exhibit comparable rates. For example, Denmark, the United States, Singapore, Argentina, Latvia, the United Kingdom, Japan, Belgium, and the Netherlands all show established business owner prevalence rates of about 5%.

Figure 2 about here

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

established business ownership. These results illustrate the importance that the entrepreneurial sector plays in economic growth.

Table 1 provides an overview of different stages of entrepreneurial activity. The early-stage prevalence rate is the combined count of nascent entrepreneurs and new business owners, while the overall rate of entrepreneurial activity is the count of early-stage plus established entrepreneurs.⁶ According to Table 1, Thailand (34.8%) and Venezuela (33.1%) are the countries with the highest rate of overall entrepreneurial activity, while Hungary (3.8%) marks the low end of the scale.

Table 1 about here

GEM data allows also for differentiation according to the reasons that motivate entrepreneurial behavior. In the GEM dataset, individuals start a business for two main reasons: 1. They want to exploit a perceived business opportunity (*opportunity entrepreneurs*). 2. They are pushed into entrepreneurship because all other options for work are either absent or unsatisfactory (*necessity entrepreneurs*). The vast majority of early-stage entrepreneurs across the world claim that they are attempting to take advantage of a business opportunity. Yet, Figure 3 shows that there is also variation across countries in the balance of start-up motives. The highest percentage of opportunity-driven early-stage entrepreneurial activity is found in New Zealand, Iceland, and the Netherlands. At the low end of the scale are Croatia, France, and Brazil. These results support the argument that entrepreneurship takes a variety of forms.

Figure 3 about here

Finally, to analyze the sectors in which people attempt to start businesses and compare their distribution with those of established business, GEM codes activity according to the International Standard Industry Codes (ISIC). These codes identify more than five hundred different types of activity, which here are consolidated under four main headings, for ease of analysis. These sectoral groups are extraction, transformation, business services, and consumer oriented. Extraction includes agriculture, forestry, fishing, and mining. That is, activities which extract products from the natural environment. Transformation includes construction, manufacturing, transportation, and

⁶ A small number of individuals qualify for more than one of the entrepreneurial stages because they are involved in more than one venture. The combined early-stage index and the overall index count these individuals only once.

wholesale distribution. That is, activities requiring the physical transformation or relocation of goods and people. Business services refer to exchanges where the primary customer is another business. Finally, consumer oriented refers to activities in which the primary customer is a physical person (e.g. retail, restaurants and bars, lodging, health, education, social services, recreation).

Figure 4 shows that the largest share of entrepreneurs are active in consumer oriented activities, while extractive activities exhibit the smallest share. The sectoral distribution of early-stage entrepreneurs and established business owners is comparable. However, significant differences exist between two country clusters.⁷ Middle-income countries show a larger share of consumer oriented business activity, while high-income countries exhibit a share of activities in business services that is almost twice as high as in the other group. This pattern makes clear that there is a link between the income level of a country and the distribution of its business activities across sectors. As countries progress in their development, entrepreneurial activity shifts away from consumer oriented services, such as retail, and moves toward business services such as, consulting, maintenance of computer networks, or advertising.

Figure 4 about here

To summarize, cross-country evidence suggests that entrepreneurial activity comes in a variety of forms and for a variety of reasons and that no single measure of entrepreneurship can account satisfactorily for the entrepreneurial landscape of a country. The data also suggest that the types of entrepreneurship responsible for economic development and growth may not be limited to high-growth high-tech ventures in urban areas as often argued by a mistaken interpretation of what entrepreneurship is. Indeed, entrepreneurship is shown to play a particularly important role in countries (or regions) with a lower GDP and more disperse populations.

⁷ To accurately classify countries into groups, a cluster analysis was conducted to divide the countries that participated in GEM 2005 into groups based on their GDP per capita. The analysis revealed two main groups of countries: The first cluster consists of 13 countries from South America, Eastern Europe and Africa. The average GDP per capita in this group is USD 6,656. The second cluster contains the G7 and most member states of the European Union, plus Australia and New Zealand for a total of 22 countries. The average GDP per capita for this group is USD 38,722. The average values of per capita GDP are significantly different among the two clusters at above 99% confidence, whereas the variation within each cluster is relatively small.

3. Entrepreneurial Activity in the United States⁸

The previous section provides cross-country evidence of entrepreneurial behavior and its characteristics. Interestingly, those findings are consistent with the ones observed for entrepreneurial activity in the United States. This suggests that the contribution of many types of entrepreneurship is not a phenomenon limited to developing or poorer countries but, in fact, it applies to highly sophisticated economies such as the United States.

In the US, the early-stage entrepreneurial activity among the adult population between 18 and 64 years of age increased from 11.3% in 2004 to 12.4% in 2005, a rate more than twice higher than the average rate among the other G7 countries. However, in 2005, the prevalence rate of established business ownership in the United States was below the G7 average of 5.1%. These results suggest the existence of a good amount of business churning.

With respect to entrepreneurial motivation, most entrepreneurs in the United States are motivated by opportunities. The U.S. prevalence of opportunity early-stage entrepreneurship was 10.5% in 2005, a growth from 9.5% in 2004 and 9.1% in 2003. Only one in 10 individuals who were involved in starting a new business were involved because they had no better job choices. The vast majority of U.S. entrepreneurs are motivated by entrepreneurial opportunities, and more people choose entrepreneurship even when other employment opportunities increase.

Figure 5 about here

So far, the evidence for the United States is consistent with what we would expect for a wealthy country. Interestingly, however, GEM data provide information also on current and planned job offerings by owners of new businesses. Table 2 shows that sixty-five percent of owners of new businesses had employees in 2005, compared to 60% in 2003. In 2005, 45% employed one to five people, 13% employed between 6 and 19 people, and only 7% employed 20 people or more. Thus, when looking at job expectations in five years, the strongest growth in five years is expected in the segment with six to 19 employees. These results show that importance of the entrepreneurial sector for employment. They also show that the vast majority of entrepreneurial businesses are very small and have moderate growth expectation. This is a further

⁸ This section relies significantly on Bullvaag et al. 2006.

confirmation of the variety and complexity of the entrepreneurial landscape and of its contribution to economic activity.

Table 2 about here

Finally, with respect to the distribution of entrepreneurial activity across sectors, U.S. early-stage entrepreneurs are most active in consumer-oriented industries with 43%, followed by transforming industries with 30%. Similarly, among the other G7 countries, consumer-oriented businesses accounted for 45%, and business services ranked second with 28%. Noticeably, the United States had fewer start-ups in the business services sector when compared to the same sector in the G7. As the United States is a high-income country with a highly developed economy and with more companies with financial resources demanding business services, it is somewhat surprising that transforming industries were more attractive to early-stage entrepreneurs than business services. Perhaps a generally favorable U.S. economy throughout the last three years, with increased demand for services and U.S. currency values favorable to export, attracted more Americans to the transforming industries than did the economic conditions among the other G7 countries. This is just another sign of the variety of entrepreneurial activity.

Table 3 about here

To summarize, evidence of entrepreneurial activity in the United States confirms patterns observed across a large sample of countries. Specifically, the US evidence suggests that one size does not fit all and that entrepreneurship comes in all forms and sizes. These observations further suggest that appropriate policy decisions with respect to the entrepreneurial sector may only come from a proper understanding of how various types of entrepreneurship contribute to economic activity in a variety of geographical and social settings.

4. What do we know about entrepreneurs?

The previous sections have provided evidence of the diversity characterizing the entrepreneurial sector and of its contribution to economic activity. I have also claimed that a correct appreciation for the scope and potential of entrepreneurial activity may only come from viewing entrepreneurship as a universal attribute of human action rather than

from restricting to some very narrow definitions such as those identifying gazelles or high-tech innovators. But why are some countries more *entrepreneurial* than others? Why do otherwise identical individuals act in very different ways when it comes to starting a business?

In recent years, most research on entrepreneurship has focused on employment choices and on the alternative motivations that cause some individuals to become entrepreneurs. In this type of studies, an individual's choice to become an entrepreneur is the result of a decision in which the individual in question compares the returns from alternative income producing activities and selects the employment opportunity with the highest expected return. Empirical studies have also established that demographic and economic factors such as education, age, wealth, and work situation are important drivers of entrepreneurial behavior (Blanchflower 2004). The relationship between education and new firm formation is uncertain, except for richer countries where post graduate training has been shown to have positive effects on high-tech start-up rates. The uncertainty surrounding education is due in part to the fact that education levels have primarily a contextual significance and in part to the variety of meaning attributed to the word entrepreneurship. In general, there is agreement that employed individuals are more likely to start new businesses. Less agreement, instead, exists about the relationship between aggregate unemployment and entrepreneurial decisions. In fact, it is not clear whether high unemployment discourages entrepreneurship by reducing its potential markets or increases it by providing an income producing activity for otherwise displaced workers (Blanchflower, 2004). Finally, economists have discussed the importance of financial resources and constraints on entrepreneurial decisions (Kihlstrom and Laffont, 1979; Evans and Jovanovic, 1989).

Researchers have also established that, when making decisions with respect to their employment, individuals also consider a set of subjective (and possibly biased) perceptions about confidence in one's own skills and ability, risk propensity, alertness to unexploited opportunities, and the connection and presence of role models (Arenius and Minniti 2005). The psychology literature, for example, has established that the decision to start a new business is positively related to the presence of intentionality and locus of control (Baron, 2000). In other words, to people's sense of being able to control and

determine the outcome of their actions. Since most individuals are risk averse and since the perceived (rather than objective) fear of failure is an important component of the risk attached to starting a new business, a reduced perception of the likelihood of failure has also been shown to increase the probability that an individual will start a new business (Weber and Milliman, 1997). Finally, works in various social sciences have established the importance of observing other entrepreneurs for entrepreneurial decisions. In psychology, for example, Begley and Boyd (1987) have discussed the importance of role models because of their ability to enhance self-efficacy.

The complementarities between many of these demographic and economic variables and the perceptual variables draw attention to the fact that the decision to start a new firm is a contingent, to a large extent, upon the context in which the actions are taken. Thus, in addition to personal characteristics, the individual's macroeconomic environment has also been shown to matter for entrepreneurial behavior (Thurik et al. 2002). In their work, Thurik and his colleagues provide a detailed analysis of aggregate conditions influencing early-stage entrepreneurship and argue that technology, level of economic development, and culture all influence the demand for entrepreneurship by creating opportunities available for start-ups. In addition, they suggest that cultural conditions have an impact also on the supply of entrepreneurship because of their ability to influence the skills, resources and preferences of individuals within the population.

To summarize, no special entrepreneurial profile exists. Entrepreneurs come from a variety of backgrounds and possess a variety of characteristics. They are not special people. They are simply alert individuals who are willing to act upon a perceived opportunity in a somewhat innovative way. Often, a lot of stress is put on the importance of culture. The descriptive evidence provided earlier shows that, although culture plays a role in economic and social activity, focusing exclusively on culture overlooks what all individuals have in common across all cultures: Namely alertness to opportunities and the desire to improve their conditions. Alertness and a pro-active attitude toward one's condition are distinctive traits of human action. Individuals who are driven by these motivations can be found in all cultural settings. Thus, together with macroeconomic factors, institutions determine the relative payoffs that individuals attach to various opportunities. Whatever their characteristics, every time entrepreneurs fill an existing

niche in the market, he mobilizes resources. This produces the conditions for new markets to develop and, as a consequence, new entrepreneurial opportunities are created. Within this context, institutions play a crucial role in determining why certain countries or regions are more entrepreneurial than others and, as a result, governments at all levels are called to play an important role.

5. Entrepreneurial Behavior and Institutions

Across the world, people from a variety of backgrounds are showing increasing interest in expressing their entrepreneurial spirit. And yet, many still hesitate to transform their business ideas into action. In some countries the hesitation is more pronounced than in others. Are people in some countries inherently more entrepreneurial than in others? The answer is no. Our previous discussion establishes that, people react to the same incentives. So what justifies cross-country differences in the percentage of individuals involved in starting or running a business?

Baumol (1990) explained how entrepreneurs can engage in productive or unproductive and even destructive entrepreneurial activities. Productive entrepreneurship, such as innovation and other socially desirable behaviors, constitutes the engine of economic growth and progress. When engaging in productive activities, the entrepreneur contributes to the economy in two ways. First, the entrepreneur discovers previously unexploited profit opportunities; this increases competition in existing markets and pushes the economy towards more efficient production methods. Second, the entrepreneur innovates; this creates new markets and shifts the entire production-possibility frontier of a country forward. Competition, productive efficiency, and the creation of new markets are the necessary conditions for economic growth. Unproductive and destructive entrepreneurship, on the other hand, results in the destruction of existing resources such as crime or rent seeking. In this case, it is possible that innovation is taking place, but unproductive entrepreneurship does not increase the well-being of the country. Instead, it often reduces competition and, ultimately, economic growth.

Institutions are to the formal and informal rules governing human behavior. Institutions determine the rules of the game that influence the behaviors of private actors, including entrepreneurs (Boettke and Coyne, In press). The connection between

institutions and entrepreneurial behavior is the realization that institutions provide a framework that guides economic activity, reduces uncertainty and makes the actions of others predictable. In short, institutions reduce transaction costs and facilitate the coordination of actions throughout society. As Boettke and Coyne (2003) argue, institutions define the set of feasible opportunities available to individuals and analyzing institutions is crucial for our understanding of economic progress or the lack thereof.

The policy implications of the above analysis are evident: governments may play a crucial role in enhancing the ability of individuals to act entrepreneurially. How so? Governments need to implement policies that increase market openness and legal transparency (Holcombe 1998). In fact, even if such features of the economic system are important for all businesses, regardless of newness and size, they are particularly important for smaller and newer firms who have lower lobbying power and may not be able of creating monopolistic rents. The fact that institutional stability and transparency are so important for entrepreneurs suggests that government policy and programs are more effective when capable of enhancing the underlying pool of resources from which potential entrepreneurs draw their inputs than when providing selective safety nets. In fact, the rules and practices that favor innovation and the creation of new markets cannot be imposed by external agencies, but are created, refined and transmitted effectively over time only if the appropriate institutions and values are transferred across generations.

In general, government interventions may be distinguished between pro-active government actions specific to entrepreneurship and incentive boosting interventions not necessarily specific to entrepreneurship. Pro-active interventions aim at helping those engaged in starting a business and at removing obstacles for their endeavors. Implicitly, pro-active interventions assume that perceived or actual barriers discourage prospective entrepreneurs, and that more people would start a business if the process were made easier. Thus, the aim of pro-active government intervention is to ease the start-up process and minimize the risk of failure. Incentive type interventions, on the other hand, operate on the principle that entrepreneurs are deterred from entrepreneurship because the expected rewards are not commensurate with the risks, both financial and social. The unpredictable nature of entrepreneurial action suggests that governments able to create and guarantee underlying conditions conducive to an entrepreneurial environment may be

more effective than government engaged in planning entrepreneurial activities. No matter how generous, support policies by themselves, although important especially in poorer countries, are not sufficient to increase people's involvement in entrepreneurship when the appropriate institutions are lacking.

6. Conclusion

At a time when governments all over the world are looking at entrepreneurship as a way to increase the wealth and well-being of their countries, understanding entrepreneurial behavior appears to be a particularly important issue. This paper provides some initial descriptive evidence suggesting that a first step in the right direction consists in recognizing that *one size does not fit all* and that productive entrepreneurship may take a variety of forms and emerge in any context. If we take seriously the idea that entrepreneurship is a universal characteristic of human action, we may recognize and appreciate the significant role that rural entrepreneurship may play in the economic environment of any country.

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Appendix – The GEM Project and its data⁹

GEM is an ongoing large scale academic project designed to study the causes and implications of entrepreneurial behavior across countries. Initiated in 1999 with 10 countries, the project collects data annually and has grown to include more than 40 countries in 2006. GEM data used in this paper were collected in 2005. A harmonized, representative population survey with at least 2,000 observations was conducted in each of the participating countries between June and August 2005. The main purpose of the survey was to create a representative random sample of population in each country and to identify what percentage of these individuals, at the time of the survey, owned and managed a business or were in the process of starting one. If either or both of these criteria applied, respondents were asked follow-up questions that allowed the construction of a profile of the respondents and of their businesses.¹⁰

Within this context, the GEM data collection process covers the life-cycle of the entrepreneurial process and looks at individuals at the point when they commit resources or start a business (nascent entrepreneurs); when they own and manage a new business that has paid salaries for more than three months but less than 42 months (new business owners); and when they own and manage an established business that has been in operation for more than 42 months (established business owners). When considered together, nascent entrepreneurs and new business owners may be viewed as indicators of early-stage entrepreneurial activity in a country. Business owners who have paid salaries and wages for more than 42 months are classified as *established business owners*. Their businesses have survived the liability of newness. Much can be learned from comparing early-stage and established business owners. It should be noted that, because of its focus on individuals rather than firms, GEM's *established businesses* are only those still containing at least one founding owner-operator. This may cause GEM data to suggest prevalence rates lower than those suggested from other statistics on registered firms.¹¹

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

⁹ This section relays very significantly on Minniti et al. (2006).

¹⁰ Survey questions are standardized and conducted simultaneously in all countries. In each country, surveys are stratified geographically and conducted by phone, except in countries with low phone penetration rates, where surveys are conducted face to face. Population samples are random and are either based on direct dialing or use listed numbers with callbacks.

¹¹ Details about the procedures used to collect and harmonize GEM data can be found in Reynolds et al. (2005).

Table 1 – Prevalence rates of entrepreneurial activity across countries 2005

	Nascent Entrepreneurial Activity	New Business Owners	Early-Stage Entrepreneurial Activity (Nascent + New)*	Established Business Owners	Overall Business Owners (Nascent + New + Established)	Number of Observations
Argentina	5.9%	3.9%	9.5%	5.0%	14.1%	1,746
Australia	6.5%	4.7%	10.9%	9.6%	20.4%	2,002
Austria	3.0%	2.4%	5.3%	3.8%	8.8%	2,197
Belgium	2.9%	1.2%	3.9%	5.6%	9.4%	4,047
Brazil	3.3%	8.2%	11.3%	10.1%	21.4%	2,000
Canada	6.6%	3.6%	9.3%	7.4%	16.6%	5,519
Chile	6.0%	5.3%	11.1%	3.8%	14.4%	1,733
China	5.6%	9.4%	13.7%	13.2%	26.7%	2,109
Croatia	4.1%	2.5%	6.1%	3.7%	9.7%	1,555
Denmark	2.4%	2.4%	4.8%	4.4%	8.8%	1,968
Finland	3.1%	1.9%	5.0%	8.6%	13.5%	2,010
France	4.7%	0.7%	5.4%	2.3%	7.5%	1,603
Germany	3.1%	2.7%	5.4%	4.2%	9.4%	6,577
Greece	5.2%	1.6%	6.5%	10.5%	16.9%	2,000
Hungary	1.1%	0.8%	1.9%	2.0%	3.8%	2,878
Iceland	8.5%	2.7%	10.7%	7.3%	17.6%	2,002
Ireland	5.7%	4.7%	9.8%	8.1%	17.7%	1,541
Italy	2.9%	2.3%	4.9%	6.4%	11.3%	1,793
Jamaica	10.5%	6.7%	17.0%	9.5%	26.4%	2,031
Japan	1.1%	1.1%	2.2%	5.4%	7.4%	1,931
Latvia	4.2%	2.8%	6.6%	5.0%	11.5%	1,964
Mexico	4.6%	1.4%	5.9%	1.9%	7.6%	1,885
Netherlands	2.5%	1.9%	4.4%	5.7%	9.4%	2,706
New Zealand	9.4%	10.0%	17.6%	10.8%	28.2%	938
Norway	4.4%	5.2%	9.2%	7.3%	15.6%	1,562
Singapore	3.9%	3.7%	7.2%	4.7%	11.9%	3,876
Slovenia	3.0%	1.4%	4.4%	6.3%	10.1%	3,016
South Africa	3.6%	1.7%	5.1%	1.3%	6.0%	2,736
Spain	2.4%	3.4%	5.7%	7.7%	13.2%	18,953
Sweden	1.7%	2.5%	4.0%	6.3%	10.2%	1,717
Switzerland	2.6%	3.7%	6.1%	9.7%	15.4%	5,456
Thailand	9.7%	13.1%	20.7%	14.1%	34.8%	2,000
United Kingdom	3.4%	2.9%	6.2%	5.1%	11.2%	9,167
United States	8.8%	5.2%	12.4%	4.7%	16.2%	1,530
Venezuela	18.8%	7.5%	25.0%	8.6%	33.1%	1,856
Average	5.0	3.9	8.4	6.6	14.8	108,604
<i>Source: 2005 Global Entrepreneurship Monitor</i>						

Table 3. Sectoral Distribution of Early-Stage Entrepreneurial Activity in the U.S. and Other G7 Countries

Year	Extractive	Transforming	Business Services	Consumer-Oriented
2006	3.9%	30.3%	23.1%	42.7%
2004	4.8%	19.2%	24.4%	51.6%
2003	3.4%	24.8%	22.3%	49.5%
2002	4.9%	23.7%	25.1%	46.3%
2006 G7 less U.S.	4.0%	23.0%	28.0%	45.0%
2004 G7 less U.S.	6.6%	23.3%	31.8%	38.3%
2003 G7 less U.S.	7.1%	19.4%	20.2%	53.3%
2002 G7 less U.S.	4.6%	27.4%	23.7%	44.3%

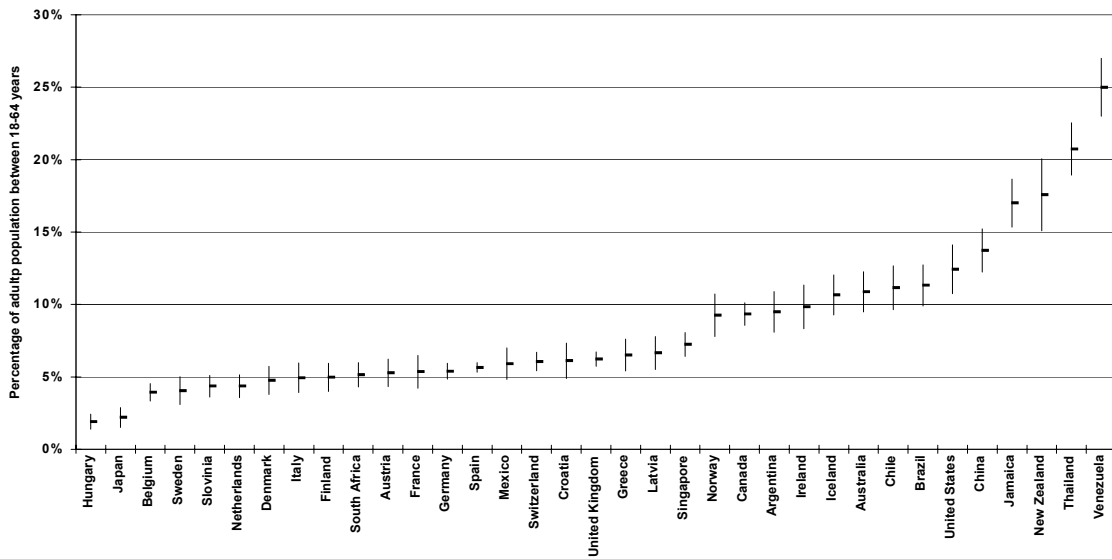
Source: 2004-2005 US GEM Executive Report

Table 2. Current and Expected Job Creation Among New Business Owners

Current/Expected Job Creation Among New Business Owners				
Jobs Current/Expected	2004	2004 in 5 Years	2005	Projections in 5 Years
None	46.6%	33.4%	34.9%	29.5%
1-5 Jobs	38.2%	39.7%	45.1%	37.9%
6-19 Jobs	10.5%	17.1%	12.7%	24.4%
20-999	4.7%	9.8%	7.3%	8.2%
Proportion With Employees	53.4%	66.6%	65.1%	70.5%

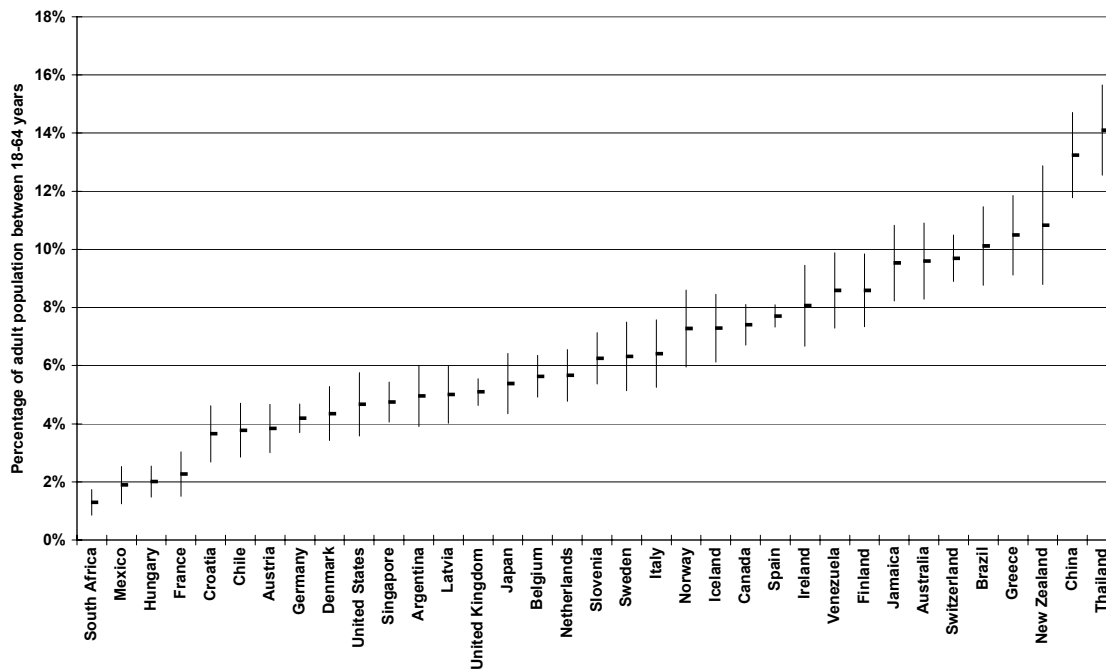
Source: 2004-2005 US GEM Executive Report

Figure 1 – Early-Stage Entrepreneurial Activity by Country (2005)



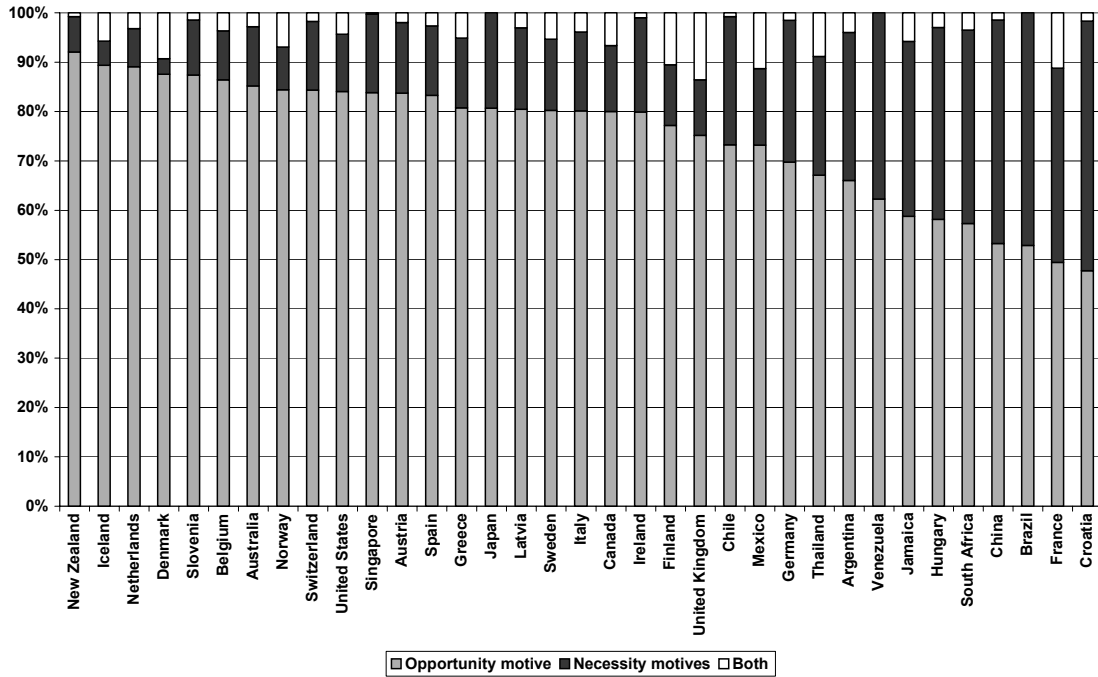
Source: 2005 Global Entrepreneurship Monitor

Figure 2 – Established Business Ownership by Country (2005)



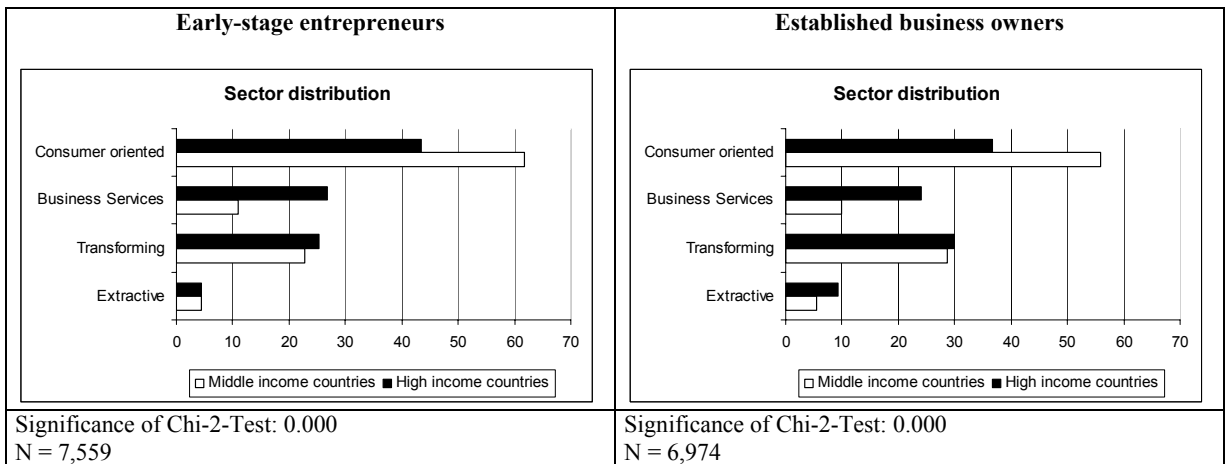
Source: 2005 Global Entrepreneurship Monitor

Figure 3 - Early-Stage Entrepreneurial Activity by Motivation (2005)



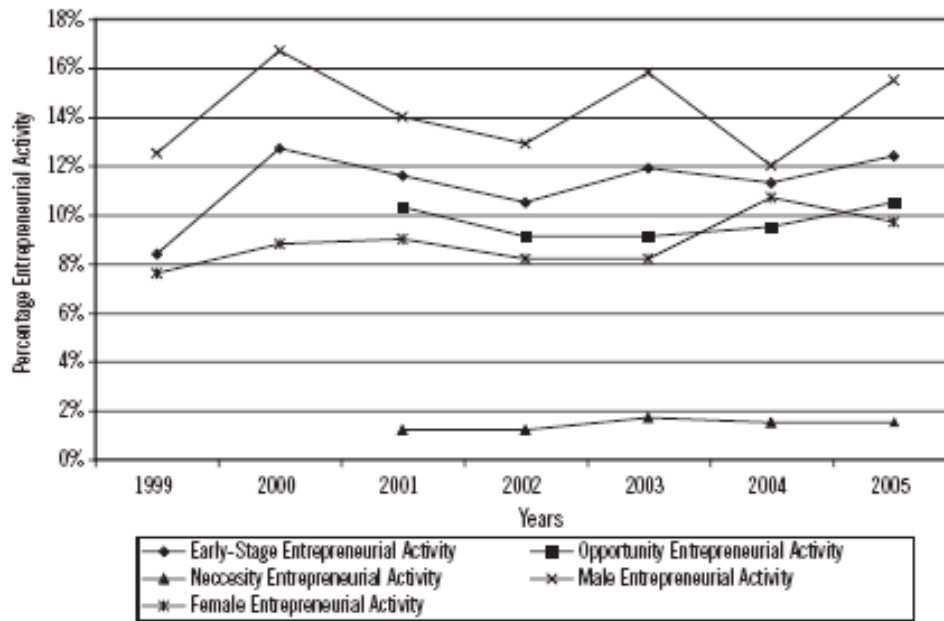
Source: 2005 Global Entrepreneurship Monitor

Figure 4 – Sectoral Distribution of Entrepreneurial Activity by Country Clusters



Source: 2005 Global Entrepreneurship Monitor

Figure 5. U.S. Entrepreneurial Trends



Source: 2004-2005 US GEM Executive Report