

Business Issues, Competition and Entrepreneurship

GLOBAL ENTREPRENEURSHIP

ANALYSES OF PERFORMANCE AND CHALLENGES

Stephen M. Rice

Jaclyn L. Steiner

Editors



NOVA

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STEPHEN M. RICE

AND

JACLYN L. STEINER

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PREFACE

The United States appears among the top entrepreneurial economies and ranks third on the GEDI. It performs very well on the aspirations sub-index but lags somewhat on the attitudes and activity sub-indexes. This new book examines the performance of the United States on the Global Entrepreneurship and Development Index (GEDI), which captures the contextual features of entrepreneurship

Chapter 1- This paper looks at the performance of the United States on the Global Entrepreneurship and Development Index (GEDI), which captures the contextual features of entrepreneurship. The index builds on and improves earlier measures by capturing quantitative and qualitative aspects of entrepreneurship. It measures entrepreneurial performance in 71 countries over three sub-indexes, 14 pillars, and 31 individual and institutional variables. The United States appears among the top entrepreneurial economies and ranks third on the GEDI. It performs very well on the aspirations subindex but lags somewhat on the attitudes and activity sub-indexes. At the pillar level, the United States is strong in startup skills, competition, and new technology but weak in cultural support, tech sector, and high-growth business. U.S. performance appears be stronger on institutional variables than on individual variables. The United States' apparent weakness in the tech sector and its lack of cultural support for entrepreneurship, coupled with lack of high-growth business can be traced to a number of sources. Chief among these are the changing political environment and international volatility, the bursting of the tech sector bubble of the 1990s, the recent recession, and the improving performance of other counties. However, despite some drawbacks, U.S. performance on the index remains strong.

Chapter 2- This econometric study uses Statistics of U.S. Businesses (SUSB) data to examine the impact of trade on small manufacturers. As global trade increases and currency exchange rates fluctuate, concerns about their impact on small U.S. manufacturers increase. Small manufacturers, by the nature of their scale of operations, are less able to insulate themselves from foreign competition than large manufacturers. Although not without costs, large manufacturers have greater leeway in managing the effects of international competition: they can move production offshore, sign long-term commodity contracts in foreign currencies, or use other tactics to weather global shifts.

Chapter 3- Small businesses continue to struggle in the economic downturn, and it will be important for policy leaders to get the economy moving again. Small businesses will be a large part of that, as entrepreneurs will spur new innovation and employment in the coming years. These firms will continue to be the job- generators that we have become accustomed to. With that said, industries will recover from the downturn in different ways, and some industries have clearly been hit harder this time than in past business cycles.

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Chapter 1

GLOBAL ENTREPRENEURSHIP AND THE UNITED STATES

Zoltan J. Acs and Laszlo Szerb

1. EXECUTIVE SUMMARY

This paper looks at the performance of the United States on the Global Entrepreneurship and Development Index (GEDI), which captures the contextual features of entrepreneurship. The index builds on and improves earlier measures by capturing quantitative and qualitative aspects of entrepreneurship. It measures entrepreneurial performance in 71 countries over three sub-indexes, 14 pillars, and 31 individual and institutional variables. The United States appears among the top entrepreneurial economies and ranks third on the GEDI. It performs very well on the aspirations subindex but lags somewhat on the attitudes and activity sub-indexes. At the pillar level, the United States is strong in startup skills, competition, and new technology but weak in cultural support, tech sector, and high-growth business. U.S. performance appears be stronger on institutional variables than on individual variables. The United States' apparent weakness in the tech sector and its lack of cultural support for entrepreneurship, coupled with lack of high-growth business can be traced to a number of sources. Chief among these are the changing political environment and international volatility, the bursting of the tech sector bubble of the 1990s, the recent recession, and the improving

performance of other counties. However, despite some drawbacks, U.S. performance on the index remains strong.

2. INTRODUCTION

While small businesses and entrepreneurship are different, the two concepts are frequently used interchangeably.¹ Since entrepreneurship is often observed in small and new businesses the analysis of these concepts overlaps, causing fundamental problems. A misbegotten conclusion of this jumbling is to equate the increasing number of businesses with the enhancement of entrepreneurship. In fact, decreasing unemployment and job creation cannot be expected to flow from the creation of numerous tiny businesses; they are instead the result of a small number of extraordinary high-growth entrepreneurial ventures, called “gazelles.”² At the outset of this paper, we would like to clearly make the distinction that small business is basically a quantitative activity, and entrepreneurship is a qualitative phenomenon.

2.1. Assessing Entrepreneurship

For a long time, the level of entrepreneurship has been evaluated by some quantitative measure, for instance the self-employment rate, business ownership rate, or business startups.³ Over the last decade, the Global Entrepreneurship Monitor’s Total Early-stage Entrepreneurial Activity (TEA)⁴ ratio has become a widely used measure of entrepreneurship. While these indicators or ratios have undergone some modification and change to incorporate *qualitative* measures, like education and high growth firms, they are basically limited to measuring the *quantity* of existing or nascent businesses.⁵ There are five major shortcomings with these attempts at measuring entrepreneurship:

1. While all the definitions emphasize the multifaceted nature of entrepreneurship— including innovation, risk taking, opportunity recognition, high-growth opportunity motivations, and unusual “judgmental” decision-making, they measure only one, and perhaps not even the most important, aspect of entrepreneurship.⁶

2. The indexes fail to incorporate the businesses' differing impacts; a traditional agricultural business established in Uganda or Peru is given equal importance as an Internet-related venture in Silicon Valley.
3. The most entrepreneurial nations are defined as those having the largest number of businesses. These are generally the developing countries of Africa or South America.⁷
4. These measures do not take into account differences in environmental factors. In fact, the efficiency and sophistication of the institutional setting could have a major influence on the quality of entrepreneurship.
5. Since self-employment and the business ownership ratio decline as a country develops, indexes that rely on them appear to show that higher levels of development are associated with decreasing levels of entrepreneurship. This phenomenon is inconsistent with mainstream economic theories which posit a direct connection between entrepreneurship and development.

This kind of index would give policymakers false guidance, putting the focus on increasing the quantity of entrepreneurship, when quality is of greater import.

Recent efforts of the OECD and European Union have aimed to provide a sophisticated measure of entrepreneurship encompassing three broad areas: *the determinants of entrepreneurship* (regulation, R&D, entrepreneurial capabilities, culture, access to finance and market conditions); *entrepreneurial performance* (firms, employment, and wealth); and *the impact of entrepreneurship*. While the first two publications of the OECD's Entrepreneurship Indicator Program⁸ contain many entrepreneurship-related data and indicators, a more highly evolved measure of entrepreneurship is still missing.

The shortcomings of previous entrepreneurship indicators and the need to clarify the role of entrepreneurship in economic development were the two major reasons underlying the creation of the Acs-Szerb Global Entrepreneurship and Development Index (GEDI).⁹ At present, this is the only index to fulfill the three major requirements of entrepreneurship index building, namely,

1. Sufficient complexity to capture the multidimensional nature of entrepreneurship;

2. Inclusion of indicators encompassing quality-related differences, in addition to quantitative or level-related measures; and
3. Inclusion of individual-level as well as institutional variables.

Unlike other entrepreneurship indexes the relationship between the GEDI and economic development appears to be mildly S-shaped, implying a positive relationship between entrepreneurship and economic development.¹⁰ Therefore the GEDI is a proper tool to provide policy suggestions to increase economic development via entrepreneurship enhancement. Since economic growth is ultimately the result of many factors in addition to entrepreneurship, the GEDI can explain only a part of short-term economic growth.

2.2. Stages of Development

In his classic text W.W. Rostow (1960) suggested that countries go through five stages of economic growth. Michael Porter (2002) has provided a modern rendition of Rostow's typology by identifying three stages of development (as opposed to growth). Porter identifies a factor-driven stage, an efficiency-driven stage, and an innovation-driven stage, and he adds two transitions. While Rostow focused on the age of high mass consumption, Porter's model encompasses recent developments in the economics of knowledge, hence he focuses on the innovation. Historically, an elite entrepreneurial class appears to have played a leading role in innovation and economic development.

The factor-driven stage is marked by high rates of agricultural self-employment. Countries in this stage compete through low-cost efficiencies in the production of commodities or low value-added products. Sole proprietorships—i.e., the selfemployed—probably account for most small manufacturing firms and service firms.

Almost all economies experience this stage of economic development. These countries neither create knowledge for innovation nor use knowledge for exporting.

To compete in the efficiency-driven stage, countries must have efficient productive practices in large markets, which allow companies to exploit economies of scale. Industries in this stage are manufacturers that provide basic services. The efficiency-driven stage is marked by decreasing rates of self-employment. When capital and labor are substitutes, an increase in the

capital stock increases returns from working and lowers returns from managing.

The innovation-driven stage is marked by an increase in knowledge-intensive activities (Romer 1990). In the innovation-driven stage knowledge provides the key input. In this stage the focus shifts from firms to agents in possession of new knowledge (Acs et al 2009). The agent decides to start a new firm based on expected net returns from a new product. The innovation-driven stage is biased towards high value added industries in which entrepreneurial activity is important.

According to Sala-I-Martin et al (2007) the first two stages of development are dominated by institutions. In fact, innovation accounts for only about 5 percent of economic activity in factor-driven economies and rises to 10 percent in the efficiency driven stage. However, in the innovation-driven stage when opportunities for productivity gains from factors and efficiency have been exhausted, innovation accounts for 30 percent of economic activity.

We see an S-shaped relationship between entrepreneurship and economic development because in the first transition stage entrepreneurship plays a role but it increases at a decreasing rate as the efficiency stage takes over. However, as we move from the efficiency-driven stage to the innovation driven stage (the knowledge-driven stage) entrepreneurship plays a more important role increasing at an increasing rate and latter at a decreasing rate (Figure 1).

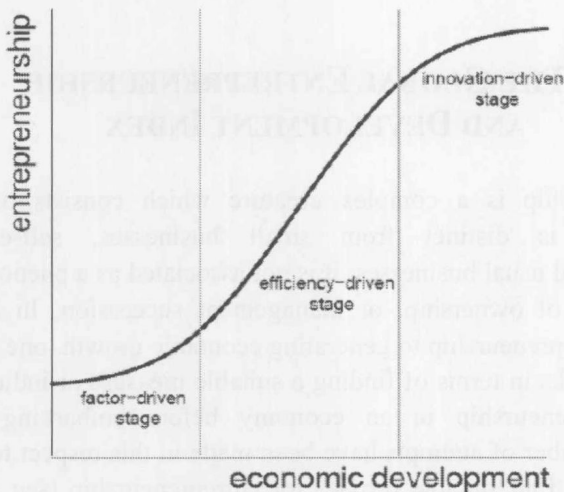


Figure 1. Entrepreneurship and Stages of Economic Development

2.3. Purpose and Structure

The basic aim of this chapter is to present and analyze U.S. entrepreneurial performance with the help of the Global Entrepreneurship and Development Index. The analysis includes an in-depth investigation of the GEDI's component sub-indexes, pillars, and variables. The change in the three sub-indexes over the 2006-2009 time period is also shown. We compare the United States to the leading economies and to other transitional or rapidly emerging nations. We also explore the United States's strengths and weaknesses as revealed by the index. In so doing, we attempt to provide tailor-made policy guidance on how to improve U.S. entrepreneurial performance, and with it, economic development. As mentioned earlier such improvement cannot be achieved by increasing the number of startups by any means. The United States does not simply need more new businesses; it needs more highly productive ventures. A potential way of achieving this kind of productivity improvement is to make progress in entrepreneurship. The report proceeds as follows: As a starting point, the basic description of the Global Entrepreneurship and Development Index is provided in section 2. Section 3 contains an investigation of the entrepreneurial position of the United States based on the GEDI and the three sub-indexes. Sections 4 and 5 provide an in-depth examination of the U.S. position at the pillar and the variable level, respectively. Finally Section 6 provides tailor- made public policy suggestions on how to improve the United States's entrepreneurial position.

3. THE GLOBAL ENTREPRENEURSHIP AND DEVELOPMENT INDEX

Entrepreneurship is a complex creature which consists of numerous dimensions. It is distinct from small businesses, self-employment, craftsmanship, and usual businesses; it is not associated as a phenomenon with buyouts, change of ownership, or management succession. In light of the relevance of entrepreneurship to generating economic growth, one needs to get down to brass tacks in terms of finding a suitable measure or indicator for the level of entrepreneurship in an economy before embarking on policy initiatives. A number of attempts have been made in this respect to collect the relevant data and find suitable proxies for entrepreneurship (see for example

Acs, Audretsch and Evans 1994; Blanchflower 2000; Blanchflower et al. 2001; Grilo and Thurik 2008; Román 2006).

Since its inception in 1999, the Global Entrepreneurship Monitor (GEM) research consortium has worked to measure and to compare entrepreneurial activity across countries. The best known entrepreneurship measure used by GEM researchers is the Total Early-phase Entrepreneurial Activity (TEA) index. However, the TEA index's usefulness as a measure of entrepreneurship has several limitations for cross-country comparisons (Hindle, 2006). Others have criticized the TEA for not capturing entrepreneurship in existing businesses, data inconsistency, and conflicting interpretations of the questions from one country to the next (Audretsch 2002, OECD 2006, Baumol et al. 2007, Godin et al. 2008).

Over the past decade, the contextual setting of entrepreneurship has received increasing attention. The widely applied indicators of entrepreneurship (self-employment, TEA, new venture creation) focus purely on individual or firm-level aggregates, failing to suitably account for the quality of the (institutional) environment. The Ease of Doing Business index, the Global Competitiveness Index, and the Index of Economic Freedom try to capture the institutional features of the participating countries (Djankov et al 2002, Miller and Holmes 2010, Sala-I-Martin et al. 2007; Porter and Schwab, 2008; Porter et al. 2007). At the same time in the context of entrepreneurship, while institutions are vital for development they provide only a part of the picture. The most important drawback of these indexes is their lack of microeconomic foundation.

From an examination of a vast pool of entrepreneurship-related data collected across countries, time periods, and surveys, one finds that a comprehensive, uniformly accepted, regularly assessed data gathering effort for entrepreneurship does not exist yet. We agree with Ahmad and Hoffman (2007) that none of the existing measures fully captures the essence of entrepreneurship, empirically or conceptually.

To this end, we create an independent index to provide a comprehensive measure of entrepreneurship. The index draws on previous measures of economic freedom, competitiveness, and entrepreneurial activity but improves on each of these by providing a more focused and quality-oriented approach (Acemoglu and Johnson, 2005; Acemoglu, Johnson and Robinson, 2001).

3.1. The Sub-Indexes

For the purposes of this paper, entrepreneurship is defined as *a dynamic interaction of attitudes, activities, and aspirations that vary across stages of economic development*. This approach is consistent with the revised version of the GEM conceptual model (Bosma et al. 2009). The process of building our index consists of (1) selection of variables and weights, (2) calculation of pillars, (3) generation of sub-indexes, and finally, (4) creation of the super-index. Data for the individual-level variables in the index comes from the GEM annual adult population surveys. A description of the individual variables is provided in Appendix Table A.1. Since GEM lacks the necessary institutional weighting variables, we make use of other widely used relevant data. A description of the institutional variables and their respective data sources is provided in Appendix Table A.2. The variables are used to construct the 14 pillars which then go into the construction of the three sub-indexes. The three sub-indexes of activity, aspiration, and attitudes combine to constitute the entrepreneurship super-index, which we call the Global Entrepreneurship and Development Index (GEDI). Figure 2 contains a schematic diagram of the index’s components.

GLOBAL ENTREPRENEURSHIP AND DEVELOPMENT INDEX (GEDI)													
Entrepreneurial Attitudes Sub-Index				Entrepreneurial Activities Sub-Index				Entrepreneurial Aspirations Sub-Index					
OPPORTUNITY PERCEPTION	STARTUP SKILLS	NONFEAR OF FAILURE	NETWORKING	CULTURAL SUPPORT	TECHNOLOGY SECTOR	OPPORTUNITY STARTUP	COMPETITION	QUALITY OF HUMAN RESOURCES	HIGH GROWTH	INTERNATIONALIZATION	RISK CAPITAL	NEW PRODUCT	NEW TECH
MARKET/AGLOM	EDUC/POSTSEC	BUSINESS RISK	INTERVENT/AGE	CORRUPTION	TECH/AS/SCP	TEC/OP/PORT	MARKDOOM	HIGH/EDUC	GAZELLE	EXPORT GLOB	VENTCAP	NEWP	ENVY

For the first sub-index, entrepreneurial attitudes are defined as the general disposition of a country's population toward entrepreneurs, entrepreneurship, and business start-ups. The index involves measures for the population's opportunity perception potential, the perceived startup skills, feel of fear of failure, networking prospects, and cultural respect for the entrepreneur. Among the pillars that make up the index, the population's capacity for opportunity perception is seen to be an essential ingredient of entrepreneurial startups (Sørensen and Sorenson 2003). Successful venture launching requires the potential entrepreneur to have the necessary level of startup skills (Papagiannidis and Li 2005). Among the personal entrepreneurial traits, fear of failure is one of the most important obstacles hindering startups (Caliendo, Fossen and Kritikos 2009, Wagner 2002). Better networked entrepreneurs are more successful, can identify more viable opportunities, and gain access to more and better resources (Minniti 2005, Shane and Cable 2003). And without strong cultural support, the best and the brightest individuals do not want to be entrepreneurs and decide to enter some other profession (Davidsson, 2004; Guiso et al. 2006). Moreover, culture can even influence entrepreneurial potential and traits (Mueller and Thomas 2001).

For the second sub-index, *entrepreneurial activity* is defined as the startup activity in the medium- or high-technology sector initiated by educated entrepreneurs in response to business opportunities in a somewhat competitive environment. The choice of indicators used to build this sub-index reflects the belief that opportunity entrepreneurs are better prepared, possess superior skills, and earn more than necessity entrepreneurs (Bhola et al. 2006; Block and Wagner 2006). Operating in the technology sector is important, as high rates of startups in most factor-driven countries are mainly in the traditional sectors and do not represent high potential (Acs and Varga 2005). The entrepreneur's level of education is another important feature of a venture with high growth potential (Bates 1990). And cut-throat competition may hinder business existence and growth, so a lower number of competitors improves chances of survival, as well as future development prospects (Baumol, Litan, and Schramm 2007).

The third sub-index, *entrepreneurial aspiration*, is defined as the efforts of the early- stage entrepreneur to introduce new products and services, develop new production processes, penetrate foreign markets, substantially increase the number of firm employees, and finance the business with either formal or informal venture capital, or both. Product and process innovation, internationalization, as well as high growth are included in the measure. The capability to produce or sell products that customers consider to be new is one