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INTRODUCTION: THE STARTUP PROCESS*

INTRODUCCIÓN: EL PROCESO DE CREACIÓN DE EMPRESAS

ZOLTAN J. ACS**
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Abstract

Entrepreneurship is considered to be an important mechanism for economic development through employment, innovation and welfare effects. The papers in this special issue are from the 3rd Global Entrepreneurship Monitor Research Conference held in Washington D.C. in 2007. The introduction has three objectives. First, to discuss the importance of the three stages of economic development, the factor-driven stage, the efficiency-driven stage and the innovation-driven stage. Second, to examine the empirical evidence on the relationship between stages of economic development and entrepreneurship. Third, to present a summary of the papers.

Key words: Entrepreneurship; Economic Development; Startups Public Policy.

Resumen

El emprendimiento es considerado un importante mecanismo para el desarrollo económico, por sus efectos en la generación de empleo, la innovación y el bienestar en general. Los artículos presentados en este número especial corresponden a la 3^a Conferencia de Investigación del Global Entrepreneurship Monitor celebrada en Washington, D.C. en 2007. Esta introducción tiene tres objetivos. En primer lugar, discutir la importancia de las tres etapas de desarrollo económico: la etapa de factores, la de eficiencia y la de innovación. En segundo lugar, examinar la evidencia empírica sobre la relación entre las etapas de desarrollo económico y la actividad emprendedora. En tercer lugar, presentar un resumen de los trabajos de este número.

Palabras clave: Emprendimiento, Desarrollo Económico, Política Pública para Nuevos Negocios.

JEL Classification: L26, O1, O3.

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I. INTRODUCTION

How is entrepreneurship good for economic development? This question would seem to have a simple answer: Entrepreneurs create new businesses, and new businesses in turn create jobs, intensify competition, and may even increase productivity through technological change. High measured levels of entrepreneurship will thus translate directly into high levels of innovation, employment and development (Schumpeter, 1934; Baumol, 2002; Acs and Audretsch, 1988). However, the reality is more complicated. If, by “entrepreneurship”, one allows inclusion of any type of informal self-employment, then high levels of entrepreneurship may actually mean either that there are substantial bureaucratic barriers to formally creating a new business, or simply that the economy is creating too few conventional wage-earning job opportunities (Acs, Desai and Klapper, 2008). Under these circumstances, we might reasonably hypothesize that high levels of “entrepreneurship” would correlate with slow economic growth and lagging development.

The dynamics of the startup process can be vastly different depending on institutional context and level of economic development (Acemoglu, Agion and Zilibotti, 2007). There are considerable differences across countries in the orientation of entrepreneurial activities to high potential startups (Autio, 2007). The nature and structure of entrepreneurial activities varies across countries as reflected by, for example, the relative volumes of necessity and opportunity entrepreneurship. Acs and Varga (2005) studied 11 countries and found that opportunity entrepreneurship has a positive significant effect on economic development, whereas necessity entrepreneurship has no effect.

The environment shaping the economy affects the dynamics of entrepreneurship within any given country. This environment is marked by interdependencies between economic development and institutions, which affect other characteristics such as quality of governance, access to capital and other resources, and the perceptions of entrepreneurs. Institutions are critical determinants of economic behavior (North, 1990) and economic transactions (Williamson, 1998) in general, and they can impose direct and indirect effects on both the supply and demand of entrepreneurs. Therefore, if one is interested in studying entrepreneurship within or across countries, the broad nexus between entrepreneurship, economic development and institutions is a critical area of inquiry. This nexus is especially important in helping understand why the relative contributions of entrepreneurship can vary significantly across countries and regions.

Understanding this nexus is crucial to gain insight into what can work for economic development. This is for two reasons. First, the international economic development community has learned that a one-size-fits-all approach simply does not work (Easterly, 2001). Second, economic importance attributed to “the entrepreneur” and concurrent policy interest in his/her activities has exploded in recent years. This combination suggests that public policy needs to be informed by the dynamics of entrepreneurship and economic development, as well as relevant local institutional conditions and context-specific variables. One aspect of this institutional structure is now it affects the startup process especially in developing countries.

The articles in this special issue represent papers presented at the 3rd Global Entrepreneurship Monitor (GEM) research conference. The first conference in

Berlin, Germany focused on variation in entrepreneurial activity in developed countries (Sternberg and Wennekers, 2005), while the second conference in Budapest, Hungary expanded the focus to transition countries (Acs and Szerb, 2006). The third conference in Washington D.C organized by George Mason University and Babson College, and expanded the focus to developing countries. It was dedicated to the nexus between entrepreneurship, economic development and institutions in the global economy. The next section outlines the relationship between economic development and globalization. Section III focuses on the relationship between entrepreneurship and economic development. Section IV summarizes the papers in the special issue and the concluding section examines the policy implications.

II. ECONOMIC DEVELOPMENT AND GLOBALIZATION

Porter (1990) and Porter *et al.* (2002) define competitiveness according to country economic development, distinguishing three specific stages: (1) *factor-driven stage*, (2) *efficiency-driven stage* and (3) *innovation-driven stage*; and two transitions between these stages. Countries in the *factor-driven stage* compete through low cost efficiencies in the production of commodities or low value-added products. The first stage is marked with high rates of non-agricultural self-employment. Sole proprietorships –i.e. the self-employed– probably account for most small manufacturing firms and service firms. Almost all economies experience this stage. These countries neither create knowledge for innovation nor use knowledge for exporting.

To move into the second stage, the *efficiency-driven stage*, countries must increase their production efficiency and educate the workforce to be able to adapt in the subsequent technological development phase. To compete in this second stage, countries must have efficient productive practices on large markets, which allow companies to exploit economies of scale. Industries in this stage are manufacturers or provide basic services (Syrquin, 1988). The *efficiency-driven stage* is marked by decreasing rates of self-employment. There are several reasons to expect entrepreneurial activity will decrease as economies become more developed (Kuznets, 1966; Schultz, 1988).¹ If we assume individuals have different endowments of managerial ability, then as an economy becomes wealthier the average firm size should increase as better managers run the companies. Average firm size is an increasing function of the wealth of the economy if capital and labor substitute. When capital and labor are substitutes, an increase in the capital stock increases returns from working and lowers returns from managing.

In other words, marginal managers find they can earn more money when employed by somebody else. In this model of economic development, increases in the capital stock (either through private enterprise, direct foreign investment, or government ownership) will increase returns to wage work relative to entrepreneurial activity. In this model, the relationship between entrepreneurial

¹ Kuznets observed the tendency for the self-employment rate to decline with economic development.

activity and economic development would be negative. That is: As the economy becomes more developed we should find less people pursuing entrepreneurial activity.²

The *innovation-driven stage* is marked by an increase in entrepreneurial activity. For over a century there has been a trend in economic activity, exhibited in virtually every developed industrialized country, away from small firms and towards larger organizations. It was, therefore, particularly striking when a series of studies identified this trend had not only ceased sometime during the mid 1970s, but had actually begun to reverse itself (Blau, 1987; Evans and Leighton, 1989). More recent studies have confirmed this result for most developed countries in the 1970 and 1980s (Acs, Audretsch and Evans, 1994). The empirical evidence clearly shows that firm size distribution in developed countries began to shift away from larger corporations and towards entrepreneurial activity.

There are three reasons entrepreneurial activity rises in the final stage of economic activity. First, the *innovation-driven stage* is marked by decreases in the share of manufacturing in the economy. Virtually all industrialized market economies experienced a decline in manufacturing over the last thirty years. The business service sector expanded relative to manufacturing. Service firms are smaller on average than manufacturing firms, therefore, economy wide average firm size may decline. Moreover, service firms provide more opportunities for entrepreneurship. This is clearly the case in the United States, as well as in several EU countries including Germany and Sweden.

Second, technological change during the postwar period has been biased towards industries in which entrepreneurial activity is important (Jorgenson, 2001). Improvements in information technologies such as telecommunications may increase returns to entrepreneurship. Express mail services, photocopying services, personal computers, the internet, web services and mobile phones services make it less expensive and less time consuming for geographically separate individuals to exchange information. One aspect of the startup process is the source of knowledge for new firms. Contemporary theories of entrepreneurship generally focus on the recognition of opportunities and the decision to exploit them. Although the entrepreneurship literature treats opportunities as exogenous, the prevailing theory of economic growth suggests they are endogenous. Acs *et al.* (2006) advance the microeconomic foundations of endogenous growth theory by developing a knowledge spillover theory of entrepreneurship. Knowledge created endogenously results in knowledge spillovers, which allow entrepreneurs to identify and exploit opportunities (Acs, Audretsch and Feldman, 1994; Aitken, Hanson and Harrison, 1997).

Third, Aquilina, Klump and Pietrobelli (2006) have come to the conclusion that a high value of the elasticity of factor substitution does not only lead to

² There are other, more simplistic, explanations for why entrepreneurial activity may decline as economies develop. Improvements in the economy's infrastructure such as transportation, telecommunications, and credit markets probably increase the advantages of larger firms over smaller firms. Improvements in transportation and telecommunications make it cheaper to distribute goods and services over larger areas. Assuming there are scale economies up to a point, better distribution systems enable firms to operate larger production units that can serve larger markets.

more per capita capital, but makes it at the same time easier for an individual to become an entrepreneur if the aggregate elasticity of substitution is also negative. In an economy characterized by higher values of the aggregate elasticity of substitution, we should expect a higher level of development, more entrepreneurs and smaller firms.

In recent years, economists have come to recognize the input-completing and gap-filling capacities of potential entrepreneurial activity in innovation and growth, and the significant contribution of innovation and growth to prosperity and economic welfare (Acs and Armington, 2006; Schramm, 2006; Audretsch, 2007). Therefore, while most developed countries are in the *innovation-driven stage*, most developing economies including Brazil, Russia, India and China, (BRIC countries), are in the *efficiency-driven stage*. In addition to differences in the nature of competition across stages, there are also differences in the degree of integration of countries into the world economy. In particular, since innovation contributes to competitive advantage in foreign markets (Roper and Love, 2002; Sterlacchini, 1999; Wakelin, 1998), developed economies are better integrated globally (UNCTAD, 2006) and tend to have higher levels of export-oriented entrepreneurship than developing economies (De Clercq *et al.*, 2008). In order for economies to move into the *innovation-driven stage*, it is necessary for them to develop environmental conditions conducive to entrepreneurship. Several countries have achieved this in the past decade including Korea, Ireland, Israel, and Taiwan to name few (Acs *et al.*, 2007).

III. STARTUP DATA AND ECONOMIC DEVELOPMENT

The Global Entrepreneurship Monitor (GEM) research program is an annual assessment of the national level of entrepreneurial activity. Initiated in 1999 with 10 countries, expanded to 21 in the year 2000 and over 60 countries in 2008, the program covers both developed and developing countries. The research program, based on a harmonized assessment of the level of national entrepreneurial activity for all participating countries, involves exploration of the role of entrepreneurship in national economic growth. Representative samples of randomly selected adults, ranging in size from 1,000 to almost 27,000 individuals, are surveyed annually in each participating country to provide harmonized measures of the prevalence of entrepreneurial activity. There is, further, a wealth of national features and characteristics associated with entrepreneurial activity.³

The GEM model serves as a vehicle to interpret both the data collection process and provide a framework for theory and policy. In the early days of GEM, the conceptual model including various Entrepreneurial Framework Conditions (EFCs) was developed. These EFCs indicate various conditions in which entrepreneurship is likely to flourish. It includes aspects such as access to finance, existence of government support policies for entrepreneurship, presence of entrepreneurship-specific training and education, and access to and transfer of R&D and technology (Levie and Autio, 2008).

³ For more information on GEM and all GEM reports please go to: www.gemconsortium.org

The GEM project is unique in that while all countries collect official data on self-employment, the size distribution of firms, census data on all or most plants and firms, firm and plant entry, almost none of these registry sources are comparable across countries, even developed countries. Official data sources differ in the way they define when an establishment enters a file, when it leaves, how they handle self-employment, which makes cross-national comparisons almost impossible.⁴ Therefore, one of the major strengths of the GEM project is the application of uniform definitions and data collection across countries for international comparisons.

The intent of GEM data is to systematically assess two things: The level of start-up activity or the prevalence of nascent firms and the prevalence of new or young firms that have survived the start-up phase. First, start-up activity is measured by the proportion of the adult population (18-64 years of age) in each country that is currently engaged in the process of creating a nascent business. Second, the proportion of adults in each country who are involved in operating a business that is less than 42 months old measures the presence of new firms. The distinction between nascent and new firms is made in order to determine the relationship of each to national economic growth. For both measures, the research focus is on entrepreneurial activity in which the individual involved has a direct but not necessarily full ownership interest in the business.

In order to address this issue for developing countries, GEM researchers started to collect data on both opportunity entrepreneurship (starting a business to exploit a perceived business opportunity) and necessity entrepreneurship (starting a business because you were pushed into it). However, both measures show higher levels in developing countries than in developed countries. Many respondents are probably tempted to state they are pursuing an opportunity rather than being involved in entrepreneurial activities because they have no other option for work, even if the latter statement describes the activity best. Moreover, the relationship between necessity entrepreneurship and economic development is most likely *negative* in low-income countries while the relationship between entrepreneurship and economic development in high-income countries is most likely *positive*. This must be further balanced by the fact that some low income countries like India and China have high levels of opportunity entrepreneurship, at least in certain parts, and countries like Japan have very low levels of opportunity entrepreneurship and low growth.

Therefore, we would expect that in economies in the early or middle stage of economic development, the *efficiency-driven stage*, entrepreneurial activity would be negatively related to economic development since most people would be trying to move from self-employment to wage employment. In developed economies, we would expect entrepreneurial activity to be positively related to economic development as people shift from wage work to entrepreneurial activity, the *innovation driven stage*. This framework seems to imply that a U-shaped relationship may in fact exist between entrepreneurial activity and economic development in the global economy. Countries like Uganda, Peru and Ecuador are all countries with high levels of entrepreneurial activity-but very low levels of per capita income. Countries with much lower levels of entrepreneurial activity, for example Brazil

⁴ For a discussion of the GEM data see Reynolds *et al.* (2005).

and Argentina, appear to have higher levels of per capita income and are moving toward lower levels of entrepreneurial activity. The middle represents a set of countries that appear to be transitioning from a middle-income level to a higher income level and some have rising levels of entrepreneurial activity. High-income countries such as Germany, France, Belgium, Italy and Finland have relatively low levels of entrepreneurial activity. Two countries stand out as outliers: Japan, with one of the lowest levels of entrepreneurial activity, and the United States, with one of the highest levels of entrepreneurial activity.

This line of research has greatly expanded in the past decade. An important paper by Carree *et al.* (2002) examined the relationship between economic development and business ownership for OECD countries, and reaffirmed the existence of a U-shaped relationship. In a second important paper, Wennekers *et al.* (2005) for the first time regressed GEM data for nascent entrepreneurship on the level of economic development. They also found support for the U-shaped relationship between countries at different stages of development.

However, this literature is not without limitations for the study of entrepreneurship and development. There are three observations. First, the U-shaped approach is useful in understanding the decline in self-employment in developing countries both across countries and over time, but not useful or at least less useful, in explaining entrepreneurship (broadly defined). Second, the U-shaped approach is not very useful in explaining the role of entrepreneurship in developing countries in the *efficiency-driven stage* of development, either as they enter the *efficiency-driven stage* or leave the *efficiency-driven stage* (Acs and Amorós, 2008). Finally, while the U-shaped framework was originally developed to understand the increase in entrepreneurship in high-income OECD countries, the model is also of limited value here, as many have questioned the U-shaped model. Carree *et al.* (2007) suggested that the L-shaped and U-shaped relationship between entrepreneurship and economic development couldn't be distinguished empirically because not all countries are in the upward part yet.

The 2004 *Global Entrepreneurship Report* (Acs *et al.*, 2005) started to pursue the idea of using the *opportunity-necessity ratio* as a composite indicator of entrepreneurial activity and economic development. Global Entrepreneurship Monitor (GEM) data are used to identify the type of activity in countries at different levels of development. Opportunity entrepreneurship represents the voluntary nature of participation and necessity, reflecting the individual's perception that such actions presented the best option available for employment but not necessarily the preferred option, as explained earlier. Opportunity entrepreneurship differs from necessity by sector of industry and with respect to growth aspirations. Opportunity entrepreneurs expect their ventures to grow more and provide more new jobs.

Finally, if the U-shaped measures are inadequate for understanding entrepreneurship in developed and developing countries, can we rely on other measures? Acs and Szerb (2008), Acs and Stenholm (2008), Ahmad and Hoffmann (2008), Klapper, Amit, Guillén and Quesada (2007), Acs, Desai and Klapper (2008), Virgill (2008), among others, are developing a new family of global entrepreneurship indices that point towards an S-shaped relationship and not a U-Shaped, one that is consistent with the stages of economic development model.

IV. OVERVIEW OF THE PAPERS

This special issue on the startup process is structured to present multiple levels of analysis, beginning with the role of expectations. The first paper, Pia Arenius and Stefan Ehrstedt provide an examination of the entrepreneurial startup process in GEM countries. In the second paper by Siri Terjesen and Laszlo Szerb, provides a theory-grounded examination of the factors affecting firm growth. The third paper authored by José Ernesto Amorós, Miguel Atienza and Gianni Romaní examines the financing of entrepreneurial firms in Chile. Finally, Thomas Schøtt and Kent Wickstrøm Jensen examine entrepreneurship policy in developed and developing countries.

Arenius and Ehrstedt examine the success of the entrepreneurial start-up process. They examine whether individual-level factors and national culture are related to the ratio of nascent entrepreneurs to potential entrepreneurs, and to the ratio of baby business owners to potential entrepreneurs. To our knowledge there is very little research exploring the success of the entrepreneurial startup process and particularly looking at its variation across countries. Using a large sample of individuals in 35 countries they investigate the variables explaining the variation in the success rate. The results show clearly that transitions between the initial stages of the entrepreneurial startup process vary significantly in different countries. The results indicate that gender and age are explaining variables especially for the first transition from potential to nascent entrepreneur. However, it appears that national culture and education are not significant variables when explaining the transitions in the process. This can be regarded as rather surprising since these variables are otherwise often used as explanatory variables for entrepreneurial activity.

Terjesen and Szerb investigate three competing but complementary perspectives on factors related to entrepreneurial firm growth. Specifically, they examine individual (entrepreneur demographics, personal context), firm (demographics, strategy) and national environment (economic development) factors associated with the growth expectations of nascent (0-3 months), baby (3-42 months) and established (over 42 months) firms. Using 25,384 data points from Global Entrepreneurship Monitor (GEM)'s survey of entrepreneurial activity in 35 countries, we find male gender, personal acquaintance with an entrepreneur, innovative product/service, low levels of competition and based in less-developed countries are associated with high growth expectations for all three business stages. Nascent and baby firms' business growth expectations are also linked to having higher levels of start-up capital and outside investment. In contrast to some previous research, we find that a firm's initial size is the best predictor of growth expectations. Altogether, size-related factors (number of employees, number of owners, start-up capital) determine not only initial growth expectations, but also growth expectations at later firm stages. The law of disproportionate growth (i.e. a small number of firms are responsible for most expected job creation) holds for both start-ups and established businesses, although the latter are more rare. While both start-up and established firm growth expectations are higher in the developing countries, the fastest growing young firms are mainly found in developed countries.

Amorós, Atienza and Romaní show that the sources of financing oriented towards the first stages of the life cycle of firms, namely formal and informal,

may significantly influence economic performance. The aim of the paper is to analyze, using the information gathered by GEM Chile 2007, the role played by formal and informal equity funding to finance entrepreneurship and describes the evolution and supply of formal and informal equity sources oriented towards the first stages of the life cycle of firms in Chile, placing particular emphasis on public policies aimed at reducing the equity gap. Results show that while there is sufficient available funding in Chile, it is not being channeled to a sufficiently wide range of entrepreneurs. Most public initiatives during the past decade have adopted a supply-side perspective, focused on expanding formal venture capital and, more recently, business angels. In this respect, it is not yet possible to observe the complementariness that in principle should exist between these two sources of equity funding and informal venture capital supply is still highly dependent on public support.

Schøtt and Jensen compare the coupling between entrepreneurship policy and entrepreneurship activity in developed and developing countries. Using new institutional arguments, they argue that developing countries are prone to implement policies that (1) are based on experiences in developed countries which have not proven to transfer fittingly to developing economies, (2) are only partly implemented and are not internally consistent as a result of a lack of resources to do so, and (3) are more beneficial on paper than on actual activity. Following this perspective, the coupling between entrepreneurship policy and entrepreneurship activity is hypothesized to be lower for developing countries than for developed countries. Using GEM data correlating the TEA index of early-phase entrepreneurship with indicators of policies obtained from key expert informants supports this proposition.

V. CONCLUSION

The papers included in this issue contribute to understanding of the startup process. The conclusions of the papers in this special issue support the findings that the global economy is divided into three stages –the *factor-driven stage*; the *efficiency-driven stage*; the *innovation-driven stage*– and that in order to understand entrepreneurship in all three stages, entrepreneurship data needs to reflect the stages of development. This means moving away from simple measures of entrepreneurship across countries illustrating a U-shaped relationship to more complex measures, which are positively related to development.

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