# ASPECTS CONCERNING THE ENTREPRENEURSHIP MEASURMENT

**Dan DONOSĂ[1], Eduard BOGHIȚA[1], Ștefan VIZITEU[1], George UNGUREANU [2]**

donosd@uaiasi.ro

**Abstract**

The measurement of the entrepreneurship considers that entrepreneurship is a multifaceted phenomenon that requires a complex measure. In determining the index, instead of a quantitative approach, an adequate measure is the consideration of the quality aspects of entrepreneurship. After that, both individual efforts/capabilities and environmental/institutional aspects of entrepreneurship are to be taken into account. The different aspects / components of entrepreneurship constitute a system in which the interaction of the elements is vital. Entrepreneurship policy needs to be designed from a systems perspective, offering a tailored policy mix that fits a particular country's entrepreneurial profile, rather than offering one-size that fits all suggestions. The global entrepreneurship index defines entrepreneurship at the country level as a National Entrepreneurship System that is the result of the dynamic, institutional interaction of entrepreneurial attitudes, skills and aspirations of individuals, which leads to the allocation of resources through the creation and operation of new business projects.

**Key words**: entrepreneurship, multidimensional factors, policy strategies

The construction of a global entrepreneurship Index proposes five levels of indexes, as it includes the super index that measures entrepreneurship at the country level, three sub-indices (attitudes, skills and aspirations), 14 pillars, 28 variables and 49 indicators. All pillars contain an individual and institutional variable component. This global index comprises three blocks or sub-indexes – which it is called as the 3As: entrepreneurial attitudes, entrepreneurial skills and entrepreneurial ambitions. Entrepreneurial attitudes are about how a country perceive the entrepreneurship. The second sub index is about capabilities. You can do it? Do you have the skills? The third sub-index is about ambitions. These three sub-indexes stand on 14 pillars, each containing an individual and a institutional variable corresponding to micro and macro aspects of entrepreneurship. Unlike other indices, containing only institutional or individual variables, the pillars of this one includes both. These pillars are an attempt to capture the boundless nature of entrepreneurship; analyzing them can provide an in-depth picture of the strengths and weaknesses of those listed in the Index. The first pillar is Perception of opportunity. This pillar captures a population's potential "opportunity perception" given the state of property rights and the regulatory burden that might limit the actual exploitation of the entrepreneurial opportunity. Within this pillar is the individual variable, Opportunity Recognition, which measures the percentage of the population that can identify opportunities to start a business. The second pillar is Startup Skills, meaning that launching a successful business requires the would-be entrepreneur to have startup skills. Skills perception measures the percentage of the population who believe they have adequate starting skills. The third pillar refers to Risk acceptance: among personal entrepreneurial traits, fear of failure is one of the most important obstacles to starting a business. Aversion to high-risk businesses can delay budding entrepreneurship. The forth pillar is about Networks. Networking combines an entrepreneur's personal knowledge with his ability to connect with others within a country and around the world. This combination serves as a proxy for networking, which is also an important ingredient of successful business creation and entrepreneurship. The fifth is about Cultural support. Sixth pillar speaks about Business Initiation Opportunity, which is a measure of startups by people who are motivated by opportunity but face red tape and paying taxes. An entrepreneur's motivation to start a business is an important signal of quality. It is believed that opportunistic entrepreneurs are better trained, have superior skills Seventh pillar takes into account Absorption of technology. In the modern

[1] Iasi University of Life Sciences, Romania

knowledge economy, information and communication technologies (ICTs) play a crucial role in economic development. Not all sectors offer businesses the same chance of survival and/or growth potential. Eighth pillar is about the prevalence of high-quality human capital is vital for businesses that are highly innovative and require an educated, experienced and healthy workforce to continue to grow. The ninth pillar is the Competition, while the tenth, the eleventh and the twelfth are product innovation, process innovation and high growth. The last pillars are internationalisation and risk capital.

A number of studies analyzed the original structure of the index (Acs Z.J., Szerb L., 2016) and added some new variables to the previous version. The crucial parts of the calculation of the global index are the average adjustment of the pillars and the so-called Penalty for Bottlenecks method, because these two methods allow the index to be applied not only for the analysis of the quality of the entrepreneurial ecosystem, but also for the policy involvement regarding the pillars. Global entrepreneurship index scores were calculated for 26 of the 28 member countries of the European Union for the time period 2006–2015. The highest values were represented by Northern and Western Europe, especially the Scandinavian countries, and the Netherlands and Great Britain. Belgium, France, Germany, Luxembourg, Austria and Estonia (as the only ones from Central and Eastern Europe) show scores above the average. Spain, Portugal, Slovenia, Poland and Lithuania register moderate values, while several Central and Eastern European countries such as Italy and Greece have a global index score below average. The example of the EU member countries highlights the usefulness of the global index method in the analysis of the entrepreneurial profiles of the countries from the perspective of the system.

## MATERIAL AND METHOD

According to the Global Entrepreneurship Index, EU countries differ considerably in terms of the quality of the entrepreneurial ecosystem. Moreover, there are even greater differences in the 14 pillars at the country level. One of the most important implications of the analysis is that uniform policy does not work and EU member states would have to apply different policy mixes to achieve the same improvement in the index. Since its introduction in 2008, the Global Entrepreneurship Index research has addressed two important questions: (1) why one person chooses to become an entrepreneur while others do not, and (2) why entrepreneurial activities differ from country to country. While academic research has mainly focused on the characteristic variation between individuals, there is much less evidence on the measurement of entrepreneurship at the country level. The Global Entrepreneurship Index approach to entrepreneurship involves five important aspects (Acs Z.J., Szerb L., 2012). First, it is stated that entrepreneurship is a concept of quality rather than quantity. Second, it considers both institutional and individual factors to be vital in measuring entrepreneurship. Third, the measurement of the pillars of entrepreneurship is based on a benchmark of the top five percent and existing achievements for each particular pillar. Fourth, the means of every fourteenth pillar value are equalized to give the same marginal effect. This point is particularly important from the point of view of entrepreneurial policy. Fifthly, consider the basic elements of entrepreneurship, the fourteen pillars, which are not as independently as we thought, but are integrated elements of a system.

## RESULTS AND DISCUSSIONS

The performance of the entrepreneurship system depends on the weakest pillar, thus a good performance in a pillar can only partially replace a poorly performing element of the system. A practical application of this theory is the Penalty for Bottlenecks (PFB) methodology. Although the role of entrepreneurship in economic development is becoming increasingly clear, the understanding of policies to develop entrepreneurial potential remains immature. This argument is well explained by the discrepancy between the definition and measurement of entrepreneurship. While the complex and multidimensional character of entrepreneurship is widely recognized, major measurements of entrepreneurship are still hindered. In recent decades, significant progress has been made in advancing the measurement of entrepreneurship. Despite these advances, there is a significant gap between quantitative indicators of entrepreneurial activity and measures based on qualitative aspects of entrepreneurship. Quantity (or output) type indicators track the incidence of business ownership (new firms) or self-employment within populations. In these measurements, entrepreneurship is conceived as the creation of a new business organization or entry into self-employment. . The use of attitudinal measures to substitute for entrepreneurship is particularly ambiguous, as it is not clear what the mechanism is from moving vaguely defined attitudes to business establishment (Acs Z. J. *et al*, 2014). However, these commonly used business start-up, ownership, and density rates are problematic because these one-dimensional indices do not take into account quality aspects of

entrepreneurship (Acs Z.J., Szerb L., 2011; Shane S., Cable D., 2003). Other ideas are about that the problem with density-type indices is that the decision factors, in the policy programs, aim for growth that can only lead to an increase in the number of firms, rather than catalyzing the process of creative destruction. Another author (Lenihan H., 2011) also demonstrates that traditional one-dimensional indicators (such as jobs created or retained) are too narrow to measure the impact of firms' policy interventions, as these proxies focus exclusively on the impact of private enterprises, rather than on broader socioeconomic impacts. Another author (Thurik A.R. *et al*, 2013) mentions a change in entrepreneurship policy that is related to the paradigm shift from the managed economy to the entrepreneurial economy. According to their opinion, such a policy should be focusing on dynamic capitalism where entrepreneurship plays a key role to promote more firms that are new. Some authors (Guzman J., Stern S., 2016) focus on the role of both quantity and entrepreneurial quality. The authors calculated annual measurements for the fifteen states of the United States for the period 1988-2014. They created three composite indicators to measure both changes in entrepreneurial potential and the ecosystem. According to their key findings, they observed a three to four-fold decline in the performance of the US entrepreneurial ecosystem, while they observed a very small decline in global entrepreneurial potential. The target of entrepreneurship policy has become one of the debated questions in recent decades whether the promotion of entrepreneurship and firms in general make entrepreneurship policy successful. Another researcher (Vivarelli M., 2012) noted that policy makers need to consider the heterogeneity of entrepreneurs and their motivation based on a new firm. In addition, entrepreneurship policies must support firm entries where activities are primarily based on technological renewal and economic growth. In addition, entrepreneurship policies must support firm entries where activities are primarily based on technological renewal and economic growth. Other authors (Stam E. *et al*, 2009) found that high-growth firms have a greater influence on macro-level economic growth than entrepreneurial activity in general. Then, other researchers (Mason C. and Brown R., 2013) also pointed out the heterogeneity of high growth firms. They argue that entrepreneurship policies should also support start-ups and not only high-growth firms by applying more targeted policy interventions to high-potential new firms. It also refers to debates in the literature about which firms should be promoted if entrepreneurial policy would not support firms in general. However, one thing is clear that the quality of entrepreneurship cannot be measured by the number of firms or only by the distinctive characteristics of the entrepreneur. Meanwhile, a shift in entrepreneurial policy thinking seems to have occurred from direct intervention, increasing the number of firms to create a more favorable environment or climate, namely an ecosystem suitable for entrepreneurs. The entrepreneurial ecosystem approach thus examines the entrepreneurial individual instead (not the company itself), as well as emphasizes the role of the entrepreneurial context. Several studies attempt to identify those factors that determine (enable or restrict) the level of entrepreneurship and provide different theoretical perspectives, as well as frameworks for organizing a wide range of determinants, explain the level of high-quality entrepreneurship, including economic, social and cultural institutions (OECD, 2008). The authors (Freytag A. and Noseleit F., 2009) found that the better institutions a country has, the greater the acceptance of entrepreneurs towards them. The difference in acceptance among entrepreneurs and non-entrepreneurs decreased as institutions represented higher quality. Small differences can also influence institutional acceptance as they pointed out that. Another study (Rodríguez-Pose, 2013) also discussed the importance of institutions in terms of European regional economic development. It was mentioned that the EU need to create institutional bases and strategies for regional development, specially adapted to the different local environments in the European regions. However, the author also highlighted the difficulties in establishing a mix of formal and informal institutions. Another study (Verheul I. *et al*, 2001) in its theoretical framework distinguished the supply and demand side of entrepreneurship. Here the demand side refers to entrepreneurship opportunities. According to the authors, the diversity of consumer demand is important because greater diversity creates more space for entrepreneurs. In the model, the supply side of entrepreneurship includes different things: industrial structure (sectoral structure, network), also influenced by technological developments, government regulations, demographic composition, culture, formal institutions. In addition to environmental factors, the authors consider in their model that the effect of the individual risk-reward profile represents that process of evaluating alternative types of employment and is based on opportunities (environmental characteristics), resources, ability, personality traits and preferences (individual characteristics). Other researchers (Audretsch D., Belitski M., 2016) define the effective

entrepreneurial ecosystem as a complex system of interactions between individuals in the institutional, socioeconomic and informational context. Another study (Acs Z. J. *et al*, 2016) points out that the public policy question regarding entrepreneurship policy is if the environment is allowing to the entrepreneur to realize the production function and fill in the missing input markets. According to their opinion, public policy interventions should promote the creation of an enabling environment. The entrepreneurial ecosystem of the Dutch entrepreneurial ecosystem can serve as a European example, where four main framework conditions could be identified. Namely: changing formal institutions to support labour mobility; strengthening public demand for entrepreneurs by financing the creation and application of new knowledge; promoting a culture of entrepreneurship; developing physical infrastructure to actualize knowledge circulation and networks. Another study (Dilli S., Elert N., 2016) analyzed the entrepreneurial climate of the contemporary period in 21 EU member states and identified institutions that are potentially relevant to this climate. They highlighted the presence of various climate entrepreneurial regimes in Europe. They identified a number of potentially relevant entrepreneurship indicators as well as potentially relevant formal and informal institutions. Then, their findings also suggested that there is no one-size-fits-all approach to creating an entrepreneurial society in Europe.

## CONCLUSIONS

The phenomenon of entrepreneurship has been extensively studied at both the individual and contextual levels, but it does not provide insight into how individuals interact with their systemic contexts, the complex recursive relationships between the two levels have not received much attention. Thus, a major shortcoming in policy thinking is the insufficient recognition that entrepreneurship, at the country level, is a systemic phenomenon and should be addressed as such. To address this gap, studies introduce the concept of national entrepreneurship systems, which recognizes the systemic nature of entrepreneurship at the country level and recognizes that, although embedded in a country-level context, entrepreneurial processes are fundamentally driven by individuals. Based on the inconsistencies related to the definition, measurement and political domain of entrepreneurship, some authors developed the Global Entrepreneurship Index (GEI) which serves to measure entrepreneurship at the country level.

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