



Unlocking the potential of regions through entrepreneurship and innovation

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Abstract

The special issue provides a stimulating set of results and theories on regional entrepreneurship and its fundamental role for growth and development. Although the spatial component is analyzed from different perspectives, all the papers highlight the importance of the regional differences in ensuring the appropriate design and implementation of policies aimed at unlocking the potential of regions through entrepreneurship and innovation.

Keywords Entrepreneurship · Innovation · Regional development

JEL Classification M13 · O31 · R58

The special issue collects theoretical and empirical contributions on the capacity of regions to bring out their potential through entrepreneurial and innovative activity. The papers were presented and discussed by keynote speakers at the 22nd Uddevalla Symposium, 2019, held in L'Aquila, Italy, at the Gran Sasso Science Institute (GSSI).

Entrepreneurship and innovation have been proven to be strong drivers for regional development and growth. Their uneven distribution in space causes inequality, which tends to persist over time. Investigating the factors and the implications of regional differences in entrepreneurship and innovation is critical to ensure the appropriate design and implementation of policies aimed at unlocking the potential of regions, and especially of those that are rural, lagging, and peripheral.

The first article in this special issue, by Rolf Sternberg (2022), sheds light on the complex relationship between economic geography and entrepreneurship, analyzed from two perspectives: first, the role of geography within entrepreneurship,

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followed by the opposite, i.e., the role of entrepreneurship within economic geography. The author highlights that entrepreneurship is, to a large degree, regional, i.e., with strong local geographical connotations, because entrepreneurs are socially embedded in the local environments. However, the opposite is also true, i.e., the economic development of regions is influenced by the type and frequency of entrepreneurial activities.

In a similar vein, Raquel Ortega-Argilés (2022) discusses the relationship between regional entrepreneurship and regional development, with a focus, on one side, on the effect of globalization on localities and its importance for their economic growth and prosperity (Garcilazo et al. 2010; Rodríguez-Pose 2011) and, on the other, on the key role of the local context in shaping entrepreneurship. The crucial role of entrepreneurship as a driver for growth is highlighted alongside the need to promote policies aimed at fostering local entrepreneurship. The paper examines different policy frameworks emerging in different parts of the world and identifies their core elements. Based on the evidence reviewed, the paper contends that both conceptual and policy thinking are increasingly shifting to the challenges faced by the less successful regions in becoming entrepreneurial.

The third contribution by Martin Andersson and Johan Larsson (2022) addresses the same topic but with a different perspective. They focus on how and why a region's industry structure shapes the long-run entrepreneurial character of a region. They argue that the historical industrial development of a place is tightly related to the "industriousness" of its culture and point to local social interactions as one of the mechanisms that fosters the formation, as well as the persistence, of a local entrepreneurial culture. To illustrate this empirically, they employ data on historical voting patterns and local fraction of manufacturing industry across municipalities in Sweden and assess their correlations with present-day entrepreneurial activities. Places with a high share of left-wing votes in the period 1917–1948 have lower rates of new firm formation, less positive public attitudes toward entrepreneurship and a larger average establishment size in the twenty-first century.

Based on key concepts such as digital exposure, age, and entrepreneurship, Ting Zhang, Roger Stough and Dan Gerlowski (2022) investigate how the digitization replacement effect and facilitation effect work together on entrepreneurship. They do so by examining different levels of digital exposure by different types of entrepreneurs. The study sets digitization at the historical intersection with aging and explores how age modifies the digitization effect in shaping entrepreneurship. Using 132 months of the Current Population Survey data and multilevel modeling—with individual fixed-effects and metropolitan area random effects—the study finds that (1) workers with low- and high-digital exposure are more likely to become entrepreneurs than peers with medium digital exposure, mirroring digitization "push" and "pull" mechanisms on entrepreneurship; (2) age strengthens the "pull" mechanism to be *entrepreneurs* (versus *employees*) and *opportunity* (versus *necessity*) entrepreneurs; (3) digital exposure has a weak marginal potential to increase workers' chances to be *part-time* (versus *full-time*) entrepreneurs. The study also shows that location matters. Being located in central cities and higher local unemployment rates increase the odds to be *entrepreneurs* (versus *employees*) and *necessity* (versus

opportunity) entrepreneurs (although this last result is weaker than the previous one).

Keeping the focus on innovation, the final paper by Elena Tur, Evangelos Bourellos, and Maureen McKelvey (2022) addresses the role of breakthrough industrial inventions. Previous literature has distinguished between a technology's degree of novelty (science-base) and degree of technological impact, highlighting that a science-base will lead to more breakthrough inventions, due to distant recombination. This study extends the debate by distinguishing two types of science linkages, "direct and strong science-base" and "indirect and more diverse science-base." To discover long-term patterns, the authors developed an empirical strategy to study nanotechnology patents through the metaphor of "sleeping beauties", which highlights the combination of delayed recognition and high impact of an emerging technology. They show that sleeping beauties occur more frequently in nanotechnology than in the general population of patents, so nanotechnology is an emerging technology that may delay breakthrough inventions. As expected, both types of science linkages create a higher impact. Contrary to expectations, however, neither the "direct and strong science-base" nor the "indirect and more diverse science-base" science linkages explain delayed recognition in high impact technologies. As the authors suggest, the long-term patterns of delayed recognition and high impact may require the firms to recombine multiple technologies, specializations, and industrial applications.

Collectively the papers provide a very stimulating set of results and theories on regional entrepreneurship and its fundamental role for growth and development. All of them highlight the importance of the spatial component, although interpreting it in different ways. Although much needs to be learned and discovered, this special issue sheds some light on the state-of-the-art in the field and the challenges that still need to be addressed, providing an invaluable starting point especially for young researchers with a passion for the topic.

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