

1. Introduction to *Unlocking Regional Innovation and Entrepreneurship: The Potential for Increasing Capacities*

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It is well known that development is uneven across regions (see e.g. Etherington and Jones, 2009; McCann, 2020). While some cast regional inequality as a natural and even a desirable outcome of the development path of nations, the current academic and political consensus calls for policy interventions targeted towards a more balanced, inclusive and regionally cohesive growth. Yet, despite decades of sizeable policy efforts, there is no clear evidence of economic and social convergence across regions within countries. Rather the picture is patchy with some evidence of convergence in some circumstances within the EU, USA and parts of Latin America, while in other cases macroeconomic factors have militated against convergence, even in these same macro-regions. In times of costly fiscal adjustment and slow economic recovery or crisis, e.g. the COVID-19 pandemic (Bailey et al., 2020), such regional disparities bring social and political discontent, particularly in declining, lagging and peripheral regions, and these issues are now coming very much to the forefront of the development policy agenda worldwide.

For the last decades, it has become widely accepted that innovation and entrepreneurship are the main drivers for regional development and growth. Entrepreneurship and innovation are proven to be strong drivers of regional economic development, and therefore they offer a source of potential solutions to the challenges imposed by an adverse international context (Audretsch et al., 2011; Stuetzer et al., 2018). Yet, both entrepreneurial and innovative activity are themselves highly unevenly distributed in space, which might in itself be a main cause of the persistent regional inequalities in both developed and developing countries.

A deeper understanding of the drivers and the implications of subnational disparities in entrepreneurship and innovation is therefore a priority for implementing policies aimed at unlocking the potential of all regions, and especially

of those that are rural, lagging and peripheral, in order to maximize their contribution to national growth and prosperity.

In this introductory chapter, we present the background and foundation for the rest of the chapters in this edited volume. The chapter is organized as follows: In section 1 we present and discuss different factors that may characterize the potentials of regions. Section 2 is devoted to a discussion on the different conditions of regions. In Section 3, we briefly present the content of the rest of the chapters in this volume.

1. REGIONAL CAPACITIES AND POTENTIALS

Regions face major challenges in today's global economy. In the past, traditional assets, such as cheap land and labour, determined the success or failure of regions, but this is no longer the case. Instead, it is assets such as the skills of the workforce, access to capital and information and innovative activity that shape the conditions for economic success. Possessing the ability to leverage these assets is likely to be a success factor in today's competitive world. Sen (1999) argued that to achieve economic development the focus must be on individuals' capacities and potentials. Only if individuals can develop these capacities will they be able to contribute to the economy. Instead of only being regarded as an input in a production process, individuals become important factors in the process of economic development.

Economic success is not only a matter of a set of contributing factors that enable economic growth and development. It is also about how these factors may interact to provide benefits for the society (Feldman and Storper, 2018). According to Feldman et al. (2016) economic development is about the development of capacities that expand economic actors' abilities. The authors refer to economic development as the increase of capacities that support the progress of society through the realization of individuals', firms' and communities' potential. The capacities required for economic development may be categorized in terms of four main dimensions:

- Community capacity: the physical, social and environmental assets that influence the context for economic development.
- Firm and industry capacity: the assets relevant to firms and industry, including workforce, facilities and equipment, organization and supply chain.
- Entrepreneurial capacity: the potential for generating new small businesses, including a risk-taking culture, networks, and access to financial capital and a skilled workforce.

- Innovative infrastructure: the capacity to support new products, processes and organizations, in terms of facilities, support services and willingness to take risks.

An increase in each of the dimensions is assumed to lead to an increase in economic development, *ceteris paribus*.

Innovations are of great importance for the development and growth of regional and national economies. As the innovation process is complex and often requires knowledge and expertise from actors across a range of sectors, contacts with other economic actors are crucial for successful innovation (Bergenholtz and Waldström, 2011). The transfer and assimilation of ideas, R&D, knowledge, technology and skills that are important components for innovation are facilitated by well-functioning links between the economic actors. Although innovation collaborations are often found in local networks, they also need global contacts to keep the knowledge up to date (Ter Wal and Boschma, 2011).

In general, two types of networks must converge for an economic agent to transform a potential innovation to a real innovation by founding a new firm (Shapiro, 1984; Sorensen, 2003):

- Knowledge networks. Since much of the relevant technical and entrepreneurial knowledge is held by a number of economic actors, links are required to those with relevant knowledge, who are most often those who currently conduct R&D in a specific area or industry. Economic actors who can gain access to existing, relevant technical and entrepreneurial knowledge have an advantage when it comes to identifying current innovation opportunities. The economic agent must experience an opportunity for profit in a certain market segment or niche, i.e. have sufficient financial incentives to start a new business (Klepper, 2001; Klepper and Sleeper, 2005).
- Resource networks. To be able to take advantage of an innovation opportunity, the necessary capital, skilled labour and knowledge are required. Social relations and social, business and professional networks play a crucial role in convincing resource holders to join the new venture as either employees, investors, suppliers or customers. However, the economic agent's own financial position plays an important role in the likelihood of convincing investors to finance the venture.

Many studies in the literature highlight the link between innovation and economic development (Fritsch and Mueller, 2004; Aghion et al., 2009). The extent to which innovation leads to economic development is determined by institutional and organizational contexts in different regions, as well as well-functioning processes for creating and utilizing knowledge and devel-

oping policies for different forms of knowledge (Bernhard, 2016). These processes are driven by various economic agents and especially by entrepreneurs (Audretsch and Keilbach, 2004; Cooke, 2007; Huggins and Thompson, 2015). Furthermore, digitalization is regarded as a key process and driver for innovation, including in public administration where new digital innovations are supposed to enhance public values such as equality for all (e.g. Bernhard et al., 2019) and impartiality (see e.g. Cordella and Paletti, 2018; Nählinder, 2013). Digitalization is thus a mechanism for both innovation and entrepreneurship (Nambisan et al., 2019).

Entrepreneurship has proven to be a particularly promising engine for regional growth. The relationship between long-term regional growth and entrepreneurship is strong. Entrepreneurs not only create new local jobs, but they also generate increased prosperity and development (Acs and Armington, 2003). In addition, entrepreneurs are innovative users of other regional assets and resources by, for example, enabling new ideas and innovations to be introduced to the market (Henderson et al., 2005). A region's entrepreneurial potential thus plays a crucial role in enabling investment in R&D and innovation to create demand and generate economic growth (Audretsch and Keilbach, 2004; Huggins and Williams, 2011; Guerrero et al., 2016).

2. REGIONAL DISPARITIES

Regions are today increasingly seen as distinctive, dynamic marketplaces that are linked to other regions via knowledge and trade flows. Each region has its specific base of scientific, technical and entrepreneurial knowledge, represented by the knowledge resources held by companies and organizations located in the region, as well as the human and social capital associated with the region's population. A region is also characterized by its education system, its ongoing production activities in universities, research laboratories and companies, as well as its import and export of knowledge.

Regions differ in terms of their knowledge accessibility. This applies not least to new knowledge, which means that the potential for innovations differs between regions. Larger regions generally offer greater potential because the market in those regions, by definition, is larger. Of course, individuals and groups of individuals differ in their ability to discover, create and exploit innovations, i.e. create new combinations. However, since individuals in larger regions generally have higher education, more varied work experiences and more extensive personal networks, these regions have an advantage here as well.

Large and dense urban regions have many advantages that are not present in other types of regions. These regions have more entrepreneurial opportunities, larger stock of entrepreneurial human capital and richer potential entrepre-

neers. Thus, these regions will not only experience more entrepreneurial events, but they will also experience a superior build-up of entrepreneurial human capital, as there are more entrepreneurial activities to learn from in such regions (Karlsson and Gråsjö, 2019). Successful entrepreneurial activities and innovations stimulate growth and structural change in these regions, which in turn will generate even more entrepreneurial opportunities and innovations.

The introduction of new products is more common in large urban regions where it costs less to develop networks for innovation collaboration and where there is access to networks with the right knowledge and competence profile (Grant and Baden-Fuller, 2004). Of course, innovative companies and especially those that are part of a multinational organization can also gain knowledge from other regions (Davenport, 2005). Although it may be possible to obtain knowledge from other regions, companies participating in regional knowledge networks have a competitive advantage in that the network is likely to include a variety of knowledge-producing organizations, a large and varied range of highly skilled workers and a diversified set of qualified partners. Overall, this can be expected to have a positive impact on companies' ability to innovate, as a wider range of complementary and collaborative actors can create synergies (Lavie, 2009).

Large urban regions are usually characterized by more entrepreneurs and more innovative companies, which may explain why companies that supply new products are likely to be in such regions (Johansson and Andersson, 1998). Another advantage for companies to be in urban regions is that they are likely to encounter more customers who together have a broader and more diversified demand. In addition, only a small proportion of all potential customers for each new product are willing to test the new product (Vernon, 1966), which implies that a sufficiently large and profitable demand has the greatest chance of being established in large urban regions.

Large urban regions offer access to a sufficiently large and diversified internal market potential to make the launch of innovations profitable. In addition, geographic transaction costs are relatively low in these regions, which is important for reducing the interaction costs for entrepreneurs who develop innovations. The innovative activities thus have a strong tendency to concentrate in large urban regions (Karlsson, 2016) and the knowledge-intensive and high-tech industries also tend to be located in larger urban areas where there is access to a large variety of higher education and R&D facilities.

Several authors have shown that regional differences affect the promotion of entrepreneurship (Audretsch and Keilbach, 2004; Audretsch and Peña, 2012; García-Rodríguez et al., 2017a). In other words, it is difficult to perform homogeneous analyses and the recipe for success varies depending on the conditions of the region. Each region has specific characteristics that determine the effects of investment in innovation on economic growth. Peripheral

regions are characterized by a poorly developed regional innovation system with a low presence of dynamic companies and knowledge-creating organizations (García-Rodríguez et al., 2017b). In addition, peripheral regions have few educational institutions, and networks and links between companies and agents for regional innovation systems, especially between universities and research institutes, are weak (Huggins and Thompson, 2015).

3. CONTRIBUTIONS IN THE BOOK

In this section the contributions are summarized in order for the reader to plan their reading experience. The chapters in this volume are revised versions of papers first presented and discussed at the 22nd Uddevalla Symposium 2019 held in L'Aquila, Italy with Gran Sasso Science Institute (GSSI) as the local host.

In Chapter 2, Cornett and Sørensen address how and to what extent entrepreneurial activities and innovation can contribute to regional economic competitiveness and restructuring with a point of departure in existing factor endowments and potentials. Additionally, the authors discuss the long-term implications and the costs and benefits of gradual transition versus the risks of being trapped in a trajectory not leading to fundamental improvement. The aim of the study is to dig deeper into the forces behind processes and mechanisms. The first step is to develop a framework to map the regional potentials of regions based on the existing factor endowments and their prospects for future growth. This evaluation is anchored in neoclassical and new economic growth concepts. This overview is based on European data (EU 28) with a more detailed examination of northern Germany, Finland and the three Scandinavian countries. Based on this analysis, lagging, well-performing and transition regions are identified. Preliminary findings indicate that regions perform differently, and that the time profile of measures usually differs also. Policies that are anchored in new economic growth theory usually have a longer time horizon when used as vehicles for regional economic transition. Furthermore, sectoral and demographic factors impact in different ways depending on the type of regions, the economic system and the regional potentials.

In Chapter 3, Trillo discusses how the place–innovation nexus operates in cities. Can this nexus be understood only by looking at the location of enterprises and companies or is it necessary to investigate other enabling factors related to the spatial structure of cities? This chapter seeks to answer this question by focusing on how innovative entrepreneurs use neighbourhood and spaces in cities. Findings drawn from an extensive dataset developed in the US context suggest that urban policies should encompass spatial interventions in the built environment, holding the potential to facilitate the construction of a physical ecosystem supportive of innovation. This spatial fabric includes

shared spaces and private small businesses facilitating interaction, both informal and formal, and specialized and multidisciplinary; and public services and facilities that allow preserving uniqueness and inclusiveness. Furthermore, the spatial pattern should be supportive of a walkable environment, offering effective transit and public transport facilities. Consistent policy actions include: (1) launching dedicated programmes focused on small target areas, combining spatial planning and innovation-driven economic initiatives; (2) introducing flexible rules in the funding streams, prioritizing goals over means; (3) fostering pilot programmes including non-conventional beneficiaries and non-traditional eligible costs.

In Chapter 4, Lawton Smith addresses the question of which are the areas where theoretical, empirical, and policy-based issues are currently underdeveloped in relation to entrepreneurship and entrepreneurship policy in Regional Innovation System (RIS) analyses. She argues that although the entrepreneur has been identified as a regional agent of change, the RIS approach tends to underplay the role of entrepreneurs in the dynamics of economic change. Thus, there is generally little attention to entrepreneurship policy. This is so, even though RIS has been a powerful concept in informing policy. To answer the question three major areas are explored. The first is the agency of both entrepreneurs and entrepreneurship policies in the development of RIS with respect to the relationship with institutional change as an aspect of governance. The second is the rationale for entrepreneurship policies in RIS. The third relates to what entrepreneurship policies look like in a RIS and how they might be evaluated as contributing towards a RIS.

Chapter 5, by Karlsson and Tavassoli, reviews how industrial policy developed from mainly a 'passive' policy focusing on market failures to a mainly 'active' policy focusing on creating better conditions for growth and international competitiveness. The authors discuss the interpretation of the concept of industrial policy and follow up that discussion with an overview of the arguments for and against industrial policy. The theoretical foundations for industrial policy and illustrations of the difference between 'old' and 'new' industrial policies are highlighted. The authors pay particular attention to the 'spatial' aspect of industrial policy by discussing whether industrial policies should be place-neutral or place-based. The chapter ends with a discussion of the difficulties related to the formulation and implementation of industrial policies.

Cultural policy for unlocking potentials of cultural activities in diverse regions is discussed by Dzemydaitė in Chapter 6. Cultural activities and projects, such as art exhibitions, workshops and concerts, reveal in vibrant fashion the entrepreneurial spirit of cultural and creative industry players. This chapter compares a number of cultural activities in economically and socially diverse regions and analyses whether a national cultural policy that is

organized in a place-neutral way can ensure the same intensity of artistic and cultural activities for the inhabitants in diverse regions. The chapter focuses on a case of a policy regime change that occurred in 2018 in Lithuania, involving a switch from a place-neutral cultural policy that paid little attention to regional differences in socio-economic indicators, to a redistributive policy aimed at reducing regional differences through targeted support to players from marginal, less affluent regions. Results of a study of the place-neutral policy revealed that changes in policy formation were needed to attract more funds to less developed areas.

In Chapter 7, Antonietti and Burlina analyse whether a higher level of entropy in a region corresponds to higher economic complexity. The authors focus on Italian NUTS3 regions, which represent an interesting laboratory due to their high heterogeneity in skill endowment, performance and level of development. Entropy is measured through a Theil index of industry variety, that further is split into a within-entropy and a between-entropy component. Economic complexity is captured through the Hidalgo and Hausmann index, on regional export data at three-digit industry level for the period 2004–10. Results do not confirm that, in general, regions where entropy is higher are those where economic complexity is also higher. Instead, the authors found that this relation holds only in regions characterized by a low level of complexity, and when entropy increases at the intensive margin.

In Chapter 8, Tsareva, Zemtsov and Barinova argue that there are significant regional differences in small business development in most countries, especially in large developing and transition economies. In their literature review, these differences are explained in terms of a differentiated institutional environment. The aim of this chapter is to identify institutional and other regional characteristics affecting small business density in Russia. The econometric results confirm that investment risks, lack of capital and administrative burden are constraining factors for small business development. Poor access to loan capital, overregulation and high crime rates push businesses into the informal sector in most North Caucasus and Far Eastern regions. At the same time, the entrepreneurial ecosystems of certain regions have a relatively rich set of institutional elements for the development of productive entrepreneurship. The aim of the study is to identify regional best practices and recommend their use in evidence-based policy. This will allow more careful consideration of regional differences in the adoption of national laws.

Kraaij and Rademaker suggest in Chapter 9, that the world needs more jobs to meet the United Nations' Sustainable Development Goal 8 and to keep up with expected population growth. Policy makers stimulate start-ups due to their expected job-generating effect. Despite the increased number of the solo self-employed, percentages on graduation from small to larger enterprises are low. Their study focuses on entrepreneurs who create jobs, and have passed

'the one-employee threshold'. The authors look at the considerations of the solo self-employed when making the decision to hire their first employee. Twenty-seven interviews were conducted with entrepreneurs in developed and developing countries. The analysis shows that the solo self-employed consider factors such as time, skills, trust and opportunities when hiring their first employee. The study finds evidence of effectual behaviour. Trust is important: trust in others (the first employee) and trust in oneself (becoming an employer). To stimulate job creation, policy makers should stimulate effectual behaviour that enhances the self-efficacy of the solo self-employed.

Mulligan demonstrates in Chapter 10 how patenting and self-employment have affected US metropolitan growth. The bidirectional relationship between population and employment is analysed across 377 US metropolitan areas during the period 1990–2015. Using the regional adjustment model, current population is shown to depend upon lagged population, current employment, and initial allocations of natural and human-created amenities. Likewise, current employment is shown to depend on current population and lagged employment; initial allocations of wages, professional workers, and age of the workforce; and both self-employment (entrepreneurship) and patenting (inventiveness). A series of 2 by 2 growth operator matrices show that 'people followed jobs' before 2000 but 'jobs followed people' afterwards. The pooled results indicate that amenities (+) invariably affected population numbers and wages (-) invariably affected job numbers. Self-employment numbers and patenting volumes are subsequently endogenized using a series of 3 by 3 growth operator matrices. Self-employment had a strong impact on job numbers during the entire 25-year period, while patenting had a much weaker and uneven impact on those numbers. Special consideration is given to spatial lag effects, which were found to be mostly negative (indicating competition) in both instances.

In Chapter 11, Wihlborg and Gustafsson analyse automation as a public innovation and argue that digitalization of public services has been high on the political agenda in Sweden, with the goal to reform and modernize welfare services. Digital solutions are used to build both technical and organization innovations in services and in bureaucratic decision-making. Automation of social assistance services is currently implemented in many Swedish municipalities. It calls for new ways of running and administrating income support services for citizens with vulnerabilities. In the context of thorough national regulations, wide local autonomy and variation in resources, the introduction of automation is rife with tensions and challenges. This study looks at automation as an innovation implementation in public services, focusing on one municipal case. Based on interviews, observations, and focus groups, the authors conclude that the process has been hampered by a lack of focus on the

core service of coaching for self-sufficiency, and that it has made the system less transparent.

Businessization and collaboration in the citizen/non-profit sector in Japan is analysed by Imase in Chapter 12. In Japan, the activities of the citizen/non-profit sector have become more prominent since around 1990. In some spheres, 'businessization' is progressing, and social businesses are also emerging one after another. The citizen/non-profit sector has come to be positioned as a 'new public interest entity' and 'new economic entity' under the government policy. Local governments across the country are actively implementing support policies and collaboration policies for the citizen/non-profit sector. On the other hand, the citizen/non-profit sector tends to lose its original characteristics, and social business tends to be less differentiated from ordinary business. There are also cases in which the collaboration policies by local governments are not sufficiently successful. In this chapter, the history, current situation, and problems of the businessization and collaboration of the citizen/non-profit sector in Japan are investigated. In addition, future perspectives such as demonstrating the social existence significance of the citizen/non-profit sector, increasing the number of 'citizen public benefit businesses', and using 'collaboration contracts' are discussed.

Czerwony, Miller and Mroczkowski review the literature on regional specialization and diversification and examine how these concepts tie in with implementing regional 'smart specialization' (RIS 3) in Chapter 13. The authors analyse and evaluate the Green Valley project, located in Poland's Lower Silesia region, as a case of innovation capacity enhancement aimed at the diversification of a strong regional economy – so far known for FDI-driven manufacturing. Green Valley aims to revive the region's once successful sector of agro-food production and processing, but now to be based on innovation and the production of high-quality, next-generation food. The successful launch of the Green Valley project carries important lessons about how complementary smart specialization can be implemented in a region which has already developed some effective business strategies. The chapter concludes with a preliminary model of successful complementary regional smart specialization based on the leading role of an entrepreneurial university.

The book ends with Chapter 14, in which Johansson and Odaway analyse and compare the challenges and opportunities that refugees and asylum seekers experience in Sweden and South Africa as well as the strategies they develop in relation to higher education. As both countries have undertaken measures resulting in a more restrictive refugee and asylum policy, this study hopes to contribute to the contemporary debate on inclusion and its challenges. The collected material involved semi-structured interviews which focus on inclusion through access to higher education. In exploring higher education as a key inclusion factor, the study employs different conceptualized themes which can

be perceived as a framework. The empirical results provide an overview of the foreign policy framework of the respective countries and the experiences of the respondents. The comparative analysis demonstrates the central differences between Sweden and South Africa including the issue of discrimination and xenophobia in the latter. Moreover, access to higher education and opportunities are more openly provided to refugees and asylum seekers in Sweden. The different challenges, opportunities and strategies developed have a crucial impact on whether the respondents could see a sustainable future in the respective host countries.

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