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Innovation and entrepreneurship in small and medium-sized towns

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Prevailing 'urban bias' in innovation and entrepreneurship research

Innovation and entrepreneurship only play a minor role in research on small and medium-sized towns (SMSTs). As crucial economic development dynamics, innovation and entrepreneurship are mostly associated with large cities (Mayer and Motoyama, 2020). Thus, as scholars and teachers, we are used to pointing to entrepreneurial hotspots like Silicon Valley, Boston and Stuttgart. We utilize theoretical models such as industrial clusters (Porter, 2000), regional innovation systems (Asheim et al., 2019) and entrepreneurial ecosystems (Spigel, 2020) without acknowledging or even recognizing that these conceptual models have been developed in the context of large cities or metropolitan areas. Yet, the large city context is quite different from that of an SMST. While the large city boasts a great number of firms, different types of economic actors such as support organizations, higher education and research organizations, research partners, etc., a medium-sized city or small-town may lack part or all of them. In addition, SMSTs differ in other characteristics necessary for innovation and entrepreneurship to flourish.

Most studies of innovation and entrepreneurship in SMSTs make several problematic assumptions. First, there is an implicit 'urban bias' when studying the geography of innovation and entrepreneurship. Shearmur (2017) highlights this and argues that often innovation is identified from data that are urban-related and that dominant theories on innovation and how such dynamics unfold describe creative processes in the economy as an urban phenomenon. Others such as Mayer and Motoyama (2020) add that often the lived experiences of researchers studying entrepreneurial and innovative regions is quite urban and that the small or medium-sized town context is left out simply because we as researchers have not fully experienced the more

peripheral places. Indeed, large cities have seen increased innovation and entrepreneurship dynamics in recent years and they do deserve attention. Yet, given the discussions around cohesive territorial development, left-behind places, etc., it is important to also turn our attention and experience towards smaller urban places. The notion of the ‘urban bias’ is neither novel nor specific to innovation and entrepreneurship studies and the debates go back to the 1970s (Dufty-Jones, 2014; Lipton, 1977, 1984). Second, there is a bias in terms of the type of innovation and entrepreneurial dynamics that are studied. Often research focuses on high-growth entrepreneurship, which is associated with fast-growing industries such as high-tech, life sciences, creative services, etc. The pro-growth and pro-technology bias leave out many alternative forms of innovation and entrepreneurial endeavours that may indeed find a fertile environment in the small and medium-sized town. Given the urgency to also find ways to develop more sustainably and to apply existing technologies to social and environmental problems, perhaps the application of innovation and the utilization of new ideas is more important than developing it from scratch (Tödtling et al., 2021). Third, and this is a point that has only more recently emerged, SMSTs (as well as peripheral places in rural or mountainous regions) are by no means isolated ‘islands of innovation’ (Simmie, 1998). Rather, they are connected through modern information and communication technologies and innovators and entrepreneurs can reach the hotspots in the world (Bürgin et al., 2021; Mayer et al., 2016).

What do we miss by glossing over SMSTs when studying innovation and entrepreneurship? We not only miss empirical accounts of how smaller urban places are able or are not able to change their economic fortunes. Moreover, on a theoretical level, we miss a differentiated perspective that takes a different configurational set-up of the local innovation and entrepreneurial ecosystem into account. If we are truly interested in taking a systems view, as has been suggested, we should be serious about configurational theorizing, as Marques and Morgan (2021) argue. Merely stating that certain ingredients in the local economy are missing and a small-town is characterized by ‘thinness’ (Tödtling and Trippel, 2005) does not give satisfactory answers to questions about the outcomes of development. Some authors have argued that innovation (and this possibly holds true for entrepreneurial dynamics) may not always lead to development and that there are other reasons than the mere absence of a critical mass of certain factors.

The bulk of studies of innovation and entrepreneurship in SMSTs are not concerned with how creative and entrepreneurial processes work or do not work or to what extent economic actors have or do not have the capabilities to innovate and be entrepreneurial in the small-town context. When we consider the

unique context of small or medium-sized towns, we must reconsider our theories and models of local innovation systems and entrepreneurial ecosystems.

Smaller urban places deserve attention on their own part

SMSTs often fall through the cracks when it comes to studying innovation and entrepreneurship. The ‘urban bias’ is only one reason for this omission. However, another factor may lie in the emergence of research of innovation and entrepreneurship dynamics in rural places. In recent years, this line of research has become more prominent, partially as a long-overdue and necessary answer to the urban bias in economic geography. Research is interested in explaining why certain rural places or the actors in such places are innovative and/or entrepreneurial. Some of the insights relate to the ways in which innovative firms are able to reach out to distant innovation partners. This line of work shows that innovative rural firms need to have a certain capacity to absorb the knowledge gained through outside partnerships (Grillitsch and Nilsson, 2015). Generally, it is acknowledged that firms compensate for the lack of factors, but that they also exploit the unique characteristics of a peripheral region (Eder and Trippel, 2019). Similar insights exist from entrepreneurship research in rural or peripheral places (Korsgaard et al., 2015; Mayer et al., 2016; Stathopoulou et al., 2004). Taken together, the focus on the rural or the peripheral is quite important, yet it also leads us to gloss over the SMST or conflate it with the large cities.

However, when we consider SMSTs, we need to consider that they are neither rural nor urban. Steinführer (2021, p. 63) calls the small-town a ‘type of settlement “between” the village and the city’ and notes that our notions of urban led to the disappearance and also conflation of smaller urban settlements with rural places. In the following, I will explore four different themes that have implications for research on innovation and entrepreneurship in SMSTs. The themes pay particular attention to aspects of size of the urban, the capabilities of actors, the links actors in SMSTs form and to the idea that innovative and entrepreneurial action needs to be considered more broadly.

Small but beautifully diverse

SMSTs are settlement types that do not have 100,000 or 1 million residents. And neither are they places that have thousands of businesses. I live and

work in Switzerland. Switzerland's largest city is Zurich and this large city has around 420,000 residents and slightly more than 45,000 businesses. My hometown Thun, a medium-sized town that ranks 11th in the list of Swiss cities by residents, has around 43,000 residents and slightly more than 3,200 businesses. Yet, the nearby small-town of Burgdorf has 16,000 residents and only 1,200 businesses. Thun and Burgdorf are not villages. They are urban because they have a certain degree of urbanity exemplified by their population density, their morphology as well as a certain degree of heterogeneity when it comes to their society and economy. Simply arguing that the SMST lacks actors in terms of numbers but also in terms of its diversity is short-sighted. This line of thinking takes up the conceptual notion of 'organizational thinness' (Tödtling and Trippel, 2005) and it is argued that these places miss business clusters, that they have few support organizations and that their institutional structure is weakly developed. As a result, innovation activities are missing or below average.

Even though SMSTs are not as large, they can be quite diverse as a result of their unique urbanity. The notion of 'diverse diversity' in SMSTs (Meili and Shearmur, 2019) suggests that innovative firms benefit from different types of diversity. There is internal diversity stemming from the labour force that is recruited from heterogeneous sources (national, international, etc.). The second type of diversity relates to interactions that take place between different types and classes of employees. Firms in small towns benefit from interactions that cross formal boundaries (e.g. the boss talking to the line worker during lunch and solving a problem that way). Lastly, firms in small towns reach out to other innovative partners and gain knowledge diversity through these external linkages. Taken together, this research suggests that innovative firms in SMSTs leverage the urbanity of the place to their advantage. Thus, small towns might be beautifully diverse rather than bleak and thin when it comes to leveraging existing actors and organizations.

The diversity in SMSTs and its implication for innovation and entrepreneurship can be a fruitful avenue for further research. Investigations can focus on related diversity in SMSTs and the question as to how these types of urban environment benefit or hamper the diversification of their economy into related or completely new industries. The principle of relatedness (Hidalgo et al., 2019) may work out differently in a small-town compared to a medium-sized town. Examining this difference might be quite interesting because it can tell us something about how economies in differently sized urban contexts evolve and change over time. It may help us understand the ways in which small and medium-sized economies diversify and to what degree their economic actors rely on existing diversities.

Capabilities, not quantity of actors

Often, SMSTs are seen as less dynamic than their larger counterparts. Yet, research has shown that in Europe the category of SMSTs performed very well on socio-economic indicators when compared to large cities/agglomerations. In Germany, for example, the group of SMSTs performed rather well between 2000 and 2016 when it came to employment and was on par with large cities. Particularly those SMSTs in central locations were responsible for this development as they benefited from their central location and accessibility (Mayer, 2019). In the European Union we see similar dynamics. While in the 15 original countries of the European Union large cities (more than 100,000 inhabitants), in particular, grew faster than the SMSTs (defined in this study as 5,000 to 100,000 inhabitants) between 1995 and 2001, this trend did not continue in the years 2001 to 2006 (Dijkstra et al., 2013). The population growth of the large cities slowed during this period until the SMSTs were at the same level. A trend reversal can also be seen in economic performance data. Since 2001, rural and intermediate regions showed stronger gross domestic product per capita growth than the predominantly urban regions (Dijkstra et al., 2013). Thus, it is no longer the largest cities that grow the fastest, rather we have to turn our attention to smaller urban places and even rural areas. Frick and Rodríguez-Pose (2018) support these findings with an analysis of panel data for 1980 and 2010 for 113 countries worldwide. The key finding of their analysis is that smaller cities are more important for the positive economic development of a country than large cities (more than 500,000 inhabitants). They conclude that there is no linear relationship between urban size and economic success and that, in addition, the size of a country plays an important role in the contribution that small and medium-sized cities make. Thus, small and medium-sized countries whose urban populations are predominantly located in small and medium-sized cities benefit more from this type of city.

The mounting evidence about the performance of small and medium-sized cities suggests that we must rethink our understanding of urban size and its relationship to economic performance. Urban size seems to be a condition that does not automatically lead to economic success. Thus, the notion of agglomeration economies needs to be considered and we ought to take into account that innovation and entrepreneurship can also flourish in a context in which agglomeration economies that are the result of size are missing or are not very strong. What might matter more are the capabilities of actors to innovate and be entrepreneurial. These capabilities are important because they help economic actors to change and adapt to different situations and to come up with new ideas.

Capabilities are key to local development. Indeed, particularly in an SMST context that is characterized by few actors, lack of resources, etc., the question arises how individuals and organizations can mobilize their own resources and those of the local community. Marques and Morgan (2021) highlight that it is important to focus more on the organizational capabilities and on the ways in which these capabilities are used to create innovation outcomes that make a difference locally. This is the case, for example, when a very capable economic actor in the small-town economy (perhaps a so-called hidden champion firm) engages in partnerships with local firms and, through this type of networking, local firms are able to advance and develop their own capabilities. Innovation that leads to improvement of the capabilities of local actors then implies local development. Yet, if the large firm tends to focus on external partners because they seem and are de facto more capable, then the outcomes bypass the small-town economy.

Capabilities evolve over time and firms in the SMST economy adapt to changing circumstances. Salder and Bryson call this capability 'adaptive embeddedness' (Salder and Bryson, 2019). Their study of small and medium-sized enterprises in five small towns in the West Midlands, United Kingdom, highlights the fact that firms engage in a process of 'adaptive embeddedness', which allows them to configure existing small-town resources in different ways (structural, emotional and circumstantial).

Scholars of SMSTs could study the ways in which existing economic actors such as hidden champions, large anchor firms or higher education and research institutions develop capabilities over time and how these capabilities allow them to connect to the local economy. In what ways do lead firms convey their capabilities to other local actors and how does the local economy benefit? How can capability shortcomings in the SMST be identified and addressed? What kind of economic development policy is suitable to address capability shortcomings?

Reaching beyond the town

From a relational perspective, innovative and entrepreneurial actors do not confine their activities to the SMST economy. There is increasing evidence for the connectedness of economic actors in SMSTs and for the ways in which their networks to distant partners can help them stay innovative. This line of thinking connects with growing evidence that SMSTs are able to overcome their liability of smallness by forming networks or being connected with other

cities (Camagni et al., 2015; Kaufmann and Wittwer, 2019) or borrowing size from their larger urban neighbours (see also the chapter by Meijers and Burger in this volume).

We know that innovative companies that are located in rural or peripheral contexts access external knowledge through linkages to non-local sources such as universities, other firms, competitors, etc. (Fitjar and Rodríguez-Pose, 2013; Grillitsch and Nilsson, 2015). Linkages between the urban and the rural seem to be important for innovation and entrepreneurship (Mayer et al., 2016). Yet, while this literature tends to focus on the connection between the urban and the rural, it ignores the connections and linkages that actors in SMSTs form. There is scant evidence that enterprises in SMSTs form strategic relationships in order to access relevant knowledge. Meili (2019) examined five multinational corporations in SMSTs in Switzerland and compared them to domestically oriented firms in terms of their knowledge acquisition strategies. The linkages that these corporations form take on different forms such as client feedback, recruitment of national and international employees, links to research institutions and universities as well as attending fairs, conferences and workshops. The linkages constitute pipelines in global networks (Bathelt et al., 2004), yet the local buzz in the small-town is missing for these firms and there is a certain compensation strategy involved when accessing non-local sources of knowledge.

Some researchers have called the small and medium-sized context a medium-interaction environment (Doloreux and Shearmur, 2012; Meili, 2019). Such medium-interaction environments do not provide a sufficient local innovation system, which supports the creation of ideas independent of external influences. Rather, in a medium-interaction environment, local actors such as firms can easily access non-local factors of innovation because they have the competencies and connections. Yet, as Shearmur (2012, p. 126) states, there can be SMSTs that can generate local buzz, but this 'is not complemented by easy interaction with outside actors'. They stand in isolation of other (sometimes more innovative or entrepreneurial) places and their development lags behind.

There are numerous questions associated with the ability of actors in SMSTs to reach non-local sources of knowledge. One large question is related to policy and the nature of support that actors would need or would want to receive in order to access non-local sources of knowledge. How should economic development policy support external linkages? How can policy support the uptake of outside knowledge and thereby address organizational capacities of local firms in the small-town economy? Scholars of innovation and entrepreneur-

ship could study the types of network actors form to the outside versus those that they form to the local economy. Many aspects of operating a business involve connections to the local economy. Knowing more about what firms can or cannot find in the local economy in terms of partners, knowledge, inputs, etc. is important because only then can we assess to what extent innovation also leads to the development of the local economy. Another line of inquiry is related to a more comparative approach. It would be interesting to take up Shearmur's idea of medium-interaction environments and compare differently situated SMSTs. Are some more able to connect to the outside while others draw more on local buzz? In what ways does a medium-interaction environment that has a high degree of local interaction but a low degree of accessibility and connection to non-local actors change towards more interaction to the outside while at the same time keeping up the local buzz?

Going beyond patents and technology

Innovation is often considered monolithic as a dynamic that leads to new products or technologies. As a result, our perspective on innovation is biased towards new technologies that can be patented and that lead to economic growth. Yet, there is increasing evidence that the notion of innovation needs to be broadened to also include innovation processes that do not yield new products or technologies. For example, social innovations need to be considered as they can play a significant role in the development of new solutions to existing challenges. Social innovations can be defined as new forms of individual or organization cooperation that can help solve existing social challenges (Ayob et al., 2016; Tschumi et al., 2021). While there has been extensive research on the role of social innovations in rural development (Bock, 2016; Neumeier, 2012), less has been written about the role of social innovations in the SMST context. One exception is the study by Sept (2021), which shows that the membership of select SMSTs in Germany and Italy in the network of Slow Cities helped these towns to take on a different development perspective, namely one of slowing down and putting quality of life first and foremost on the agenda. Thus, the social innovation led to a revised notion of what constitutes a good life in the towns under investigation. Sept's work points towards alternative development paradigms that are brought about by innovation in social behaviour and organization, and which result in revised spatial planning visions.

A similar notion is embedded in the concept of slow innovation, which might prove to be a fruitful avenue for further research in the context of SMSTs. Slow innovation refers to innovative processes that do not depend on imme-

diate face-to-face interaction in a high-interaction (often urban) environment. Rather, slow innovation refers to innovation processes that depend on knowledge that is not time-dependent and does not lose its value rapidly. It also refers to processes that involve a lower frequency of interaction with external innovation partners and to processes that involve a strategic search for new information and knowledge. Some authors illustrate that slow innovation can be a viable process in peripheral locations as the innovation actors do not depend on high frequencies of interactions, tend to be more introverted, etc. (Shearmur, 2017; Shearmur and Doloreux, 2016). In my own work, I have explored slow innovation processes in peripheral locations in the European Alps and found that not only are knowledge generation processes ‘slow’, but also that ‘slowness’ in the sense of deceleration and the focus on meaning of work, community, etc. are important elements of innovators (Mayer, 2020).

The latter insights might point to possibilities of future studies regarding different types of innovation processes in SMSTs. Why not focus on the social meaningfulness of innovation and the driving motivation of innovative actors in SMSTs? And how about questions related to the bright and dark sides of new product and technology innovations? Given the increasing awareness about the fact that innovation dynamics may also induce negative development (Coad et al., 2021), such questions seem to be quite relevant. In addition, one might wonder to what extent non-radical, process-oriented innovation processes that occur further away from large cities (Duranton and Puga, 2001) in fact lead to more just development.

Small-town entrepreneurial ecosystems

Much of the empirical research on entrepreneurship in recent years has focused on the concept of entrepreneurial ecosystems. Entrepreneurial ecosystems can be defined as ‘a set of independent actors and factors coordinated in such a way that they enable productive entrepreneurship within a particular territory’ (Spigel, 2020, p. 5). It is assumed that new companies – particularly high-growth firms – benefit from a supportive entrepreneurial ecosystem in terms of a variety of factors (material, social, cultural, etc.) and that cities or regions benefit from the development of such ecosystems. Entrepreneurship is thus context-sensitive and is influenced by aspects of place and space (Stam and Welter, 2020; Welter, 2011).

How can we embrace the concept of place and space in studies of entrepreneurship in SMSTs? With the focus on entrepreneurial ecosystems, we are

able to incorporate such a contextual dimension in entrepreneurship studies. The work by Roundy (2017) is quite insightful here as he applied the entrepreneurial ecosystem concept to the small-town context. He defines a small-town entrepreneurial ecosystem as a 'community of individuals, social structures, institutions and cultural values, located in a city of limited reach, scope or size, whose interactions produce entrepreneurial activity' (Roundy, 2017, p. 240). Recognizing that small towns can host high levels of entrepreneurial activity, Roundy traces the strengths and limitations of such an ecosystem. He argues that while small towns lack a deep labour pool, their entrepreneurs find strategies to leverage non-traditional educational institutions (e.g. community and technical colleges) and they are able to attract talent from the outside due to attractive living conditions and location advantages stemming from the town's smallness. While small towns have smaller markets and thus entrepreneurs are more limited in terms of finding customers, entrepreneurial strategies engage in initiatives that try to overcome these market limitations (e.g. accessing a limited number of consumers who are nevertheless quite loyal). While networks are smaller, they may be more dense and stronger in the small towns and entrepreneurs can leverage these advantages when it comes to making important connections. Also, the entrepreneurial support infrastructure in small towns will be developed. Yet, a small-town context may offer advantages and entrepreneurs may reach outside the town into the region to access support services. Small towns can be advantageous because success stories can be communicated better and the community may be more able to quickly and more easily develop a narrative in support of entrepreneurship. While many aspects of the small-town context seem to limit entrepreneurship, Roundy turns our attention to the ways in which successful entrepreneurs may be able to leverage small-town location advantages.

While Roundy's work focuses extensively on the compensation strategies of entrepreneurs when they find themselves in the context of SMSTs, not much has been written on the ways in which entrepreneurship indeed works in SMSTs. Perhaps there are thresholds to the material, social and cultural attributes of the entrepreneurial ecosystem and perhaps these thresholds depend on the size of the urban area as well as its location in relation to other larger or smaller urban areas. One could ask whether entrepreneurial ecosystems in SMSTs also benefit from borrowing size or whether they suffer from agglomeration shadows. Connecting theories stemming from entrepreneurship studies with those from regional development and economic geography might be a promising way to go forward and overcome the theoretical limitations of the entrepreneurial ecosystems approach. Moreover, we would also be able to answer the question put forward by Malecki if the entrepreneurial ecosystem

approach is the right concept for all kinds of regions as this is far from clear (Malecki, 2018).

Conclusion

Given that innovation and entrepreneurship are important explanatory variables when it comes to studying the development of SMSTs, we must incorporate a focus on these issues in our studies of smaller urban places. This means that we take the issue of scale more seriously. Innovative and entrepreneurial actors are connected to their interlocutors at different scales and they embed their activities locally. Yet, in many cases it is unclear to what extent this embeddedness does indeed lead to local development. Analyses need to go beyond mere descriptions of the locational factors that are present or not in the SMSTs. Research would need to focus on explanations as to whether and to what extent embeddedness in the local context and connectedness to the regional, national or global scale leads to local development. In this sense, a comparative perspective is important and research would need to compare and contrast different types of SMST and going beyond the single case study (Döringer, 2020).

Deficiency-oriented conceptions of innovation and entrepreneurship in studies of SMSTs tend to overemphasize smallness as a liability and there is a widespread focus on the compensation strategies of actors in these contexts. Such perspectives may arise from an 'urban bias' that obscures the actual circumstances. These perspectives may come from a perspective on SMSTs as islands of innovation rather than nodes in networks with actors who cross different spatial scales.

Suggestions for further reading

Knox, P. and Mayer, H. 2013. *Small-town Sustainability: Economic, Social, and Environmental Innovation*. Basel: Birkhäuser.

This book conceptualizes small and medium-sized towns as resourceful and resilient places. We review small-town efforts that aim at developing alternative sustainable visions for the towns, their citizens, politicians and businesses. The underlying notion of sustainability is comprehensive and incorporates a social, ecological and economic perspective. A wealth of illustrations such

as maps and photos illustrate and convey numerous examples of small-town programmes and initiatives.

Marques, P. and Morgan, K. 2021. Innovation without regional development? The complex interplay of innovation, institutions, and development. *Economic Geography*. **97**(5), 475–496.

This paper asks the critical question why innovation activities or the presence of such does not always lead to regional development particularly in less developed contexts. The paper is very useful to scholars of small and medium-sized towns because the authors help us go beyond merely counting the number of actors in a local innovation system and focusing on the quality of capabilities of innovative and entrepreneurial actors. Through configurational theorizing (rather than correlational theorizing), they highlight the interplay between organizational capabilities and innovation outcomes or lack thereof.

Sept, A. 2021. ‘Slowing down’ in small and medium-sized towns: Cittaslow in Germany and Italy from a social innovation perspective. *Regional Studies, Regional Science*. **8**(1), 259–268.

Ariane Sept examines German and Italian small towns that are part of the Cittaslow movement. She utilizes the concept of social innovation to illustrate how a strategy to slow down can bring new impulses. Through her focus on a much wider notion of innovation, she is able to illustrate how in a small-town context, slowing-down strategies can work towards increased quality of life.

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