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Entrepreneurial Ecosystems in Poland: Panacea, Paper tiger or Pandora's Box?

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ABSTRACT:

The purpose of this paper is to critically examine the role of public policy in the formation of entrepreneurial ecosystems in Poland.

The paper assumes a qualitative approach to researching and analysing how public policy enables and constrains the formation of entrepreneurial ecosystems. The authors conducted a series of focus groups with regional and national policy makers, enterprises and intermediaries in three Polish voivodeships (regions) - MaÅ‚opolska, Mazowieckie, Pomorskie.

The paper finds that applying the entrepreneurial ecosystems approach is a challenging prospect for public policy characterised by a theory-practice gap. Despite the attraction of entrepreneurial ecosystems as a heuristic to foster entrepreneurial activity, the cases highlight the complexity of implementing the framework conditions in practice. As the Polish case demonstrates, there are aspects of entrepreneurial ecosystems that are beyond the immediate scope of public policy.

The results challenge the view that the entrepreneurial ecosystems framework represents a readily implementable public policy solution to stimulate entrepreneurship and entrepreneurial growth. Insights are drawn from three regions, although by their nature these are predominantly city-centric, highlighting the bounded geography of entrepreneurial ecosystems.

CUST_PRACTICAL_IMPLICATIONS__(LIMIT_100_WORDS) :No data available.

CUST_SOCIAL_IMPLICATIONS_(LIMIT_100_WORDS) :No data available.

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Findings

The paper finds that applying the entrepreneurial ecosystems approach is a challenging prospect for public policy characterised by a theory-practice gap. Despite the attraction of entrepreneurial ecosystems as a heuristic to foster entrepreneurial activity, the cases highlight the complexity of implementing the framework conditions in practice. As the Polish case demonstrates, there are aspects of entrepreneurial ecosystems that are beyond the immediate scope of public policy.

Research limitations/implications

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Introduction

Entrepreneurial ecosystems have become popular over the past decade. The term has gained visibility in academic and policy debates, and is now well established within the entrepreneurship vernacular, especially in relation to regional economic development and entrepreneurship-led growth (Mason and Brown, 2014; Stam, 2015; Spigel, 2017; Audretsch et al., 2018; O'Connor et al., 2018; Schäfer and Henn, 2018). The entrepreneurial ecosystem concept has captivated the attention of policy makers due to their relatively recent association with the evolution of high growth firms and employment creation (Mason and Brown, 2014). The broad and systemic nature of the ecosystem approach also holds appeal as it is not reliant on picking winners or sectoral favouritism. In fact, most interpretations argue for a more politically neutral strategy of encouraging diversity in firm size, sectors, and policy interventions to the extent that entrepreneurial ecosystems are typically geographically bounded. The empirical focus of recent research has tended to be sub-regional (Audretsch and Belitski, 2017; Spigel, 2017; Schäfer and Henn, 2018), often centring on cities as the scale at which entrepreneurial ecosystems are operationalised. As such, this approach has been seen as a tool to mitigate inter-regional disparities and as prescriptions for lagging regions.

Despite the prevalence of entrepreneurial ecosystems in the literature and its increasing application in policy circles, the concept remains comparatively poorly defined (Alvedalen and Boschma, 2017; Audretsch et al., 2018). While there is no consensus as to what constitutes an entrepreneurial ecosystem, Spigel (2018) refers to a collection of cultural, social, and material elements that support entrepreneurial growth. The recent emergence of entrepreneurial ecosystems as part of regional economic development strategy has led to questions around the extent that public policy is able to meaningfully support their development. This article focuses on challenges in the application of the entrepreneurial ecosystems approaches in three Polish voivodeships (regions) of Małopolska, Mazowieckie, Pomorskie, and the core cities of Kraków, Warsaw and the Tri-City of Gdańsk-Gdynia and Sopot.

The case of Poland represents how the entrepreneurial ecosystems approach is being used as a hook for broader projects related to smart specialization and regional diversification that give it important access to EU funding and address complex social and economic issues around outward migration other countries and inward low-skilled migrants from neighbouring nations. These three cities, situated in the north, capital, and south of the country (and three of the largest regional economies in the country) provides an insight into how the search for entrepreneurship-led growth is being adopted and the challenges which are faced by this approach. Given the political impetus in Poland to deliver entrepreneurship-led growth, the main objective of this paper is to examine the implications and efficacy of policy-led entrepreneurial ecosystems in delivering regional economic development strategies. It argues that Polish attempts to foster entrepreneurial ecosystems have enjoyed some notable but qualified successes. While policy has resulted in an increase of entrepreneurial *activity* it has not been as successful in anchoring a robust and productive entrepreneurial *ecosystem*.

The ecosystems framework remains 'fuzzy' as an academic concept and requires further development, yet it has been readily embraced by policy makers to support

entrepreneurial-led growth. This paper explores the challenges associated with pursuing ecosystem-led approaches to foster entrepreneurship, examining the application of the entrepreneurial ecosystems approach in three Polish regions. The paper explains the prevailing theory-practice gap as a result of the theory of ecosystems being somewhat different from the realities of ecosystems in practice. As opposed to entrepreneurial ecosystem being a 'panacea' for growth, the reality is more akin to a 'paper tiger' where the ecosystem is weak and ineffective and ultimately leads to a situation that is tantamount to opening Pandora's box as opposed to a strategic policy approach. By demonstrating the importance of informal institutions in shaping entrepreneurial ecosystems, in particular the relationships between different stakeholders, the paper contributes to the somewhat neglected institutional dimension of entrepreneurial ecosystems as well as developing new insights in a Polish context.

The remainder of the paper is structured as follows: Section 2 briefly reviews the literature on entrepreneurial ecosystems and explores some key conceptual gaps and their implications for public policy. Section 3 outlines the empirical context and research design. Section 4 presents the study's findings discussed in three sub-sections. The first focuses on the degree to which entrepreneurial ecosystems have been perceived as a broad solution for multiple growth-related policy issues (the panacea). The second presents the successes and shortcomings of the application of entrepreneurial ecosystems approaches in the three regions (the paper tiger). The final discussion section explores the consequences of promoting a public policy-led approach (opening Pandora's box). Section 5 then concludes, reflecting on and making recommendations about the role of public policy in promoting entrepreneurial-led growth.

Literature Review/Conceptual Framing

Entrepreneurial ecosystems

Rooted in ecological systems thinking, the concept of entrepreneurial ecosystems has gained both academic and policy traction in recent years as a framework for understanding the nature of places in which entrepreneurial activity occurs (Li et al., 2015; Acs et al., 2017; Audretsch et al., 2018). An early definition of what an entrepreneurial ecosystem constitutes was provided by Cohen (2006, p.3) who defined it as 'an interconnected group of actors in a local geographic community committed to sustainable development through the support and facilitation of new sustainable ventures'. The concept, however, developed rapidly, and definitions now integrate a range of factors that are seen to shape the nature of entrepreneurial practice. Spigel (2017, p.50), for example, defines entrepreneurial ecosystems as 'combinations of social, political, economic, and cultural elements within a region that support the development and growth of innovative start-ups and encourage nascent entrepreneurs and other actors to take the risks of starting, funding, and otherwise assisting high-risk ventures'.

Providing a holistic approach to promoting entrepreneurial activity (Audretsch and Belitski, 2017), the concept has gained popularity in policy circles (Isenberg, 2010; Mack and Qian, 2016). Stam (2015) notes that while regional policies are currently experiencing a

transition from a focus on quantity to a focus on the quality of entrepreneurship, the next phase will see a transition from entrepreneurship policy towards policy for an entrepreneurial economy based on the entrepreneurial ecosystems framework. Isenberg's model of entrepreneurial ecosystems, for example, is inherently policy-oriented, providing a holistic framework to guide policy makers in developing entrepreneurial ecosystems (Isenberg, 2011). Grouping the different elements that make up an entrepreneurial ecosystem into different dimensions, namely policy (government and leadership), finance (funding infrastructure), culture (success stories and societal norms), supporting infrastructures (government institutions, support professions, and physical infrastructure), human capital (labour markets and educational infrastructure) and markets (early customers and networks), Isenberg argues that policy makers should aim to support all dimensions at the same time in order to stimulate new business creation (Isenberg, 2010).

Therefore, Isenberg's model was developed with policy makers specifically in mind. Published in the *Harvard Business Review* and provocatively titled "How to Start an Entrepreneurial Revolution", the model may be deceivingly appealing to policy makers given its attempt to simplify and reduce the complex ideas and interactions inherent in entrepreneurial ecosystems to a series of questions and checklists. As a corollary, this apparently 'ready to implement' and all-encompassing 'recipe' makes it tempting for policy makers to view entrepreneurial ecosystems as a panacea for promoting entrepreneurial-led growth. The uptake of the concept by governments around the world and its connection to other popular policy concepts, such as smart specialization, has increased policy interest in this approach. However, Isenberg also cautions that 'everyone trying to build an ecosystem should keep in mind that the work is never really done … and there is no choice but for policy makers and leaders to continue to experiment and learn how to enhance their ecosystems' (pp. 10-11), thereby acknowledging the limitations of framework and, critically, the need for further development and policy experimentation to enhance and tailor the approach rather than readily embracing it as a panacea.

Lingering gaps in entrepreneurial ecosystem conceptualisation

There are several issues with the concept which have more recently attracted critique in academic circles, and which makes it problematic to readily apply the concept in developing entrepreneurship policy to promote regional economic development (Alvedalen and Boschma, 2017). A general critique of entrepreneurial ecosystems is the under-theorisation of the concept, specifically the lack of clarity, its superficiality and how it distinguishes itself from other similar concepts such as clusters and regional innovation systems (Stam and Spigel, 2017; Audretsch et al., 2018; O'Connor et al., 2018). In addition, current models have been criticised for failing to specify the interdependencies between the different elements of an entrepreneurial ecosystem as well as for being static and doing little more than providing a list of ingredients with no sense of their relative importance over time (Stam, 2015; Mack and Mayer, 2016). Critically, the performance of entrepreneurial ecosystems is contingent on the interaction between three key components, namely individuals, organizations and institutions (Alvedalen and Boschma, 2017).

In fact, institutions occupy a somewhat paradoxical position on the pantheon of factors that underpin entrepreneurial ecosystems in that their importance is both over- and under-appreciated in theoretical literature and practice. While some, such as Mack and Mayer (2016), argue that little consideration has been given to the institutional context in which entrepreneurial ecosystems emerge and evolve, and while others note that they have been somewhat neglected in entrepreneurship research more generally (Welter, 2011), the dominant view is that institutions are one of foundations of the ecosystem. That said, there is a tendency to overemphasize the role of *formal* institutions even if the importance of informal institutions is well-recognized. This tendency is even more pronounced in practice.

The importance of institutions for entrepreneurial ecosystems is highlighted by Acs et al. (2014, emphasis added) who define entrepreneurial ecosystems as "a dynamic, *institutionally embedded* interaction between entrepreneurial attitudes, ability, and aspirations, by individuals, which drives the allocation of resources through the creation and operation of new ventures". In this context it is institutions that allocate efforts between productive, unproductive and destructive entrepreneurial activity (Baumol, 1990). Indeed, Acs et al. (2018) highlight the interdependence between entrepreneurship and institutions in driving economic growth. Therefore, institutions can be regarded as the foundation on which entrepreneurial ecosystems emerge, with Stam (2014) regarding formal institutions along with culture and norms as two of four framework basic conditions of an entrepreneurial ecosystem. According to North (1990), there are two types of institutions, namely formal and informal institutions which provide the payoff structure that shapes economic incentives and thus guides socio-economic behaviour. As such, institutions such as laws, norms and cultural attitudes can enable or constrain interactions between individuals and organisations (Huggins et al., 2012).

Formal institutions are the written down or formally accepted rules and regulations that shape the economic and legal framework of a society (Tonoyan et al., 2010). Examples include property rights and contracts (Pejovich, 1999). Originating at the state level (Welter and Smallbone, 2011), they influence economic incentives and the payoff structure. As such, formal institutions can be shaped to create 'opportunity fields' for entrepreneurship (Welter and Smallbone, 2011). The state can thus act as an agent of change in encouraging productive entrepreneurship (Smallbone and Welter, 2012). Testing Baumol's theory, Sobel (2008) shows that states with higher quality formal institutions foster higher levels of net entrepreneurial activity as well as more productive entrepreneurship.

At the lower level of formal institutions, governments intervene to address market failures through different policies (Acs et al., 2016). Enterprise policy, for example, is often the vehicle whereby governments attempt to influence the institutional environment and the outcomes of entrepreneurship at different geographical levels (Minniti, 2008; Huggins and Williams, 2009; Williams and Vorley, 2017). This can be in the form of national-level interventions such as reducing financial constraints, attracting venture capital, and manipulating taxes, local-level interventions such as start-up support, business incubators and R&D subsidies (Minniti, 2008), and regional interventions, such as promoting clusters to generate a positive impact on regional entrepreneurship (Rocha and Sternberg, 2005). An entrepreneurial ecosystems approach often focuses on aspects of these types of institutional

interventions, albeit with an emphasis on the systemic relationship between what are often perceived as discrete elements. However, the role of informal institutions is a fuzzily-defined dimension of the ecosystems approach.

As unwritten rules that include traditions, customs, norms, values and conventions (North, 1990; Acs et al., 2008), informal institutions are socially ingrained and thus more difficult to change (Smallbone and Welter, 2012; Bathelt and Glückler, 2014). In the literature on enterprise development and entrepreneurial ecosystems these are often subsumed under rubrics of regional "culture" or "networks" or "trust". These terms that are generally weakly operationalised in research become even more poorly understood and engaged with in practice. The result is that, in ecosystem policy, informal institutions - however they are defined - are, at best, the subject of very generalized policies aimed at building culture or civic capital or are, more often, reduced to buzzwords that need to be "strengthened" or "fostered" without substantive recommendations.

Furthermore, there is a need to consider the scale at which entrepreneurial ecosystems emerge. As Isenberg (2011) notes, the different elements of an entrepreneurial ecosystem interact in complex and specific ways which results in unique configurations across places. Institutions themselves vary across geographical scales as they can be more supportive in some regions than in other, and this is reflected in the spatial variation of entrepreneurial activity across regions and different regional development paths (Mueller et al., 2008; Gertler, 2010; Fotopoulos, 2014; Mason et al., 2015; Fotopoulos and Storey, 2017). Therefore, entrepreneurial ecosystems are geographically bounded as different actors and factors interact in specific ways in different settings, producing different outcomes (Alvedalen and Boschma, 2017; Audretsch and Belitski, 2017). An important consequence of this is a need to get scale right in policies aimed at deepening entrepreneurial ecosystems. The appropriate scale of intervention will be highly contingent on regional factors and will, often, not correspond neatly to political and jurisdictional boundaries. Another related implication is that interventions should be tailored to specific geographical contexts. While these factors are often overlooked in the literature on entrepreneurial ecosystems they pose particular challenges in practice. Policy makers, particularly at the national scale, need to be sensitive to the question of scale and resist the tendencies towards one-size-fits-all approaches.

Finally, the concept of entrepreneurial ecosystems aims to explain the how different actors and factors that interact to enable productive entrepreneurship, largely understood as high-growth businesses (Stam, 2015; Stam and Spigel, 2017), as opposed to entrepreneurship more generally which includes new start-ups and self-employed (Alvedalen and Boschma, 2017). As such, the focus is *high quality entrepreneurship*, or what Hermans et al. (2015, p.128) refer to as 'ambitious entrepreneurship', which refers to 'entrepreneurs who expect to extensively grow their firms in terms of job creation', and who engage in the entrepreneurial process 'with the aim to create as much value as possible' (Stam et al., 2012, p.40). However, productive entrepreneurship is also an outcome of the formal and informal institutions that govern socio-economic behaviour in a particular place (Baumol, 1990). Therefore, both geography and institutions matter to the development of entrepreneurial ecosystems. In this context, there is the danger that, without consideration of the institutional context and of the

scale of interaction of the elements that shape an entrepreneurial ecosystem, public policy attempts to support the development of entrepreneurial ecosystems will prove counterproductive and lead to the promotion of unproductive entrepreneurship with limited growth potential.

As with any emerging policy approach, there are many pitfalls and there is potential for misapplication. Here, we have highlighted a selection that stem from the still evolving state of research in this area. These emerging and contested areas of scholarship, in turn, magnify the difficulties inherent in translating theory into practice. We argue that it is, therefore, appropriate to study how entrepreneurial ecosystems have been adopted into policy in order to gain a critical understanding of the limits of policy and the barriers to effective implementation.

Methodology

Focus of the study: Poland

As a country, Poland has undergone a period of major economic transformation over the past 25 years, during which time the economy has been subject to technological upgrading through its exposure to free market international competition (Baaken et al, 2014). The empirical focus of the study is Poland, a Central European country with a population of 38 million people, a Gross Domestic Product (GDP) per capita of $29,600 (GEM, 2018). Poland is the 6th largest economy in the EU, ranking 45th in the Index of Economic Freedom globally, and 21st regionally, with a generally business-friendly regulatory environment and a market-oriented economy (The Heritage Foundation, 2018). With regard to doing business in Poland, the country ranks 33rd in terms of ease of doing business and 121st in terms of starting a business out of 190 economies (World Bank, 2019). The GEM (2019) paints a paradoxical profile of Poland in terms of entrepreneurship, with asymmetries between improved self-perceptions and societal values about entrepreneurship on one hand and actual entrepreneurial activity performance on the other hand, which shows that entrepreneurial activity in Poland has steadily decreased between 2016 and 2018. The improvement in the social perception of entrepreneurship, an indicator that has been historically low in Poland, is also the result of government initiatives to support entrepreneurship (GEM, 2019). For example, in 2016 the number of Poles stating that they are willing to set up a business was almost twice as high as the EU average (Tarnawa et al., 2017). However, the rather low entrepreneurial activity performance that saw fewer people starting or running businesses in 2018 is somewhat paradoxical but could be explained by growing wages and demand for workers which provide good alternative to owning a business.

Interestingly, a report by the Polish Agency for Enterprise Development (PARP) and University of Economics in Katowice prepared from the Global Entrepreneurship Monitor actually refers to the determinants of entrepreneurship in Poland thorough the entrepreneurial ecosystems framework (Tarnawa et al., 2017), thereby providing an indication that the ecosystem approach has been embraced by policy makers in Poland to help facilitate and structure their approach towards promoting entrepreneurship. Therefore, Poland provides an

interesting case study as it appears that entrepreneurial activity is driven by policy-led, with the Polish government attempting to foster more entrepreneurship by introducing programmes that more directly address issues in the Polish entrepreneurial ecosystem (Tarnawa et al., 2017). Table 1 illustrates the entrepreneurial framework conditions characterising Poland and Table 2 highlights the key indicators that make up Poland's entrepreneurial profile.

Table 1: Entrepreneurial framework conditions in Poland

Indicator	**Value/9**	**Rank/54**
Government policies		
Support and relevance	4.88	15
Taxes and bureaucracy	3.15	44
Entrepreneurship programmes	31.1	29
Cultural and social norms	4.84	28
Entrepreneurial finance	5.24	9
Entrepreneurial education		
At school age	2.73	36
Post-school age	4.03	43
Physical infrastructure	7.22	9
Internal market		
Dynamics	6.71	4
Burdens or entry regulation	4.29	26
R&D transfer	3.77	32
Commercial and legal infrastructure	4.98	32

Source: GEM (2019)

Table 2: Poland's entrepreneurial profile

Indicator	**Value**	**Rank/49**
Self-Perceptions About Entrepreneurship		
Perceived opportunities	68.5	6

Perceived capabilities	46.6	29T
Fear of failure	31.1	33
Entrepreneurial intentions	9.5	39
Activity		
Total early-stage entrepreneurial activity (TEA)		
TEA 2018	5.2	46/49
TEA 2017	8.9	34T/54
TEA 2016	10.7	30/65
Established business ownership rate	13.0	7/49
Entrepreneurial Employee Activity – EEA	1.9	34T/49
Motivational Index		
Improvement-Driven Opportunity/Necessity Motive	6.6	4
Entrepreneurship Impact		
Job expectations (6+)	11.5	38
Innovation	12.2	46
Industry (% in Business Services Sector)	20.1	17
Societal Value About Entrepreneurship		
High status to entrepreneurs	76.3	15
Entrepreneurship a good career choice	85.9	3

Source: GEM (2019)

The specific focus of the study is on three Polish regions that are economic centres of the country, namely, Małopolska, Mazowieckie, and Pomorskie. These areas were chosen for their geographical location (Małopolska in the south, Mazowieckie in the central regions, and Pomorskie in the north) and their economic contribution. In the case of Mazowieckie, the region generates 22.14% of the national GDP, with GDP per capita around 60% above the national average. The Małopolska region contains the cultural and commercial centre of southern Poland in the city of Kraków. In terms of GDP, Kraków is the second largest city in Poland behind Warsaw, is a significant destination for tourism, and attracts foreign workers from nearby countries such as Ukraine and Germany. Kraków is the focus of most innovation and R&D-led activity in the region and acts as a regional metropolitan centre.

In terms of GDP, the Pomorskie region ranks in third place in Poland behind the Mazowieckie and Małopolska regions. The region also ranks fourth in terms of 'innovative potential' and is categorised as a 'moderate innovator' according to the European Commission's regional innovation scoreboard. Concurrently, the region has relatively low

innovativeness compared to western European nations, but this is relatively high compared to the rest of Poland. The Pomorskie region also has a relatively high share of financing from the private sector towards R&D (48.4% of total R&D expenditure) (JRC, 2018).The region's Tri City area, incorporating Gdańsk, Gdynia and Sopot, is the main industrial centre of the Pomorskie region, featuring two major ports which have shaped the region's industrial history through trade and shipbuilding.

Focus Group as Methodology

The use of focus groups is an established research methodology. Focus groups have the practical advantage of enabling data collection from multiple participants in one single sitting and location and allows for individuals to express repeated and shared concerns (Onwuegbuzie et al. 2009). In addition to efficiency, the social nature of focus groups can yield more spontaneous answers (Butler, 1996) and yield important data by observing interactions between participants (Moran, 1988) and the similarities and differences in their reactions to different provocations. We employed as series of focus groups designed to unite different categories of actors to permit observation of variations in results and vet the validity of positions across the population. Each focus group centred on a specific group of actors. This enabled us to ask targeted questions and elicit more frank discussions about common challenges than a more mixed design would have yielded. This method was particularly effective in eliciting a large amount of corroborated data about the experiences of actors within geographically-bounded places within a short period of time.

The research was carried out through a series of focus groups which were hosted in the three largest cities in each region, Kraków (Małopolska), Warsaw (Mazowieckie), and Gdańsk (Pomorskie). At each location, 14 focus group panels with 4-5 people on average per panel were conducted over a period of 8 months. The focus groups were selected based on regional stakeholders identified through collaboration with the Organisation for Economic Co-operation and Development (OECD) and the regional governments. Table 3 summarises the focus group participants who, given the nature of their employment as well as economic and political positions, are anonymised.

Table 3: Focus groups for the study across three sites

Focus Group Panel Composition	**Kraków**	**Gdańsk**	**Warsaw**
Regional Government Officials	■	■	■
Labour Office Representatives	■	■	■
Regional Planning Officers		■	
Chambers of Commerce and Business Associations Representatives	■	■	■
University Leaders		■	■
Science and Technology Park Representatives	■	■	■
Incubators and Accelerators		■	■
Venture Capitalists and Finance Networks	■	■	
Businesses from Key Sectors			
ICT	■	■	
Aviation			■

Maritime			
Energy			
Construction			
Engineering			
Transport			
Education			
Business Process Outsourcing/Services			
Smart Specialization Experts			
Entrepreneurs in Smart Specialization sectors			
Key business actors (SMEs, large business)			
Local economic experts/advisors to Voivodeship			

Each focus group were asked a series of questions around three thematic areas. The first focused on the perspectives and experience of the stakeholders by focus group towards the existing entrepreneurial ecosystem. The second focused on challenges and opportunities relating to the different dimensions of the ecosystem as they are characterised by the academic literature. The third explored the relationships and interdependence between different dimensions, and the overall coordination of the entrepreneurial ecosystem and its development to ensure its impact across the different public and private stakeholders of which they are comprised. At the end of the sessions the participants were given the opportunity to mention other issues they understood as pertinent to the discussions.

Based on the results generated through these focus groups, the authors undertook a thematic analysis approach to analysing the emerging key themes which addressed the research aim. Due to the nature of the data collection which was undertaken with officials from the OECD, the responses were coded based on notes taken by the authors. Given the inability to record the focus groups, two of the authors present conducted live coding and data analysis (Ongena and Dijkstra, 2006), noting key themes and concepts as the participating individuals answered the questions and discussed the various issues in relation to the questions. Predominantly these the themes and concepts related to elements of the entrepreneurial ecosystem (e.g. policy, finance, knowledge, culture, networks, leadership, talent, infrastructure etc) and dynamics entrepreneurial ecosystem (e.g. trust, collaboration, competitions, conflict, connectedness etc). Subsequently, the authors then grouped these themes and concepts according to how they were referred to, with the three categories emerging through this grounded approach identified as final themes. The three areas, which we refer to in term of entrepreneurial ecosystems as a ‘panacea’, ‘paper tiger’ and ‘Pandora’s box’ are discussed in the following section.

As a methodological approach, live coding is characterised by dynamism and fluidity which, in turn, support insightful and rigorous theorising as coding is used a starting point as opposed to an ending point in analysis (Locke et al., 2016). While live coding as an approach can be criticised on grounds of lower reliability, the presence of two authors in the focus groups ensured that inter-coder reliability is achieved (Ongena and Dijkstra, 2006). As such, the two authors live-coded the answers independently and compared the results, revising and agreeing

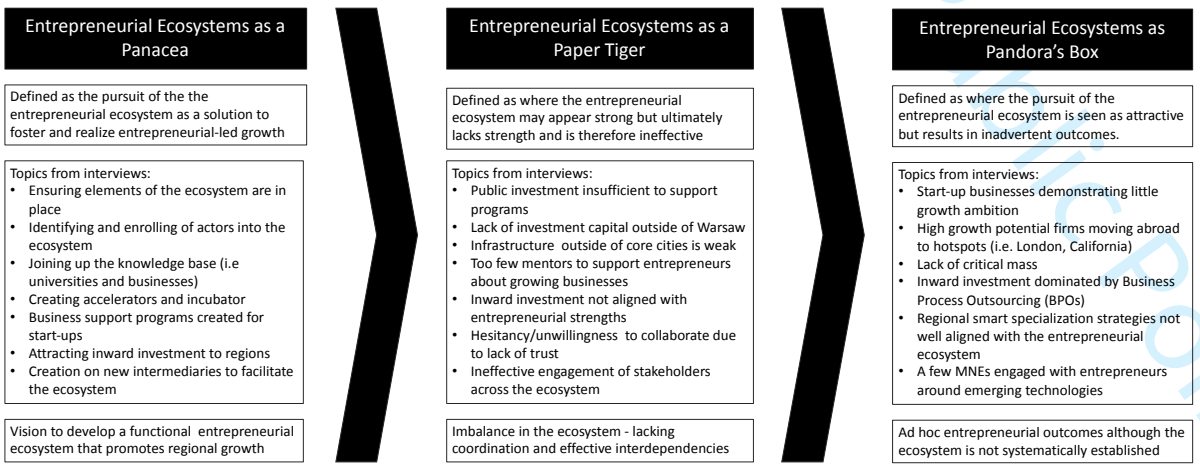
on any discrepancies. Live coding thus enabled the researchers to engage with discovery and validation as mutually constituted (Locke et al., 2016).

Finally, focus group approaches have been critiqued on a number of methodological grounds, most relevantly with respect to their potential to exclude or minimize minority viewpoints and obscure more controversial perspectives. We believe that these limitations can be overcome through group design and sensitive facilitation. By replicating these methods across case studies, we have also been able to triangulate responses to establish common experiences across the population. Finally, we relied on policy documents and secondary sources to design questions and crosscheck responses. By employing this approach, the paper has sought to generate key insights into the perceptions and challenges facing the Polish entrepreneurial ecosystem in the three case study regions.

Discussion

The analysis of the focus groups saw thee distinct themes emerge in the was that the entrepreneurial ecosystems were referred to by the stakeholders participating, which we have come to frame as entrepreneurial ecosystems as a 'panacea', 'paper tiger' and 'Pandora's box'. Figure 1 presents a definition of each of the overarching themes and provides examples of how issues were referred to, as well as what this means for the state of the entrepreneurial ecosystem. Given the commonalities across the three voivodeships, conceptualising entrepreneurial ecosystems in this way also highlights what in other fields what is referred to as a 'theory-practice gap', that is to say that the textbook or theoretical situation does not match the realities of practice. In the context of the entrepreneurial ecosystem, the discussion highlights that while the concept of the entrepreneurial ecosystem offers an attractive panacea, in reality can prove more of a paper tiger where the entrepreneurial ecosystem is weak and or ineffective and, in some instances, proving outcomes more akin to Pandora's box.

Figure 1: Conceptualising ecosystems: The theory-practice gap



A Panacea for Growth?

The development of the Polish entrepreneurial ecosystem has mirrored that of many transition economies in that the institutional barriers to economic growth have become entangled in policy making concerns (Puffer et al., 2010; Aidis et al., 2008). These concerns have revolved around how best to overcome institutional asymmetries between formal and informal institutions and to provide a policy-led approach to boosting economic growth. The entrepreneurial ecosystems framework provides an attractive route for regional policy makers to address the aim of supporting economic growth through implementable pillars mirroring those outlined by Isenberg (2011). In Pomorskie, for instance, the Regional Innovation Strategy, *Pomorskie 2020*, emphasizes a model for competitiveness based on the presence of an entrepreneurial ecosystem and on developing relationships between entrepreneurs, stakeholders and government. The aims of the strategy are to support cooperation among enterprises and to develop entrepreneurship as a driver for economic growth and regional innovativeness. It is a story which is repeated in both Mazowieckie and Małopolska where the regional governments have sought to create an ecosystem through the development of institutional strategies focused on skills, entrepreneurialism, and regional specialization.

The ecosystems approach is seen by regional policy makers as a solution for broader regional issues beyond the generation of entrepreneurial activity. The key components of the Polish ecosystem approach have been driven by the demands of the European Union's Smart Specialization Strategy which aims to diversify regions as a means to increase the knowledge intensity of particular industrial sectors (McCann and Ortega-Argiles, 2016). At a national level, the Polish government has focused on twenty smart specialization areas, with regional governments given the devolved responsibility to focus on regional R&D strengths and to design a second level of smart specializations accordingly. To fulfil the demands of smart specialization, the regional governments have focused on developing entrepreneurial-led growth mirroring the pillars laid out by Isenberg's (2011) ecosystems framework. Specifically, the governments have provided financial incentives for entrepreneurs (through tax breaks in special enterprise zones), sought to develop an infrastructure to enable workforce mobility and productivity, provided support through business advice centres, and developed place marketing campaigns to promote a Polish 'entrepreneurial culture' and to leverage success stories to stimulate interest in entrepreneurship more broadly (see, for example, Skala and Kruczkowska, 2016).

In Mazowieckie, for example, senior regional officials noted the desire to 'diagnose and confirm the development perspective of the ecosystem' and to use entrepreneurship-based policy to address urban-rural disparities in income, start-up rates, and infrastructural improvements. Specifically, the ecosystems approach has been conceptualised as a policy direction to address economic and social disparities alongside echoing the reformist view of entrepreneurship as a tool of poverty alleviation (Sutter, Bruton and Chen, 2018). This was a consistent theme of the focus groups who conceptualised entrepreneurship as a means to bring about social change in peripheral areas of the regions. Whilst policy has tended to focus itself on the cities of Warsaw, Kraków and Gdańsk, the focus groups noted that they saw the ecosystem as a way of upskilling peripheral settlements. In Mazowieckie, where 35% of the

population live in rural voivodeships, and 10% of the economy is based on agriculture, the focus group participants noted their aim to create 'diverse specialization' through a region-wide entrepreneurial ecosystem. For the focus groups in both Mazowieckie and Małopolska, the rural workforce was seen to lack the technical skills for developing enterprise. The broader rural setting was also characterised by one official as being 'beyond economic growth' and thus outside of the scope for focused technical skills programmes.

However, the policy direction in all three regions has been to place the avoidance of economic and social disintegration at the centre of its policies and to tackle the 'weak' social capital of those in the periphery. In Małopolska and Pomorskie specifically, the cultivation of a vibrant start-up scene was perceived as a mechanism to address concerns over immigration and infrastructure, both in terms of providing jobs for incoming migrants from neighbouring Eastern European countries, and as a means to retain graduates in Polish industries. The development of a regional entrepreneurial ecosystem was noted in all three locations as providing a pathway for graduates from universities into more highly skilled jobs and careers with innovative potential. In all three regions, there is a fear that there is a lack of technical skill required to meet the demands of emerging and innovative industries, with most graduates studying liberal arts subjects. However, a strategy which has sought to tackle unemployment by encouraging entry into higher education is not facilitating the vibrant entrepreneurial ecosystem envisaged by the regional governments. The movement of graduates from the state and technical universities in cities such as Kraków, Gdańsk and Warsaw into business process outsourcing (BPOs) and low-skill jobs, means that the human capital of the regions is being directed into lower skilled jobs rather than those driving the economic growth agenda laid out by national and regional government. Baaken et al (2014) highlight the developing relationships and networks between private industry, universities, and regional governments, which represents an important hook for policy makers in promoting entrepreneurship-led economic development. Indeed, in all three locations, the collaboration between universities, industry and regional government was highly visible and promoted as a medium to encourage a more cohesive ecosystem.

Therefore, the ecosystems framework contributes to a sense of coherence and provides a vocabulary of spatial boundedness to the multifaceted components that enable or constrain entrepreneurial activity. The language of ecosystems and start-up activity in all three surveyed regions paid testament to a buzz of start-up activity that could be used to promote networking and knowledge exchange events, and to promote collaboration. At a national level, 55% of Polish start-ups are predominantly in early stage development (development of the product, approaching new users, and formulating business models) (Beauchamp, Kowalczyk and Skala, 2017:35). This is indicative of a presence of early stage entrepreneurial activity across Poland which is mirrored in each of the surveyed regions. Regional governments have latched onto this emergent start-up culture as a signifier of development and growth. In Pomorskie, for example, the Marshal's Office contribute to the European Union's Interreg Europe (iEER) project, Boosting Innovative Entrepreneurial Ecosystem in Regions for Young Entrepreneurs, and supports entrepreneurial activity through mentoring and networking. The labelling of these activities as an ecosystem provides a neat policy instrument to capture a plethora of activities

and approaches and also to demonstrate regional effectiveness in managing and ordering the ecosystem.

For all three regions, the ecosystem approach, in conjunction with the drive to support EU smart specialization objectives, provided a grid of intelligibility to package and curate regional levels of entrepreneurship. Smart specialization is an important aspect of national and regional growth, and adhering to the smart specialization strategy is a prerequisite to accessing EU funding. The priority areas for smart specialization are intended to promote the alignment of industrial, educational and innovation policies by building on the strengths and comparative advantages of regions. As a strategic approach towards economic development, the process of smart specialization is intended to better target support for research and innovation by identifying the areas of greatest strategic potential nationally and regionally. Intended to be a bottom-up approach to instil greater regional ownership of economic development priorities, adopting a lens of the ecosystem provides policy makers with a vocabulary to interpret and understand targets for intervention and promote regional innovation. However, the extent to which this is currently being achieved is questionable.

The Paper tiger? Weak and ineffective ecosystems

The framing of the smart specialization strategy has meant that the Polish regional governments at the centre of this paper have sought to identify themselves with the wider narrative set by the EU and national government and engage with the regional economic base. The focus on the entrepreneurial ecosystem has been a particular attempt to demonstrate the relevance of regional activity to these smart specializations which are often in areas relating to emerging and high-value technologies rather than the traditional industries which have tended to dominate Polish economic activity in all three regions of this study. As a result, policy makers and stakeholders in all three regions reflected on the incoherence of the entrepreneurial ecosystem. Many of the component parts of a vibrant entrepreneurial ecosystem are present they were not effectively integrated so as to constitute a *system*. This section explores some of the weaknesses that emerged as part of our discussions with local officials and stakeholders. Where concerted attempts were made to connect elements of the ecosystem, these initiatives were isolated or sporadic and, while not unsuccessful, failed to catalyse broader cultural shifts. For instance, high-profile efforts to connect entrepreneurial business and education generated productive partnerships but remained largely bilateral networks. A focus on large regional businesses and MNEs has failed to integrate them into local networks. Finally, major barriers exist in the form of distrust in government support and in peers, at the firm and individual level.

Moreover, there have been some attempts to generate collaboration between higher education and enterprise, especially in Pomorskie. A large medical company has had a fifteen-year collaboration with the Medical University which includes direct recruitment of students and scientific problem-solving services. However, as productive as the partnership has been, it has remained an insular connection between the two actors. Critically, it has primarily focused on joint degree programmes and placements rather than on fostering spin-offs and other activities with the potential to add to the economic growth of the region. The lack of clear

systemic framework to tie the multiple stakeholders together is in part a result of the absence of a critical mass in biotechnology in the region which would allow the evolution of a network of relationships with a broader range of firms.

Indeed, according to the World Bank, Poland does not have 'innovation champions' in the biotech sectors compared to new technologies in automation and robotics which have a large proportion of firms who are innovating and actively consider innovation in their strategic approaches (World Bank, 2015). The focus of the policy on developing smart specializations has meant that the Polish regions have focused on sectors and industries that align with EU directives even when the regional infrastructure is not clearly developed in those areas. The organic development of the AI and robotics clusters in Pomorskie for example, has been borne out of international success stories and consolidated by closer collaboration between large multinational enterprises (MNEs) and local universities and research centres. In Mazowieckie, historical relationships between state-run industries in the defence and energy sectors have created paths for economic activity that are clearly embedded in existing relationships as well as well-formed formal and informal institutional ties. In Pomorskie, there is a similar story with regard to established relationships in the maritime sector. However, these traditional industries are not those which appeal to an entrepreneurial-led economy and are not immediately related to a system of entrepreneurial activity. This means that, when constructing an entrepreneurial ecosystem, policy is in danger of miscommunicating regional strengths by being pigeon-holed into sectoral silos, rather than focusing on specific regional strengths which may not immediately align to the discourse of EU and national government directives.

In contrast, in Małopolska, the greater industrial collaboration between large enterprises, regional and municipal agencies, and universities, has meant that R&D activity in Kraków has begun to bear fruit in terms of innovation activity and more entrepreneurial-led areas. The region, and Kraków in particular, has a high percentage of R&D activity relative to its neighbouring Polish regions. Specifically, Małopolska is strong in the BPO/BSS sector and has attracted numerous entrepreneurs who have sought to capitalize on the high number of universities (23 in Kraków) which provides linguistically-proficient and skilled workers. This trend of supporting BPO services as a form of inward investment began in the 1990s as cheaper labour and the proximity to Western Europe allowed larger enterprises to become attractive propositions to foreign companies looking to outsource 'back office' functions.

However, even this attractive environment has not guaranteed the systemic engagement of growing firms or recent entrants in the ecosystems that support them. A large technological company, originating in Kraków, is one of only a few Polish firms that has successfully established itself globally, and its entrepreneurial orientation has been instrumental to this. In many respects this company is an entrepreneurial organisation par exemplar. The strategy of the firm has been to develop a diverse portfolio of products and a global customer base, competing against more established software providers on price and flexibility. While the entrepreneurial orientation of the company can be chiefly attributed to its leadership and strategy, it has created a flat organisational structure with seven operational divisions and an organisational culture which also allows employees to be intrapreneurial.

This large company has been particularly effective in the development of new intrapreneurial ideas and opportunities supported through the divisional structure implemented by the senior leadership team. As a business, it commits at least 12% of its revenue to R&D activities and the pursuit of innovative projects which totalled 169.1m PLN ($42.6m) in 2016. What is interesting is the extent to which the company is *deliberately disconnected* from the entrepreneurial ecosystems in Małopolska despite having clear entrepreneurial proclivities in the organisation itself. In our focus groups, it was noted that the company did not feel comfortable with the idea of an ecosystem and would not actively encourage an environment in which entrepreneurs would connect with large business, or where the company would look to support this pathway. This view was based on feeling that a focus on direct participation and collaboration with SMEs and entrepreneurs would detract from their core business approach. This is in direct contrast to the regional government who were heavily focused on connecting large regional businesses to SMEs and entrepreneur owner-managers. Regional officials also noted that there were clear mismatches between the regional policy approach to attract larger firms and flagship MNEs as part of an integrated and holistic ecosystem and a sentiment that these larger companies would also potentially 'suck innovation out of lower levels' according to one regional government official. These contradictions and mismatches further undermine the attempt to build a cohesive system of entrepreneurial activity.

Critically, a lack of trust is a major barrier to the effective engagement of firms in the ecosystem. In post-Soviet transition countries such as Poland, social trust and cultural norms have been specifically noted as being prominent barriers to entrepreneurial activity (Williams and Vorley, 2015). Where trust is strongly established in an entrepreneurial culture, relationships between multiple stakeholders can be guided by informal institutions through the formation of sub-networks (Millar and Choi, 2009). These sub-networks provide valuable capillaries to normalise approaches to entrepreneurship and understandings of the challenges and opportunities facing regional economic growth. Yet, trust is not an inevitable outcome to implementing an ecosystems approach to entrepreneurship. The lack of engagement of the Kraków technology company and others are rooted in weaknesses in the development of systemic trust.

The non-participatory nature of the engagement by large firms in the ecosystem stemmed in part from an unwillingness to share information and talent due to mutual suspicion over motives and responsibilities. Entrepreneurs in Mazowieckie, for example, noted their attempts to 'erase thinking' of public offices as 'unfriendly places' and that they were seeking to encourage external investors and Polish entrepreneurs to engage outside of the formal institutional structure. This has occurred through the establishment of incubators and accelerators in Warsaw, and more regular touchpoints through programmes and social events, referred to by one focus group member as 'an ecosystem under construction'. An atomistic and divisive view of the ecosystem precludes the ecosystem from functioning in an effective manner, by hampering the development of coherence and interactions between elements so vital to ecosystem evolution (Stam, 2015; Mack and Mayer, 2016; Alvedalen and Boschma, 2017). This, they noted, was in part due to the distrust and fear of formal institutions, but also the lack of knowledge of officials in being able to help them with their needs. Startup Poland

notes this as a consistently reported issue across Poland, with formally instituted mentoring and networking perceived as lacking (Beauchamp, Kowalczyk and Skala, 2017).

Regional governments have so far lacked an effective strategy to change relationships in the ecosystem in the face of firm mobility and the global scales at which these larger firms operate. As one official in Mazowieckie noted, the 'network is still unconnected in many places', and building an infrastructure to enable better access to finance, to develop social capital and to capitalise on regional talent is being hampered by gaps in the systems of formal support and the informal relationships that pin the ecosystem together. This configuration of issues means that many of the success stories of investment and engagement in the ecosystem, which on the face of it signal a proliferation of entrepreneurial activity, have not yielded high growth for the wider region. This is also due to companies locating and acting regardless of the regional government or 'ecosystem' while facing few incentives to engage unless stimulated by entrepreneurs and firms themselves.

This section demonstrates that, while there have been examples of successes in the development of entrepreneurial activity in Polish regions, success at building entrepreneurial *ecosystems* has been qualified. These examples show how difficult it can be to build broad networks and foster meaningful engagement within systems. In particular, they show that one-dimensional policies—those focused only on certain elements of the ecosystem such as attracting firms or building links between actors—often fail to consider highly contextual and informal barriers. In the cases discussed here these included weak sectoral development, low incentives for local engagement, and a lack of trust at both firm and individual levels. From a policy perspective, these failures may not seem particularly grave. After all, policies often underperform due to unforeseen factors. However, an incomplete application of an ecosystems approach can also have important negative consequences across the economic spectrum. For this reason, we liken entrepreneurial ecosystems to Pandora's box – they are attractive but can provoke a range of unintended consequences.

From the ecosystem to Pandora's box

The unintended consequences which can emerge through a focus on ecosystems should concern regional policy makers. The focus on smart specialization and the volume of entrepreneurial activity has meant that there is a reduced focus on how growth-oriented and productive entrepreneurship can be enabled vis-a-vis increasing the sheer quantity of entrepreneurial activity. Generating a 'buzz' of activity may serve place branding exercises, but they do not equal the inclusive growth sought by regions such as Mazowieckie, Małopolska and Pomorskie. The presence of entrepreneurial activity in the regions alone is not an indicator of the quality and value-adding potential of this activity to regional economic growth targets. There was certainly no sense of how this activity was addressing some of the broader regional needs that the development of an entrepreneurial ecosystem was thought to address.

It was apparent across the focus groups that the policy makers were struggling to curate and bring coherence to the multiple components of the ecosystem. In part, there is an issue of scale, as regional policy makers try to match the needs of a one-size-fits-all policy engendered

by a focus on smart specialization whilst addressing local concerns. Concurrently, entrepreneurial activities are happening beyond the remit of policy such as in the instance of venture capitalists moving out of Poland to neighbouring Germany or across other countries. As the capital city, Warsaw attracts the Polish headquarters of many large MNEs, but this often happens without direct regional policy intervention. For example, a large multinational technology company has now located an entrepreneurial campus in a former vodka distillery which provides a hub for entrepreneurs and start-up founders as well as hosting networking and educational events. The programme ran by this company provides technical guidance on developing apps and hardware, alongside mentoring and business development to support start-up growth. However, this is isolated from other elements of the ecosystem and seems to act independently of policy making and other regional initiatives.

There are clearly contested geographies of the ecosystem with a strong metropolitan focus of the regional governments to entrepreneurial interventions. With a public policy-led entrepreneurial approach, there is an onus on the regional governments to facilitate entrepreneurial-led growth across their regions. It was clear from the focus groups that regional governments did not have any mechanisms to promote entrepreneurship in rural and peripheral areas. In each region, the concentration of entrepreneurial activity is taking place in the metropolitan areas of Warsaw, Kraków and Gdańsk rather than in the peripheral places. This raises issues in terms of whether an entrepreneurship-focused policy is addressing the desires of the regional governments to support growth across these regions. From an institutional perspective, this makes it challenging for the regional government to negotiate the myriad formal and informal links between different places in a region.

Conclusions

The emergence of the entrepreneurial ecosystems concept within academic literature and policy making circles has raised questions on the definition and usage of the term. Stam (2015: 1764) notes that 'the mere popularity of the entrepreneurial ecosystem approach is by no means a guarantee of its profundity. Seductive though the entrepreneurial ecosystem concept is, there is much about it that is problematic, and the rush to employ the entrepreneurial ecosystem approach has run ahead of answering many fundamental conceptual, theoretical and empirical questions'. This paper highlights the theory-practice gap in three Polish regions, depicting how the heuristic of entrepreneurial ecosystems has been adopted as a panacea for growth. The reality, however, is more akin to the paper tiger or Pandora's box, with the outcomes more about place marketing, making sense of a disparate set of demands and activities, and the delivery of regional Smart Specialization strategies.

The adoption of the language of entrepreneurial ecosystems by regional policy makers and other stakeholders in three Polish regions masks the somewhat disparate and uncoordinated approach towards fostering entrepreneurial activity. Whilst Isenberg (2011) argues that ecosystems are more organic forms of activity than they are the product of top-down directives, the weak relationships between formal and informal institutions often precludes a semblance of cohesion and sustainable relationships that are considered fundamental to a vibrant

ecosystem. As a result, there is a very real risk that efforts to stimulate entrepreneurial ecosystems will ultimately be little more than paper tigers, that is to say weak and ineffective. There is undoubtedly entrepreneurial activity taking place in the three regions surveyed, but these tend to a be a product of the drive of individuals who originate from a city (i.e. the large technological company in Kraków), the BPO and call centre functions of large MNEs (in all three regions), or the draw by foreign owned enterprises to tap into the larger urban populations. Policy has, so far, had difficulty engaging these actors in a broader ecosystem resulting in islands of entrepreneurial success rather than the evolution of an environment that promotes and sustains local enterprise growth. In part, this is because strategies towards ecosystem development have been insensitive to local conditions and, particularly, to the impact of informal institutions. Furthermore, the activity tends to be metropolitan-centric and does not serve to meet the needs of peripheral places in each of the regions.

The entrepreneurial ecosystems concept seeks to bring clarity to the nature of causality and emergence of entrepreneurial activity. Whilst this can be used to interpret entrepreneurial activity, this paper has discussed how devotion to entrepreneurial ecosystems approaches and their incomplete interpolation can have unintended consequences – in other words, be a Pandora's Box. This research demonstrated that entrepreneurs require support for financial, networking and resource needs, but these cannot always be met by regional governments alone. In the three regions surveyed, the regional governments found it difficult to integrate the needs of start-ups, the activities of large foreign-owned multinationals and a burgeoning graduate population. Entrepreneurial activity operating outside of regional policy control (often intentionally so on the part of entrepreneurs who are suspicious of formal institutions) may mean that policy is mis-directed or mis-aligned with regional needs. This will have particular ramifications as countries such as Poland who are dependent on EU funding struggle to manage and coordinate the entrepreneurial ecosystem, and as such find it more difficult to meet broader goals and objectives.

The paper demonstrates three key areas for the attention of policy makers. Firstly, the findings show that there is a tendency for people to see themselves as *employees* rather than as *entrepreneurs*, and this does not necessarily mean new venture creation. Upskilling the workforce to promote entrepreneurship as a driver of economic growth is an important policy goal in this regard and a means to reroute jobs from BPOs to more value creating sectors. Even within large organisations, the value of entrepreneurially-oriented employees is that they create new solutions and have flexible approaches to change. Change is a driver of innovation and thus equipping the workforce with entrepreneurial approaches (such as educational programmes, fostering closer collaborations between stakeholders) will enhance the capabilities of the region to provide higher skilled jobs for MNEs.

Secondly, regional governments should focus on embedding stakeholders including large MNEs into the ecosystem through intermediary organizations and individuals. The paper has shown some success in this regard, but a more systemic

approach to plugging gaps in the ecosystem through these collaborative spaces will help foster the mechanisms to promote knowledge spillovers. These, in turn, will increase the R&D basis of the region and also foster more trust and reciprocity in the face of the challenges borne out of the informal institutional context. Finally, regional governments must line up interests between current strategy, business imperative and regional vision. The focus of the regions in this study on developing the smart specialization strategy requires alignment with market demands and FDI requirements to sustain a regional competitive advantage. Part of this is creating a clear vision for the strategic economic growth policies that marries and aligns multi-level perspectives into a coherent regional narrative bringing together both metropolitan and rural spaces.

Given the recent academic critique of the concept of entrepreneurial ecosystems and the findings in this study which caution policy makers about embracing the approach as a panacea for economic development and growth, there a number of issues that future research needs to address and clarify. First, echoing recent criticism, there is a need to explore and understand entrepreneurial ecosystems through a multi-scalar lens, in particular to understand the appropriate level of public policy intervention to support the development of entrepreneurial ecosystems. Second, there is a need to investigate the appropriate scale at which the development of entrepreneurial ecosystems can be facilitated as well as the role and scope of intervention of different levels of governance in supporting this. Third, while this study has employed a spatial dimension to understand entrepreneurial ecosystems, digital affordances cannot be overlooked (Autio et al., 2018), in particular the different ways in which ecosystems are engaged outside of the place-based approach to policy implementation.

References

Acs, Z. & Mueller, P. (2008). Employment effects of business dynamics: mice, gazelles and elephants. *Small Business Economics*, 30(1), 85-100, DOI: 10.1007/s11187-007-9052-3.

Acs, Z., Astebro, T., Audretsch, D. & Robinson D.T. (2016). Public policy to promote entrepreneurship: a call to arms. *Small Business Economics*, 47(1), 35-51, DOI: 10.1007/s11187-016-9712-2.

Acs, Z., Stam, E., Audretsch, D. & O'Connor, A. (2017). The Lineages of the Entrepreneurial Ecosystem Approach. *Small Business Economics: An Entrepreneurship* Journal, 49 (1): 1–10, DOI: 10.1007/s11187-017-9864-8

Acs, Z.J., Autio, E. & Szerb, L. (2014). National systems of entrepreneurship: Measurement issues and policy implications. *Research Policy*, 43(3), 476–494, DOI: 10.1016/j.respol.2013.08.016

Acs, Z.J., Estrin, S., Mickiewicz, T. & Szerb, L. (2018). Entrepreneurship, institutional economics, and economic growth: an ecosystem perspective. *Small Business Economics*, 51(2), 501-504, DOI: 10.1007/s11187-018-0013-9

Aidis R, Estrin S. and Mickiewicz T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of Business Venturing*, 23(6), 656–672.

Alvedalen, J. & Boschma, R. (2017). A critical review of entrepreneurial ecosystems research: towards a future research agenda, European Planning Studies, 25(6), 887-903, DOI: 10.1080/09654313.2017.1299694

Audretsch, D. B. & Belitski, M. (2017). Entrepreneurial ecosystems in cities: establishing the framework conditions. *Journal of Technology Transfer*, 42(5), 1030--1051, DOI: 10.1007/s10961-016-9473-8

Audretsch, D., Mason, C., Miles, M.P. & O'Connor A. (2018). The dynamics of entrepreneurial ecosystems. *Entrepreneurship & Regional Development*, 30(3-4), 471-474, DOI: 10.1080/08985626.2018.1436035

Autio, E., Nambisan, S., Thomas, L.D. and Wright, M. (2018). Digital affordances, spatial affordances, and the genesis of entrepreneurial ecosystems. *Strategic Entrepreneurship Journal*, *12*(1), 72-95.

Baaken, T., Rossano, S., von Hagen, F., Davey, T., & Meerman, A. (2015). University-Business Cooperation and Entrepreneurship at Universities-An Empirical Based Comparison of Poland and Germany.Managing Disruption and Destabilisation. In. T. Baaken and J. Teczke (Ed.) *A Comparison of the State of University-Business Cooperation in Germany and Poland*, Cracow University of Applied Sciences, 261-280.

Bathelt, H. and Glückler, J. (2014). Institutional change in economic geography. *Progress in Human Geography*, 38(3), 340– 363, DOI: 10.1177/0309132513507823.

Baumol, W.J. (1990). Entrepreneurship: productive, unproductive, and destructive. *Journal of Political Economy*, 98(5), 893-921.

Beauchamp, M., Kowalczyk, A. & Skala, A. (2017). *Polish Startups Report 2017*. Available at: http://startuppoland.org (Accessed 20 October 2018).

Cohen, B. (2006). Sustainable valley entrepreneurial ecosystems. *Business Strategy and the Environment*, 15(1), 1–14. DOI:10.1002/bse.428

Fotopoulos, G. (2014). On the spatial stickiness of UK new firm formation rates. *Journal of Economic Geography*, 14(3), 651-679, DOI: 10.1093/jeg/lbt011.

Fotopoulos, G. & Storey, D.J. (2017). Persistence and change in interregional differences in entrepreneurship: England and Wales, 1921-2011. *Environment and Planning A*, 49(3), 670-702, DOI: 10.1177/0308518X16674336.

Gertler, M.S. (2010). Rules of the game: the place of institutions in regional economic change. *Regional Studies*, 44(1), 1-15, DOI: 10.1080/00343400903389979.

Global Entrepreneurship Monitor (GEM) (2019). *2018/2019 Global Report*. Available at: https://www.gemconsortium.org/report/50213

Hermans, J., Vanderstraeten, J., van Witteloostuijn, A., Dejardin, M., Ramdani, D. & Stam, E. (2015). Ambitious entrepreneurship: a review of growth aspirations, intentions, and expectations, in Corbett, C.A., Katz, J.A. & Mckelvie, A. (eds) *Entrepreneurial growth: individual, firm, and region (Advances in Entrepreneurship, Firm Emergence and Growth, Volume 17)*. Emerald Group Publishing Limited, 127-160, DOI: 10.1108/S1074-754020150000017011.

Huggins, R. & Williams, N. (2009). Enterprise and public policy: a review of Labour government interventions in the United Kingdom. *Environment and Planning C: Government and Policy*, 27(1), 19–41, DOI: 10.1068/c0762b.

Huggins, R., Thompson, P. & Johnston, A. (2012). Network capital, social capital, and knowledge flow: How the nature of inter-organisational networks impacts on innovation. *Industry and Innovation*, 19(3), 203–232. DOI: 10.1080/13662716.2012.669615

Isenberg, D.J. (2010). *How to start an entrepreneurial revolution*. Harvard Business Review 88(6), 40–50.

Isenberg. D. (2011). *The Entrepreneurship Ecosystem Strategy as a New Paradigm for Economic Policy: Principles for Cultivating Entrepreneurship*. Dublin: Institute of International European Affairs.

JRC (2018). *Background to Pomorskie*. Available at: http://s3platform.jrc.ec.europa.eu/ (Accessed: 23 October 2017)

Locke, K., Feldman, M.S. & Golden-Biddle, K. (2016). Discover, Validation and Live Coding, in Elsbach, K.D. & Kramer, R.M. (eds) *Handbook of Qualitative Organizational Research: Innovative Pathways and Methods*. New York: Routledge, 371–380.

Mack, E. & Mayer, H. (2016). The Evolutionary Dynamics of Entrepreneurial Ecosystems. *Urban Studies*, 53(10), 2118–2133, DOI: 10.1177/0042098015586547

Mack, E. A. & Qian, H. (eds) (2016). *Geographies of Entrepreneurship*. Routledge studies in human geography. New York, NY: Routledge.

Mason, C. & Brown, R. (2014). Entrepreneurial ecosystems and growth oriented entrepreneurship. Background paper prepared for the workshop organised by the OECD LEED Programme and the Dutch Ministry of Economic Affairs on entrepreneurial ecosystems and growth oriented entrepreneurship. *Final Report to OECD, Paris,* 30(1), 77-102.

Mason, C., Brown, R., Hart, M. & Anyadike-Danes, M. (2015). High-growth firms, jobs and peripheral regions: the case of Scotland. *Cambridge Journal of Regions, Economy and Society*, 8(2), 343–358. DOI: 10.1093/cjres/rsu032.

McCann, P. and Ortega-Argiles, R. (2016). Smart specialisation, entrepreneurship, and SMEs: Issues and challenges for a results-orientated EU regional policy. *Small Business Economics*, 46(4), 537-552).

Millar, C.C.J.M. & Choi, C.J. (2009). Networks, social norms and knowledge sub-networks. *Journal of Business Ethics*, 90(Supplement 4), 565-574, DOI: 10.1007/s10551-010-0607-x

Minniti, M. (2008). The role of government policy on entrepreneurial activity: productive, unproductive, or destructive?. *Entrepreneurship Theory and Practice*, 32(5), 779-790, DOI: 10.1111/j.1540-6520.2008.00255.x.

Mueller, P., van Stel, A. & Storey, D. J. (2008). The effects of new firm formation on regional development over time: the case of Great Britain. *Small Business Economics*, 30(1), 59–71. DOI: 10.1007/s11187-007-9056-z.

North, D.C. (1990). *Institutions, institutional change and economic performance*. Cambridge: Cambridge University Press.

O'Connor, A., Stam, E., Sussan, F. & Audretsch D. (2018). Entrepreneurial Ecosystems: The Foundations of Place- based Renewal, in O'Connor, A., Stam, E., Sussan, F. & Audretsch, D.B. (eds) *Entrepreneurial Ecosystems. Place-Based Transformations and Transitions*. New York: Springer, 1-22.

Ongena, Y.P. and Dijkstra, W. (2006). Methods of behavior coding of survey interviews. Journal of Official Statistics, 22(3), 419–451.

Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G. (2009). A Qualitative Framework for Collecting and Analyzing Data in Focus Group Research. *International Journal of Qualitative Method*s, 1–21. https://doi.org/10.1177/160940690900800301

Pejovich, S. (1999). The effects of the interaction of formal and informal institutions on social stability and economic development. *Journal of Markets & Morality*2,2, 164-181.

Pniewska, J., Markowski, M. & Kuźniewski, D. (2014): University-Industry Cooperation in Emerging Economy Context – Case of Poland. In: A. Meerman, A. & Kliewe, T. (eds): Good Practice Series 2014 -fostering university-industry relationships, entrepreneurial universities and collaborative Innovation, Amsterdam, pp. 198-214

Puffer S.M., McCarthy D.J. and Boisot M. (2010). Entrepreneurship in Russia and China: The impact of formal institutional voids. *Entrepreneurship Theory and Practice*, 34(3), 441–467.

Rocha, H.O. & Sternberg, R. (2005). Entrepreneurship: the role of clusters theoretical perspectives and empirical evidence from Germany. *Small Business Economics*, 24(3), 267-292, DOI: 10.1007/s11187-005-1993-9.

Schäfer, S. & Henn, S. (2018).,The evolution of entrepreneurial ecosystems and the critical role of migrants. A Phase-Model based on a Study of IT startups in the Greater Tel Aviv Area. *Cambridge Journal of Regions, Economy and Society*, 11(2), 317-333, DOI: doi:10.1093/cjres/rsy013

Skala, A. and Kruczkowska, E. (2016). *Polish Startups Report 2016*. Startup Poland

Smallbone, D. & Welter, F. (2012). Entrepreneurship and institutional change in transition economies: the Commonwealth of Independent States, Central and Eastern Europe and China compared. *Entrepreneurship & Regional Development: An International Journal*, 24(3-4), 215-233, DOI: 10.1080/08985626.2012.670914.

Sobel, R.S. (2008). Testing Baumol: institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing*, 23(6), 641-655, DOI: 10.1016/j.jbusvent.2008.01.004.

Spigel, B. (2017). The Relational Organization of Entrepreneurial Ecosystems. *Entrepreneurship Theory and Practice*, 41(1), DOI: 10.1111/etap.12167

Spigel, B. and Harrison, R. (2018) Toward a process theory of entrepreneurial ecosystems, Strategic Entrepreneurship Journal, 12 (1) 151-168 doi:10.1002/sej.1268

Stam, E. (2014) The Dutch entrepreneurial ecosystem. Available at SSRN: http://dx.doi.org/10.2139/ssrn.2473475

Stam, E. (2015). Entrepreneurial Ecosystems and Regional Policy: A Sympathetic Critique, *European Planning Studies*, 23(9), 1759-1769, DOI: 10.1080/09654313.2015.1061484

Stam, E., & Spigel, B. (2017). Entrepreneurial Ecosystems, in Blackburn, R. De Clercq, D., Heinonen, J. & Wang, Z.(eds) *Handbook for Entrepreneurship and Small Business*. London: Sage.

Stam, E., Bosma, N., van Witteloostuijn, A., De Jong, J., Bogaert, S., Edwards, N., & Jaspers, F. (2012). Ambitious entrepreneurship: A review of the state of the art. In StudieReeks 23. Vlaamse Raad voor Wetenschap en Innovatie, Brussels, Belgium.

Sutter, C., Bruton, G.D. & Chen, J. (2018). Entrepreneurship as a solution to extreme poverty: A review and future research directions. *Journal of Business Venturing*(In Press), DOI: 10.1016/j.jbusvent.2018.06.003

Tarnawa, A., Węcławska, D., Nieć, M. & Zbierowski, P. (2017). *Global Entrepreneurship Monitor - Poland*. Available at: https://www.gemconsortium.org/country-profile/99

The Heritage Foundation (2018). *2018 Index of Economic Freedom*. Available at: https://www.heritage.org/international-economies/commentary/2018-index-economic-freedom

Tonoyan, V., Strohmeyer, R., Habib, M. & Perlitz, M. (2010). Corruption and entrepreneurship: how formal and informal institutions shape small firm behaviour in transition and mature market economies. *Entrepreneurship Theory and Practice*, 34(5), 803-832, DOI: 10.1111/j.1540-6520.2010.00394.x

Welter, F. (2011). Contextualizing entrepreneurship – conceptual challenges and ways forward. *Entrepreneurship Theory and Practice*, 35(1), 165-184, DOI: 10.1111/j.1540-6520.2010.00427.x.

Welter, F. & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behaviour in challenging environments. *Journal of Small Business Management*, 49(1), 107-125.

Williams, N. & Vorley, T. (2017). Fostering productive entrepreneurship in post-conflict economies: the importance of institutional alignment, *Entrepreneurship & Regional Development*, 29(5-6), 444-466, DOI: 10.1080/08985626.2017.1297853.

Williams, N. and Vorley, T. (2015). Institutional asymmetry: how formal and informal institutions affect entrepreneurship in Bulgaria. *International Small Business Journal*, 33(8), 840-861, DOI: 10.1177/0266242614534280.

World Bank (2015). *Toward an innovative Poland: The entrepreneurial discovery process and business needs analysis*. World Bank

World Bank (2019). *Doing Business 2019*. Available at: http://www.worldbank.org/content/dam/doingBusiness/media/Annual-Reports/English/DB2019-report_web-version.pdf