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

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

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) - Małopolska, 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.

This paper poses new questions regarding the capacity of public policy to establish and extend entrepreneurial ecosystems. While public policy can shape the framework and system conditions, the paper argues that these interventions are often based on superficial or incomplete interpretations of the entrepreneurial ecosystems literature and tend to ignore or underestimate informal institutions that can undermine these efforts. As such, by viewing the ecosystems approach as a panacea for growth policy makers risk opening Pandora's box.

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

Purpose

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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

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.

Originality/value

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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

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3 transition from a focus on quantity to a focus on the quality of entrepreneurship, the next phase
4 will see a transition from entrepreneurship policy towards policy for an entrepreneurial
5 economy based on the entrepreneurial ecosystems framework. Isenberg's model of
6 entrepreneurial ecosystems, for example, is inherently policy-oriented, providing a holistic
7 framework to guide policy makers in developing entrepreneurial ecosystems (Isenberg, 2011).
8 Grouping the different elements that make up an entrepreneurial ecosystem into different
9 dimensions, namely policy (government and leadership), finance (funding infrastructure),
10 culture (success stories and societal norms), supporting infrastructures (government
11 institutions, support professions, and physical infrastructure), human capital (labour markets
12 and educational infrastructure) and markets (early customers and networks), Isenberg argues
13 that policy makers should aim to support all dimensions at the same time in order to stimulate
14 new business creation (Isenberg, 2010).
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20 Therefore, Isenberg's model was developed with policy makers specifically in mind.
21 Published in the *Harvard Business Review* and provocatively titled "How to Start an
22 Entrepreneurial Revolution", the model may be deceptively appealing to policy makers given
23 its attempt to simplify and reduce the complex ideas and interactions inherent in entrepreneurial
24 ecosystems to a series of questions and checklists. As a corollary, this apparently 'ready to
25 implement' and all-encompassing 'recipe' makes it tempting for policy makers to view
26 entrepreneurial ecosystems as a panacea for promoting entrepreneurial-led growth. The uptake
27 of the concept by governments around the world and its connection to other popular policy
28 concepts, such as smart specialization, has increased policy interest in this approach. However,
29 Isenberg also cautions that 'everyone trying to build an ecosystem should keep in mind that the
30 work is never really done ... and there is no choice but for policy makers and leaders to continue
31 to experiment and learn how to enhance their ecosystems' (pp. 10-11), thereby acknowledging
32 the limitations of framework and, critically, the need for further development and policy
33 experimentation to enhance and tailor the approach rather than readily embracing it as a
34 panacea.
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41 *Lingering gaps in entrepreneurial ecosystem conceptualisation*

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43 There are several issues with the concept which have more recently attracted critique in
44 academic circles, and which makes it problematic to readily apply the concept in developing
45 entrepreneurship policy to promote regional economic development (Alvedalen and Boschma,
46 2017). A general critique of entrepreneurial ecosystems is the under-theorisation of the
47 concept, specifically the lack of clarity, its superficiality and how it distinguishes itself from
48 other similar concepts such as clusters and regional innovation systems (Stam and Spigel, 2017;
49 Audretsch et al., 2018; O'Connor et al., 2018). In addition, current models have been criticised
50 for failing to specify the interdependencies between the different elements of an entrepreneurial
51 ecosystem as well as for being static and doing little more than providing a list of ingredients
52 with no sense of their relative importance over time (Stam, 2015; Mack and Mayer, 2016).
53 Critically, the performance of entrepreneurial ecosystems is contingent on the interaction
54 between three key components, namely individuals, organizations and institutions (Alvedalen
55 and Boschma, 2017).
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3 In fact, institutions occupy a somewhat paradoxical position on the pantheon of factors
4 that underpin entrepreneurial ecosystems in that their importance is both over- and under-
5 appreciated in theoretical literature and practice. While some, such as Mack and Mayer (2016),
6 argue that little consideration has been given to the institutional context in which
7 entrepreneurial ecosystems emerge and evolve, and while others note that they have been
8 somewhat neglected in entrepreneurship research more generally (Welter, 2011), the dominant
9 view is that institutions are one of foundations of the ecosystem. That said, there is a tendency
10 to overemphasize the role of *formal* institutions even if the importance of informal institutions
11 is well-recognized. This tendency is even more pronounced in practice.
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16 The importance of institutions for entrepreneurial ecosystems is highlighted by Acs et
17 al. (2014, emphasis added) who define entrepreneurial ecosystems as “a dynamic,
18 *institutionally embedded* interaction between entrepreneurial attitudes, ability, and aspirations,
19 by individuals, which drives the allocation of resources through the creation and operation of
20 new ventures”. In this context it is institutions that allocate efforts between productive,
21 unproductive and destructive entrepreneurial activity (Baumol, 1990). Indeed, Acs et al. (2018)
22 highlight the interdependence between entrepreneurship and institutions in driving economic
23 growth. Therefore, institutions can be regarded as the foundation on which entrepreneurial
24 ecosystems emerge, with Stam (2014) regarding formal institutions along with culture and
25 norms as two of four framework basic conditions of an entrepreneurial ecosystem. According
26 to North (1990), there are two types of institutions, namely formal and informal institutions
27 which provide the payoff structure that shapes economic incentives and thus guides socio-
28 economic behaviour. As such, institutions such as laws, norms and cultural attitudes can enable
29 or constrain interactions between individuals and organisations (Huggins et al., 2012).
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35 Formal institutions are the written down or formally accepted rules and regulations that
36 shape the economic and legal framework of a society (Tonoyan et al., 2010). Examples include
37 property rights and contracts (Pejovich, 1999). Originating at the state level (Welter and
38 Smallbone, 2011), they influence economic incentives and the payoff structure. As such,
39 formal institutions can be shaped to create ‘opportunity fields’ for entrepreneurship (Welter
40 and Smallbone, 2011). The state can thus act as an agent of change in encouraging productive
41 entrepreneurship (Smallbone and Welter, 2012). Testing Baumol’s theory, Sobel (2008) shows
42 that states with higher quality formal institutions foster higher levels of net entrepreneurial
43 activity as well as more productive entrepreneurship.
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48 At the lower level of formal institutions, governments intervene to address market
49 failures through different policies (Acs et al., 2016). Enterprise policy, for example, is often
50 the vehicle whereby governments attempt to influence the institutional environment and the
51 outcomes of entrepreneurship at different geographical levels (Minniti, 2008; Huggins and
52 Williams, 2009; Williams and Vorley, 2017). This can be in the form of national-level
53 interventions such as reducing financial constraints, attracting venture capital, and
54 manipulating taxes, local-level interventions such as start-up support, business incubators and
55 R&D subsidies (Minniti, 2008), and regional interventions, such as promoting clusters to
56 generate a positive impact on regional entrepreneurship (Rocha and Sternberg, 2005). An
57 entrepreneurial ecosystems approach often focuses on aspects of these types of institutional
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3 interventions, albeit with an emphasis on the systemic relationship between what are often
4 perceived as discrete elements. However, the role of informal institutions is a fuzzily-defined
5 dimension of the ecosystems approach.
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8 As unwritten rules that include traditions, customs, norms, values and conventions
9 (North, 1990; Acs et al., 2008), informal institutions are socially ingrained and thus more
10 difficult to change (Smallbone and Welter, 2012; Bathelt and Glückler, 2014). In the literature
11 on enterprise development and entrepreneurial ecosystems these are often subsumed under
12 rubrics of regional “culture” or “networks” or “trust”. These terms that are generally weakly
13 operationalised in research become even more poorly understood and engaged with in practice.
14 The result is that, in ecosystem policy, informal institutions - however they are defined - are,
15 at best, the subject of very generalized policies aimed at building culture or civic capital or are,
16 more often, reduced to buzzwords that need to be “strengthened” or “fostered” without
17 substantive recommendations.
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22 Furthermore, there is a need to consider the scale at which entrepreneurial ecosystems
23 emerge. As Isenberg (2011) notes, the different elements of an entrepreneurial ecosystem
24 interact in complex and specific ways which results in unique configurations across places.
25 Institutions themselves vary across geographical scales as they can be more supportive in some
26 regions than in other, and this is reflected in the spatial variation of entrepreneurial activity
27 across regions and different regional development paths (Mueller et al., 2008; Gertler, 2010;
28 Fotopoulos, 2014; Mason et al., 2015; Fotopoulos and Storey, 2017). Therefore,
29 entrepreneurial ecosystems are geographically bounded as different actors and factors interact
30 in specific ways in different settings, producing different outcomes (Alvedalen and Boschma,
31 2017; Audretsch and Belitski, 2017). An important consequence of this is a need to get scale
32 right in policies aimed at deepening entrepreneurial ecosystems. The appropriate scale of
33 intervention will be highly contingent on regional factors and will, often, not correspond neatly
34 to political and jurisdictional boundaries. Another related implication is that interventions
35 should be tailored to specific geographical contexts. While these factors are often overlooked
36 in the literature on entrepreneurial ecosystems they pose particular challenges in practice.
37 Policy makers, particularly at the national scale, need to be sensitive to the question of scale
38 and resist the tendencies towards one-size-fits-all approaches.
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45 Finally, the concept of entrepreneurial ecosystems aims to explain the how different
46 actors and factors that interact to enable productive entrepreneurship, largely understood as
47 high-growth businesses (Stam, 2015; Stam and Spigel, 2017), as opposed to entrepreneurship
48 more generally which includes new start-ups and self-employed (Alvedalen and Boschma,
49 2017). As such, the focus is *high quality entrepreneurship*, or what Hermans et al. (2015, p.128)
50 refer to as ‘ambitious entrepreneurship’, which refers to ‘entrepreneurs who expect to
51 extensively grow their firms in terms of job creation’, and who engage in the entrepreneurial
52 process ‘with the aim to create as much value as possible’ (Stam et al., 2012, p.40). However,
53 productive entrepreneurship is also an outcome of the formal and informal institutions that
54 govern socio-economic behaviour in a particular place (Baumol, 1990). Therefore, both
55 geography and institutions matter to the development of entrepreneurial ecosystems. In this
56 context, there is the danger that, without consideration of the institutional context and of the
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3 scale of interaction of the elements that shape an entrepreneurial ecosystem, public policy
4 attempts to support the development of entrepreneurial ecosystems will prove
5 counterproductive and lead to the promotion of unproductive entrepreneurship with limited
6 growth potential.
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10 As with any emerging policy approach, there are many pitfalls and there is potential for
11 misapplication. Here, we have highlighted a selection that stem from the still evolving state of
12 research in this area. These emerging and contested areas of scholarship, in turn, magnify the
13 difficulties inherent in translating theory into practice. We argue that it is, therefore, appropriate
14 to study how entrepreneurial ecosystems have been adopted into policy in order to gain a
15 critical understanding of the limits of policy and the barriers to effective implementation.
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19 **Methodology**

20 *Focus of the study: Poland*

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24 As a country, Poland has undergone a period of major economic transformation over
25 the past 25 years, during which time the economy has been subject to technological upgrading
26 through its exposure to free market international competition (Baaken et al, 2014). The
27 empirical focus of the study is Poland, a Central European country with a population of 38
28 million people, a Gross Domestic Product (GDP) per capita of \$29,600 (GEM, 2018). Poland
29 is the 6th largest economy in the EU, ranking 45th in the Index of Economic Freedom globally,
30 and 21st regionally, with a generally business-friendly regulatory environment and a market-
31 oriented economy (The Heritage Foundation, 2018). With regard to doing business in Poland,
32 the country ranks 33rd in terms of ease of doing business and 121st in terms of starting a business
33 out of 190 economies (World Bank, 2019). The GEM (2019) paints a paradoxical profile of
34 Poland in terms of entrepreneurship, with asymmetries between improved self-perceptions and
35 societal values about entrepreneurship on one hand and actual entrepreneurial activity
36 performance on the other hand, which shows that entrepreneurial activity in Poland has steadily
37 decreased between 2016 and 2018. The improvement in the social perception of
38 entrepreneurship, an indicator that has been historically low in Poland, is also the result of
39 government initiatives to support entrepreneurship (GEM, 2019). For example, in 2016 the
40 number of Poles stating that they are willing to set up a business was almost twice as high as
41 the EU average (Tarnawa et al., 2017). However, the rather low entrepreneurial activity
42 performance that saw fewer people starting or running businesses in 2018 is somewhat
43 paradoxical but could be explained by growing wages and demand for workers which provide
44 good alternative to owning a business.
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53 Interestingly, a report by the Polish Agency for Enterprise Development (PARP) and
54 University of Economics in Katowice prepared from the Global Entrepreneurship Monitor
55 actually refers to the determinants of entrepreneurship in Poland through the entrepreneurial
56 ecosystems framework (Tarnawa et al., 2017), thereby providing an indication that the
57 ecosystem approach has been embraced by policy makers in Poland to help facilitate and
58 structure their approach towards promoting entrepreneurship. Therefore, Poland provides an
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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
<i>Government policies</i>		
Support and relevance	4.88	15
Taxes and bureaucracy	3.15	44
Entrepreneurship programmes	31.1	29
<i>Cultural and social norms</i>		
	4.84	28
<i>Entrepreneurial finance</i>		
	5.24	9
<i>Entrepreneurial education</i>		
At school age	2.73	36
Post-school age	4.03	43
<i>Physical infrastructure</i>		
	7.22	9
<i>Internal market</i>		
Dynamics	6.71	4
Burdens or entry regulation	4.29	26
<i>R&D transfer</i>		
	3.77	32
<i>Commercial and legal infrastructure</i>		
	4.98	32

Source: GEM (2019)

Table 2: Poland's entrepreneurial profile

Indicator	Value	Rank/49
<i>Self-Perceptions About Entrepreneurship</i>		
Perceived opportunities	68.5	6

Perceived capabilities	46.6	29T
Fear of failure	31.1	33
Entrepreneurial intentions	9.5	39
<i>Activity</i>		
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
<i>Motivational Index</i>		
Improvement-Driven Opportunity/Necessity Motive	6.6	4
<i>Entrepreneurship Impact</i>		
Job expectations (6+)	11.5	38
Innovation	12.2	46
Industry (% in Business Services Sector)	20.1	17
<i>Societal Value About Entrepreneurship</i>		
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 a 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

<i>Focus Group Panel Composition</i>	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			
<i>ICT</i>			
<i>Aviation</i>			

<i>Maritime</i>			
<i>Energy</i>			
<i>Construction</i>			
<i>Engineering</i>			
<i>Transport</i>			
<i>Education</i>			
<i>Business Process Outsourcing/Services</i>			
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 three distinct themes emerge in the way 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

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3 population live in rural voivodeships, and 10% of the economy is based on agriculture, the
4 focus group participants noted their aim to create 'diverse specialization' through a region-
5 wide entrepreneurial ecosystem. For the focus groups in both Mazowieckie and Małopolska,
6 the rural workforce was seen to lack the technical skills for developing enterprise. The broader
7 rural setting was also characterised by one official as being 'beyond economic growth' and
8 thus outside of the scope for focused technical skills programmes.
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12 However, the policy direction in all three regions has been to place the avoidance of
13 economic and social disintegration at the centre of its policies and to tackle the 'weak' social
14 capital of those in the periphery. In Małopolska and Pomorskie specifically, the cultivation of
15 a vibrant start-up scene was perceived as a mechanism to address concerns over immigration
16 and infrastructure, both in terms of providing jobs for incoming migrants from neighbouring
17 Eastern European countries, and as a means to retain graduates in Polish industries. The
18 development of a regional entrepreneurial ecosystem was noted in all three locations as
19 providing a pathway for graduates from universities into more highly skilled jobs and careers
20 with innovative potential. In all three regions, there is a fear that there is a lack of technical
21 skill required to meet the demands of emerging and innovative industries, with most graduates
22 studying liberal arts subjects. However, a strategy which has sought to tackle unemployment
23 by encouraging entry into higher education is not facilitating the vibrant entrepreneurial
24 ecosystem envisaged by the regional governments. The movement of graduates from the state
25 and technical universities in cities such as Kraków, Gdańsk and Warsaw into business process
26 outsourcing (BPOs) and low-skill jobs, means that the human capital of the regions is being
27 directed into lower skilled jobs rather than those driving the economic growth agenda laid out
28 by national and regional government. Baaken et al (2014) highlight the developing
29 relationships and networks between private industry, universities, and regional governments,
30 which represents an important hook for policy makers in promoting entrepreneurship-led
31 economic development. Indeed, in all three locations, the collaboration between universities,
32 industry and regional government was highly visible and promoted as a medium to encourage
33 a more cohesive ecosystem.
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42 Therefore, the ecosystems framework contributes to a sense of coherence and provides
43 a vocabulary of spatial boundedness to the multifaceted components that enable or constrain
44 entrepreneurial activity. The language of ecosystems and start-up activity in all three surveyed
45 regions paid testament to a buzz of start-up activity that could be used to promote networking
46 and knowledge exchange events, and to promote collaboration. At a national level, 55% of
47 Polish start-ups are predominantly in early stage development (development of the product,
48 approaching new users, and formulating business models) (Beauchamp, Kowalczyk and Skala,
49 2017:35). This is indicative of a presence of early stage entrepreneurial activity across Poland
50 which is mirrored in each of the surveyed regions. Regional governments have latched onto
51 this emergent start-up culture as a signifier of development and growth. In Pomorskie, for
52 example, the Marshal's Office contribute to the European Union's Interreg Europe (iEER)
53 project, Boosting Innovative Entrepreneurial Ecosystem in Regions for Young Entrepreneurs,
54 and supports entrepreneurial activity through mentoring and networking. The labelling of these
55 activities as an ecosystem provides a neat policy instrument to capture a plethora of activities
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3 and approaches and also to demonstrate regional effectiveness in managing and ordering the
4 ecosystem.
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7 For all three regions, the ecosystem approach, in conjunction with the drive to support
8 EU smart specialization objectives, provided a grid of intelligibility to package and curate
9 regional levels of entrepreneurship. Smart specialization is an important aspect of national and
10 regional growth, and adhering to the smart specialization strategy is a prerequisite to accessing
11 EU funding. The priority areas for smart specialization are intended to promote the alignment
12 of industrial, educational and innovation policies by building on the strengths and comparative
13 advantages of regions. As a strategic approach towards economic development, the process of
14 smart specialization is intended to better target support for research and innovation by
15 identifying the areas of greatest strategic potential nationally and regionally. Intended to be a
16 bottom-up approach to instil greater regional ownership of economic development priorities,
17 adopting a lens of the ecosystem provides policy makers with a vocabulary to interpret and
18 understand targets for intervention and promote regional innovation. However, the extent to
19 which this is currently being achieved is questionable.
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25 *The Paper tiger? Weak and ineffective ecosystems*

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27 The framing of the smart specialization strategy has meant that the Polish regional governments
28 at the centre of this paper have sought to identify themselves with the wider narrative set by
29 the EU and national government and engage with the regional economic base. The focus on
30 the entrepreneurial ecosystem has been a particular attempt to demonstrate the relevance of
31 regional activity to these smart specializations which are often in areas relating to emerging
32 and high-value technologies rather than the traditional industries which have tended to
33 dominate Polish economic activity in all three regions of this study. As a result, policy makers
34 and stakeholders in all three regions reflected on the incoherence of the entrepreneurial
35 ecosystem. Many of the component parts of a vibrant entrepreneurial ecosystem are present
36 they were not effectively integrated so as to constitute a *system*. This section explores some of
37 the weaknesses that emerged as part of our discussions with local officials and stakeholders.
38 Where concerted attempts were made to connect elements of the ecosystem, these initiatives
39 were isolated or sporadic and, while not unsuccessful, failed to catalyse broader cultural shifts.
40 For instance, high-profile efforts to connect entrepreneurial business and education generated
41 productive partnerships but remained largely bilateral networks. A focus on large regional
42 businesses and MNEs has failed to integrate them into local networks. Finally, major barriers
43 exist in the form of distrust in government support and in peers, at the firm and individual level.
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51 Moreover, there have been some attempts to generate collaboration between higher
52 education and enterprise, especially in Pomorskie. A large medical company has had a fifteen-
53 year collaboration with the Medical University which includes direct recruitment of students
54 and scientific problem-solving services. However, as productive as the partnership has been, it
55 has remained an insular connection between the two actors. Critically, it has primarily focused
56 on joint degree programmes and placements rather than on fostering spin-offs and other
57 activities with the potential to add to the economic growth of the region. The lack of clear
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3 systemic framework to tie the multiple stakeholders together is in part a result of the absence
4 of a critical mass in biotechnology in the region which would allow the evolution of a network
5 of relationships with a broader range of firms.
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8 Indeed, according to the World Bank, Poland does not have ‘innovation champions’ in
9 the biotech sectors compared to new technologies in automation and robotics which have a
10 large proportion of firms who are innovating and actively consider innovation in their strategic
11 approaches (World Bank, 2015). The focus of the policy on developing smart specializations
12 has meant that the Polish regions have focused on sectors and industries that align with EU
13 directives even when the regional infrastructure is not clearly developed in those areas. The
14 organic development of the AI and robotics clusters in Pomorskie for example, has been borne
15 out of international success stories and consolidated by closer collaboration between large
16 multinational enterprises (MNEs) and local universities and research centres. In Mazowieckie,
17 historical relationships between state-run industries in the defence and energy sectors have
18 created paths for economic activity that are clearly embedded in existing relationships as well
19 as well-formed formal and informal institutional ties. In Pomorskie, there is a similar story with
20 regard to established relationships in the maritime sector. However, these traditional industries
21 are not those which appeal to an entrepreneurial-led economy and are not immediately related
22 to a system of entrepreneurial activity. This means that, when constructing an entrepreneurial
23 ecosystem, policy is in danger of miscommunicating regional strengths by being pigeon-holed
24 into sectoral silos, rather than focusing on specific regional strengths which may not
25 immediately align to the discourse of EU and national government directives.
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32 In contrast, in Małopolska, the greater industrial collaboration between large
33 enterprises, regional and municipal agencies, and universities, has meant that R&D activity in
34 Kraków has begun to bear fruit in terms of innovation activity and more entrepreneurial-led
35 areas. The region, and Kraków in particular, has a high percentage of R&D activity relative to
36 its neighbouring Polish regions. Specifically, Małopolska is strong in the BPO/BSS sector and
37 has attracted numerous entrepreneurs who have sought to capitalize on the high number of
38 universities (23 in Kraków) which provides linguistically-proficient and skilled workers. This
39 trend of supporting BPO services as a form of inward investment began in the 1990s as cheaper
40 labour and the proximity to Western Europe allowed larger enterprises to become attractive
41 propositions to foreign companies looking to outsource ‘back office’ functions.
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47 However, even this attractive environment has not guaranteed the systemic engagement
48 of growing firms or recent entrants in the ecosystems that support them. A large technological
49 company, originating in Kraków, is one of only a few Polish firms that has successfully
50 established itself globally, and its entrepreneurial orientation has been instrumental to this. In
51 many respects this company is an entrepreneurial organisation par exemplar. The strategy of
52 the firm has been to develop a diverse portfolio of products and a global customer base,
53 competing against more established software providers on price and flexibility. While the
54 entrepreneurial orientation of the company can be chiefly attributed to its leadership and
55 strategy, it has created a flat organisational structure with seven operational divisions and an
56 organisational culture which also allows employees to be intrapreneurial.
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3 This large company has been particularly effective in the development of new
4 intrapreneurial ideas and opportunities supported through the divisional structure implemented
5 by the senior leadership team. As a business, it commits at least 12% of its revenue to R&D
6 activities and the pursuit of innovative projects which totalled 169.1m PLN (\$42.6m) in 2016.
7 What is interesting is the extent to which the company is *deliberately disconnected* from the
8 entrepreneurial ecosystems in Małopolska despite having clear entrepreneurial proclivities in
9 the organisation itself. In our focus groups, it was noted that the company did not feel
10 comfortable with the idea of an ecosystem and would not actively encourage an environment
11 in which entrepreneurs would connect with large business, or where the company would look
12 to support this pathway. This view was based on feeling that a focus on direct participation and
13 collaboration with SMEs and entrepreneurs would detract from their core business approach.
14 This is in direct contrast to the regional government who were heavily focused on connecting
15 large regional businesses to SMEs and entrepreneur owner-managers. Regional officials also
16 noted that there were clear mismatches between the regional policy approach to attract larger
17 firms and flagship MNEs as part of an integrated and holistic ecosystem and a sentiment that
18 these larger companies would also potentially ‘suck innovation out of lower levels’ according
19 to one regional government official. These contradictions and mismatches further undermine
20 the attempt to build a cohesive system of entrepreneurial activity.
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28 Critically, a lack of trust is a major barrier to the effective engagement of firms in the
29 ecosystem. In post-Soviet transition countries such as Poland, social trust and cultural norms
30 have been specifically noted as being prominent barriers to entrepreneurial activity (Williams
31 and Vorley, 2015). Where trust is strongly established in an entrepreneurial culture,
32 relationships between multiple stakeholders can be guided by informal institutions through the
33 formation of sub-networks (Millar and Choi, 2009). These sub-networks provide valuable
34 capillaries to normalise approaches to entrepreneurship and understandings of the challenges
35 and opportunities facing regional economic growth. Yet, trust is not an inevitable outcome to
36 implementing an ecosystems approach to entrepreneurship. The lack of engagement of the
37 Kraków technology company and others are rooted in weaknesses in the development of
38 systemic trust.
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43 The non-participatory nature of the engagement by large firms in the ecosystem
44 stemmed in part from an unwillingness to share information and talent due to mutual suspicion
45 over motives and responsibilities. Entrepreneurs in Mazowieckie, for example, noted their
46 attempts to ‘erase thinking’ of public offices as ‘unfriendly places’ and that they were seeking
47 to encourage external investors and Polish entrepreneurs to engage outside of the formal
48 institutional structure. This has occurred through the establishment of incubators and
49 accelerators in Warsaw, and more regular touchpoints through programmes and social events,
50 referred to by one focus group member as ‘an ecosystem under construction’. An atomistic and
51 divisive view of the ecosystem precludes the ecosystem from functioning in an effective
52 manner, by hampering the development of coherence and interactions between elements so
53 vital to ecosystem evolution (Stam, 2015; Mack and Mayer, 2016; Alvedalen and Boschma,
54 2017). This, they noted, was in part due to the distrust and fear of formal institutions, but also
55 the lack of knowledge of officials in being able to help them with their needs. Startup Poland
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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

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3 by a focus on smart specialization whilst addressing local concerns. Concurrently,
4 entrepreneurial activities are happening beyond the remit of policy such as in the instance of
5 venture capitalists moving out of Poland to neighbouring Germany or across other countries.
6 As the capital city, Warsaw attracts the Polish headquarters of many large MNEs, but this often
7 happens without direct regional policy intervention. For example, a large multinational
8 technology company has now located an entrepreneurial campus in a former vodka distillery
9 which provides a hub for entrepreneurs and start-up founders as well as hosting networking
10 and educational events. The programme run by this company provides technical guidance on
11 developing apps and hardware, alongside mentoring and business development to support start-
12 up growth. However, this is isolated from other elements of the ecosystem and seems to act
13 independently of policy making and other regional initiatives.
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19 There are clearly contested geographies of the ecosystem with a strong metropolitan
20 focus of the regional governments to entrepreneurial interventions. With a public policy-led
21 entrepreneurial approach, there is an onus on the regional governments to facilitate
22 entrepreneurial-led growth across their regions. It was clear from the focus groups that regional
23 governments did not have any mechanisms to promote entrepreneurship in rural and peripheral
24 areas. In each region, the concentration of entrepreneurial activity is taking place in the
25 metropolitan areas of Warsaw, Kraków and Gdańsk rather than in the peripheral places. This
26 raises issues in terms of whether an entrepreneurship-focused policy is addressing the desires
27 of the regional governments to support growth across these regions. From an institutional
28 perspective, this makes it challenging for the regional government to negotiate the myriad
29 formal and informal links between different places in a region.
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35 **Conclusions**

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37 The emergence of the entrepreneurial ecosystems concept within academic literature and policy
38 making circles has raised questions on the definition and usage of the term. Stam (2015: 1764)
39 notes that ‘the mere popularity of the entrepreneurial ecosystem approach is by no means a
40 guarantee of its profundity. Seductive though the entrepreneurial ecosystem concept is, there
41 is much about it that is problematic, and the rush to employ the entrepreneurial ecosystem
42 approach has run ahead of answering many fundamental conceptual, theoretical and empirical
43 questions’. This paper highlights the theory-practice gap in three Polish regions, depicting how
44 the heuristic of entrepreneurial ecosystems has been adopted as a panacea for growth. The
45 reality, however, is more akin to the paper tiger or Pandora’s box, with the outcomes more
46 about place marketing, making sense of a disparate set of demands and activities, and the
47 delivery of regional Smart Specialization strategies.
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53 The adoption of the language of entrepreneurial ecosystems by regional policy makers
54 and other stakeholders in three Polish regions masks the somewhat disparate and uncoordinated
55 approach towards fostering entrepreneurial activity. Whilst Isenberg (2011) argues that
56 ecosystems are more organic forms of activity than they are the product of top-down directives,
57 the weak relationships between formal and informal institutions often precludes a semblance
58 of cohesion and sustainable relationships that are considered fundamental to a vibrant
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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 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

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

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

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