Smart specialisation strategy in the moderately innovative regions – qualitative study of Polish and Lithuanian cases

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Abstract

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Keywords: smart specialisation strategy, entrepreneurial discovery process, innovation policy, innovation systems, change process

The approaches to innovation policy have altered over the time, tending towards more inclusive and bottom-up policy making. As an example may serve smart specialisation strategy approach, which has been enthusiastically embraced by European Union, even though theoretical background for the concept is insufficient (Foray, 2015). Though, smart specialisation strategy approach may be seen as rooted in the innovation system approaches. Systemic approach to innovation argues that process of innovation involves interplay among different actors, including business organisations, intermediaries, government and universities, among others (Liu, Yin, & Dunford, 2015). This is in line with the smart specialisation strategy approach.

The current debate acknowledges regional differences and their impact on smart specialisation strategy approach and especially pronounced challenges for the regions regarded as moderate innovators (see Capello & Kroll, 2016; Kroll, 2015). Nevertheless, there is lacking evidence on how smart specialisation strategy approach alters the existing practices of innovation policy making in moderately innovative regions and how existing practices affect the novel approach on the other hand? This study aims to answer this question while looking at the practices in Poland and Lithuania. The main question may be broken down in the following research questions: Q1. What characterised entrepreneurial discovery process in Poland and Lithuania? Q2. How the transition to the implementation phase in both countries took place? Q3. What characterises relationship of different stakeholders to the smart specialisation development process and how this relationship evolved over time? Q4. What
characterises mechanisms of selecting successful applicants and assigning support for innovation in the financial period 2014-2020 in Poland and Lithuania?

Giddens’ (1984) theory of structuration points to the mutual impact between the structures people are embodied in and the actions of people, which alter existing structures. Hence, it may serve as a lens to analyse development of the smart specialisation strategy approach in the regions where it is novel. Furthermore, RIS literature provides dimensions that may be used for analysis of the regional context (see T?dtling and Tripple, 2011). Finally, process theories of change (Van de Ven and Poole, 1995) enhance the understanding of the developments taking place within smart specialisation strategy approach.

Given the novelty and little theoretically developed of the topic, qualitative method has been chosen. Empirical data will be collected by expert interviews in Poland and Lithuania. This will be supplemented by the data from official documents and reports, relating to the smart specialisation approach in Poland and Lithuania. Grounded theory methods will be applied for the data analysis. The will also to compare the approaches of Poland and Lithuania.

Initial results show, there have been similar struggles with the approach in both countries. Both countries ended up with rather broad lists of priorities, which is mainly due to the time pressure to deliver the official documents, called smart specialisation strategy. Bottom-up approach requires time for discussion and leveraging interests of different stakeholders and actors within particular groups in order for priorities to emerge. This seems to some extend going to be fixed in result of the mid-term revisions, taking place in both countries. Nevertheless, there is a need to acknowledge that smart specialisation strategy is a continuous process, which hardly can be captured within a rigid document at the static point of time. This is given by the nature of innovation as it is hardly predictable what is going to come.

References:
Abstract

Smart specialisation strategies had to be prepared by EU member states in compliance with ex-ante conditionality to receive structural funding. The approach of smart specialisation strategy has been novel and especially challenging for the regions regarded as lagging behind in innovation performance. This study aims to explore how novel innovation policy making requirements affect existing policy making traditions in such regions and how the expected approach has been adapted with regard to local institutional environment. Furthermore, the study seeks to explain the rationales behind main challenges for the smart specialisation strategy approach. The cases of Poland and Lithuania are analysed using qualitative method. Structuration theory and neoinstitutional perspectives are applied as a lens to interpret the data.

Keywords: smart specialisation strategy, entrepreneurial discovery process, innovation policy, innovation systems, change process, structuration theory, neoinstitutionalism.

1. Introduction

The approaches to innovation policy have altered over time, tending towards more inclusive and bottom-up policy making. As an example may serve smart specialisation strategy approach (S3), which has been embraced by European Union, even though theoretical background for the concept has been deemed as insufficient (Foray, 2015). In line with expectations of European Commission, smart specialisation strategies should be designed in a bottom-up, inclusive process, while different stakeholders, such as firms, academia, policy makers etc., discover potential new activities and policy makers facilitate realisation of this potential (European Commission, S3 Platform). Thus, smart specialisation strategy approach may be seen as rooted in the innovation system approaches. Systemic approach to innovation argues that innovation process involves an interplay between different actors, including business organisations, intermediaries, government and universities, among others (Liu, Yin, & Dunford, 2015). This is in line with the smart specialisation strategy.

Current debate acknowledges regional differences and their impact on smart specialisation strategy, with especially pronounced challenges for the regions regarded as moderate innovators (see: Capello & Kroll, 2016; Kroll, 2015). Nevertheless, there is lacking evidence on how smart specialisation strategy approach alters the existing institutions of innovation policy making in

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1 For the purpose of this study moderately innovative regions are defined in line with the definition of Innovation Union Scoreboard, meaning the innovative performance of the region is below 90% of the EU average. This also includes modest innovators, whose performance lies below 50% of EU average.
moderately innovative regions and how existing institutions affect the novel approach on the other hand? The study aims to answer this question while looking at the practices in Poland and Lithuania. The main question may be broken down into following research questions: Q1. What characterised entrepreneurial discovery process in Poland and Lithuania? Q2. How transition to the implementation phase in both countries took place? Q3. What characterises relationship of different stakeholders to the smart specialisation development process and how this relationship evolved over time? Q4. What characterises mechanisms of selecting successful applicants and assigning support for innovation in the financial period 2014-2020 in Poland and Lithuania?

Regional innovation system perspective has been adopted as a theoretical background for smart specialisation strategy approach. Results are analysed using the lens of structuration theory, supplemented with neoinstitutional perspective. Structuration theory perspective may be enriched with neoinstitutional theory to analyse institutionalisation processes of the strategies over time. The framework for studying structuration combined with neoinstitutional perspective has been proposed by Barley and Tolbert (1997). Jarzabkowski (2008) applied this approach for her analysis of strategy shaping process at three universities in the UK.

2. Theoretical background

2.1 Regional innovation systems and their dimensions

Regional perspective on innovation systems got prominent stand in the literature within last decades. Definition of the region may be based upon its administrative and cultural boundaries (Cooke, Uranga & Etxebarria, 1998). Regional innovation systems (RIS) approach appreciates political, social and institutional context, acknowledges embeddedness of the innovation into social relations and gives credit to regional clusters and geographic proximity (Doloreux & Parto, 2005). Existing institutional and organisational conditions may support development of RIS, but even if these are less advantageous system may evolve when the basic necessary elements are present (Cooke et al., 1998). RIS may be seen as two interdependent subsystems, one referring to knowledge application and exploitation, and another one to knowledge generation and diffusion (Tödtling & Trippl, 2011, p. 456). Scholars have captured different aspects of regional innovation systems’ differences. This resulted in numerous typologies of RIS, which are summarised by Tödtling and Trippl (2011) and Zukauskaite (2018).

Tödtling and Trippl (2011, pp. 457-458) identify four possible typology dimensions, suggested by extant literature: (a) capacity to develop high technology sectors, (b) governance, (c) knowledge base, (d) problems from policy perspective. Pronounced differences in RIS gave background to the call for differentiated innovation policy approaches (see: Tödtling and Trippl,
2005). European Commission sought to embrace this call with the smart specialisation strategies. Nevertheless, Marques and Morgan (2018) argue that lacking institutional capacity may create an obstacle for smart specialisation strategy to bring desired change into moderately innovative regions. Among assumptions of S3 approach that may not always hold true in many regions can be distinguished commitment of regional elites to innovation, systemic approach to innovation (as opposite to the linear model), functioning triple helix coalition and ability to carry on multi-scalar coordination process (Marques & Morgan, 2018). According to Kroll (2015) regions of Europe have different institutional structure and unequal governance capability to implement EDP. Kroll (2011) points out three major groups of regions, based on prevailing governance practice (1) centralist approach to planning and governance (majority of Eastern Europe); (2) positive institutional context, but insufficient bottom-up governance routines (usually in Southern Europe); (3) strong capabilities and supportive institutional environment to coordinate EDP (Central and Northern Europe). In the regions from the first group EDP could not be implemented easily and most of the time has been spent on preparation for the exercise (Kroll, 2015). This implies the change of governance routines and adjustments in institutional context may be necessary for smart specialisation strategy to bring desired results about. The process theories of change (Van de Ven and Poole, 1995) may enhance the understanding of how change may evolve. Van de Ven and Poole (1995) distinguish among four types of theories, explaining change, which they name "motors of change", these are life-cycle, evolutionary, dialectical and teleological processes. Evolutionary process implies competition for scarce resources and operates through the mechanism of variation, selection and retention, while teleological view assumes there is common goal that may drive the process and there are different ways the goal may be achieved (Van de Ven & Poole, 1995). In line with the life-cycle school of thought, there is prescribed order of stages that should be followed for the change to evolve, and dialectical school implies there is some disruption of predominant order either from inside or from outside and follows the logic of thesis and antithesis, when result of change may be either adopting antithesis or a synthesis (Van de Ven & Poole, 1995). It may be interpreted that in idealistic view of entrepreneurial discovery process, actors in the regions are able to agree on common goal (priorities) and follow iterative evolutionary process for its revision and adjustments. Nevertheless, as indicated by the literature, this is not always the case and regions may not be able to implement changes this way. Hence, in the case of the regions with centralist planning cultures and lacking supportive institutional framework to implement EDP, dialectical and life cycle models of change may be more suitable lens for analysis. In line with dialectical school of thought, ex ante conditionality to develop smart specialisation strategies may be seen as an antithesis challenging current policy making traditions that are legitimised by locally existing
institutions. Furthermore, since the actors in less innovative regions could not necessarily be assumed to show self-organisation and acting towards common goal (e.g. because there may be no triple helix coalition, as noted by Marques and Morgan, 2018), planned and prescribed order of implementing change, as suggested by the life cycle models, may be used for analysis, even though this model is more congruent with top-down than bottom-up approach. From the literature discussed above may be concluded that institutions have an important role in the smart specialisation strategy approach, therefore this will be elaborated below.

2.2 Structuration and neoinstitutional perspective on change

Institutions may be defined as “...the humanly devised constraints that structure political, economic and social interaction” (North, 1991, p. 97) or “the rules of the game” (Edquist, C., 2005, p. 182). Institutions may be of formal and informal nature (North, 1991). Institutions provide legitimacy for daily practices and ways of acting and institutional change implies change from one prescribed pattern of practices to another (Hinings, Greenwood, Reay, & Suddaby, 2004). In the view of Meyer and Rowan (1977) institutions take form of rationalised myths and are mirrored in formal organisational structures, which increases legitimacy of organisations.

Giddens’ (1984) theory of structuration points to the mutual impact between the structures people are embodied in and the actions of people, which alter existing structures. For the empirical purposes scholars distinguish between institutional realm and realm of action (Barley & Tolbert, 1997; Jarzabkowski, 2008). Within institutional realm three types of structures may be distinguished: signification, domination and legitimation (Giddens, 1984; Jarzabkowski, 2008). Jarzabkowski (2008, p. 623) defines the types of institutionalised structures as follows: (a) signification structures are values, beliefs and identity that guide peoples action, (b) legitimation structures (based on Clegg, 1989) as moral rules and sanctions that restrict human actions, and (c) domination structures as two forms of mobilisation, which are based on Giddens: resource allocative and authoritative structures. Resource allocative structures guide the allocation of material resources and the ways these may be exploited, while authoritative structures refer to the authority relationships and representation of the interest of various groups in the system (Jarzabkowski, 2008). Jarzabkowski notes that authoritative and legitimation structures may be interconnected, meaning that authoritative relationships could be assumed as normative in forming perception of what may be legitimate interests and how individuals perceive what is in their benefit.

The action realm represents actions and interactions that occur in the daily life and represent how the structures of institutional realm are sustained and adapted by individuals (Jarzabkowski, 2008). The action realm consists of three domains: meaning, norms and power (Jarzabkowski,
2008, p. 623). Purposive or habitual interactions convey meaning, dispense power, and elicit norms and sanctions (Giddens, 1984; Jarzabkowski, 2008). Actions may enforce existing institutions or modify them (Orlikowski, 1996). Communication, power and sanctions refer to the level of action, while signification, domination and legitimation constitute the level of structures (Gray, Purdy & Ansari, 2015, p. 119).

DiMaggio and Powell (1983) refer to Giddens and argue that organisations become similar through the processes of homogenisation and bureaucratisation that are affected by highly structured organisational fields. Organisational field is defined as the *totality of relevant actors* and consists out of suppliers, consumers, regulatory agencies, and other relevant organisations that make up a defined institutional area (DiMaggio & Powell, 1983, p. 148). Even though DiMaggio and Powell appreciate that organisations are constructed by actors, their work focuses on the processes how organisations within the fields converge towards similarity in their actions. This process is labelled as *isomorphism* and at its heart lies pressure from the environment as a driving force to resemble common practices (Meyer and Rowan, 1977; DiMaggio & Powell, 1983). Further, DiMaggio and Powell distinguish three mechanisms that may drive isomorphic change: *mimetic*, *normative* and *coercive*. Coercive isomorphism is determined by political influence and legitimacy, mimetic isomorphism implies common reactions on uncertainty, while normative isomorphism stems from professionalisation (DiMaggio & Powell, 1983, p. 150). Initially studies in the field of neoinstitutionalism followed tradition of DiMaggio and Powell, Meyer and Rowan, and focused on the impact of institutions on isomorphic processes in organisations. Later tradition has changed and scholars examined how actors shape and transform institutions (Lawrence & Suddaby, 2006).

Suddaby and Lawrence (2006) refer to the second perspective as *institutional work*. Institutional work refers to the practices of either individual or collective actors that create, preserve or break institutions (Lawrence, Suddaby, & Leca, 2011, p. 52). Lawrence and others (2011) define institutional work as physical or mental effort, aiming to influence one or more institutions. Lawrence and Suddaby (2006) review research on institutional work and identify what actors do in order to create, maintain or disrupt institutions. Forms of work aimed at creating institutions include *advocacy, defining, vesting, constructing identities, changing normative associations, constructing normative networks, mimicry, theorising, and educating* (Lawrence & Suddaby, 2006, p. 221). Maintaining institutions occurs through *enabling work, policing, deterring, valourising and demonising, mythologising, embedding and routinising* (Lawrence & Suddaby, 2006, p. 230). Institutions may be disrupted by *disconnecting sanctions, disassociating moral foundations, and by undermining assumptions and believes* (Lawrence & Suddaby, 2006, p. 235).

Gray, Purdy and Ansari (2015) focus on microfoundations of structuring of organisational
fields, emphasise the centrality of meaning to institutionalisation, and propose an interactional framing perspective as an explanation on how the meanings may be institutionalised. According to Gray and others, ongoing interactions negotiate meaning, but at the same time they can sustain or question existing institutions in the society. Therefore, from the interactionist framing perspective, individuals may construct, deconstruct or reconstruct institutions through day to day interactions, whereby interacting parties have to share some degree of understanding about phenomenon and be aware of the rules suitable in given situation. (Gray, Purdy & Ansari, 2015, p. 118). Hence, interacting behaviour is guided by existing cultural norms and reinforces them when actors behave accordingly, which leads to evolution and continuity of existing culture. Gray and colleagues note that interacting actors do not always reproduce existing frames one to one and what they call “misfirings” and “laminations” may occur. There are three types of misfirings that may trigger institutional change, and these include keying, frame breaks and ambiguity (Gray et al., 2015, p.119). Keying occurs when activity remains the same but interacting actors give it another interpretation, e.g. woman crying in the court during the trial of her son may be seen as being either disruptive or emphatic (Gray et al., 2015). Thus, based on adopted interpretation, the actions may differ. Parties may break frames purposefully if they see that given circumstances make it not reasonable to adhere to the usual interpretation of situation, and ambiguity may emerge when different actors have different interpretations and are not trying to agree on one of them (Gray et al., 2015). In the result of the misfirings powerfull actors may try to restrain the new frame and re-establish the old order, but sometimes the new frame can persist and initiate change dynamics, alteration of existing signification structure may take place by adding new meanings to the existing frames (Gray et al., 2015). Gray and others follow terminology of Goffman and call the process when the new interpretation to the existing frame is added by term lamination. Consequently, actors have multiple choice of possible interpretations, which are frames, rendered during the interactions at the micro level, these new frames may be further diffused to the meso and macro levels and even become institutionalised and replace extant frames. (Gray et al., 2015) The process when the frames, generated at the micro level, move towards higher levels is called amplification and it can occur in three ways: scope (adoption by a broader group), regularity (or frequency of using specific frame) and emotional intensification (Gray et al., 2015, p. 120). The process of expanding scope occurs when meaning is transferred through networks of interactions while growing or overlapping them, hence, structuration is a part of amplification of scope as shared meanings evolve when

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2 Gray et al. (2015) use term “interactant” when they refer to interacting actors. In this article this will be referred to as interacting actors in order to keep consistent terminology through literature sources talking about similar phenomena.

3 An outline of interactional framing is given by Goffman in his work Frame analysis: An essay on the organization of experience, which first appeared in 1974.
signification, legitimation and domination processes occur simultaneously (Gray et al., 2015).

Gray and others (2015, pp. 125-131) distinguish four generic patterns of institutional change that are underlined by eight micro level processes and mechanisms of their occurrence, these are:

1) **Frame break and amplification of new frame**, by either externally or internally induced reframing or importing a master frame.

2) **Amplification of existing frame** by maintaining frame dominance or institutional distancing (has two forms: either when some actors do not comply to dominant frame but intensify use of their preferred frame, or by decoupling, which implies that legitimating structures and real practices diverge).

3) **Keying and amplification of modified frame** by merging existing frames into new one, or by situated improvising (which occurs gradually and is based on modification of existing practices).

4) **Ambiguity and inconsistent amplification** emerges when actors are not sure how to interpret particular situation and multiply interpretations coexist, therefore frame plurality is maintained. Frame plurality may exist within or between fields and actors may still collaborate to accomplish their work, despite disagreeing on the rational behind particular actions they take.

### 3. Method

#### 3.1 Data collection

Given the novelty and little theoretical developed of the topic of smart specialisation strategy, qualitative method has been chosen. The data collection method is inspired by the grounded theory approach, initially developed by Glaser and Strauss in 1967 (Suddaby, 2006). Nevertheless, it should be noted that approach taken in this study cannot be qualified as a grounded theory in the view of Glaser and Strauss due to inconsistency of some methodological assumptions. According to Suddaby (2006), there are two main concepts within grounded theory: *constant comparison* and *theoretical sampling*, which implies that decision upon the data to be collected is affected by the theory constructed from already collected data. More precisely, constant comparison means that process of data collection and its interpretation occurs simultaneously (Suddaby, 2006, p. 634). This results in theoretical sampling, which according to Bryman and Bell (2015) is essentially an ongoing process in contrast to being static and single-staged.

Empirical data will be collected by expert interviews in Poland and Lithuania. Total of about 40 expert interviews in Poland and Lithuania has been planned, with approximately equal amount conducted in each country. This will be supplemented by the data from official documents and reports, relating to the smart specialisation approach in Poland and Lithuania. The data collection for this study follows iterative process, when thematic aspects to be covered in subsequent
interviews draw upon insights from already gathered data and literature on the subject, which is consistent with the notion *constant comparison*. Semi-structured and in-depth interviewing (also called unstructured, according to Saunders, Lewis, & Thornhill, 2009, p. 320) have been chosen as the main data collection method.

### 3.2 Sampling

The sample has been chosen by the purposive sampling method in combination with convenience sampling, which is classified as non probability sampling and implies that the findings cannot be generalised. Purposive sampling allows choosing participants of the study ensuring variability of the sample with respect to the research questions (Bryman & Bell, 2015, p.429). The sampling for the study combines few different approaches that may be classified within purposive sampling method, according to Bryman and Bell (2015). The sequential approach to the sampling has been taken, meaning that new participants may be added to the sample as the study evolves (Bryman & Bell, 2015, p.429). Although this is consistent with theoretical sampling in the grounded theory approach, in the case of this study it cannot be assumed theoretical sampling has been followed rigorously, because this would imply the participants are added solely on the basis of emerging theoretical categories from collected data (Bryman & Bell, 2015). For present study, this holds true only to some extent. Therefore, another approach guiding the sample selection is *generic purposive sampling*, which allows establishing criteria for selection of the cases *a priori* (Bryman & Bell, 2015). Finally, convenience sampling element is added by using snow-ball technique, where some respondents are asked to recommend further respondents for the study. The choice of the sample and sampling techniques has been made based on few reasons: (1) the research topic requires access to expert knowledge, therefore interviewees should be well qualified in the field to be able to answer the questions; (2) accessibility of the sample: due to the specificity of the studied sample in combination with the method chosen (interviews) availability to approach interviewees and their readiness to devote time for interviews should be taken into consideration. This can be solved by the snowball sampling technique, when interviewees recommend further people while bearing in mind both their expertise and availability for the researcher to access them.

As the study takes system of innovation approach and aims to reflect different stakeholders’ view, different actors should be represented. Therefore, some initial criteria for the sampling have been set. The sample should represent actors as indicated in table 1, which serves as a broad criterion for the structure of the sample.
Table 1

Stakeholders and their organisations

<table>
<thead>
<tr>
<th>Stakeholder/actor</th>
<th>Organisations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government/ state</td>
<td>Ministries, implementing organisations, regional authorities</td>
</tr>
<tr>
<td>Business/ entrepreneurs</td>
<td>Business Networks, clusters</td>
</tr>
<tr>
<td>Science/ education</td>
<td>Universities, scientists</td>
</tr>
<tr>
<td>Society</td>
<td>NGOs</td>
</tr>
</tbody>
</table>

Source: own elaboration

In line with entrepreneurial discovery process, government/state (represented by respective organisations) has major role as innovation policy maker within smart specialisation strategy approach. In what follows, its tasks are to coordinate the whole process, select priorities among opportunities discovered with other stakeholders, present them in form of a document called smart specialisation strategy, and deliver appropriate financial mechanisms for its implementation. Because of their managerial responsibility and the role as a change agents, different organisations, representing state and having relevance to smart specialisation strategy will be given special importance, which implies higher number of interviews conducted within this group of stakeholders in relation to e.g. science or business. Table 2 provides information on already conducted interviews.

Table 2

Summary of already conducted interviews and characteristics of the sample

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Stakeholder</th>
<th>Type of organisation</th>
<th>Country</th>
<th>Number of interviews</th>
<th>Duration (h:min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Science &amp; Government</td>
<td>University &amp; Ministry</td>
<td>Poland</td>
<td>1</td>
<td>0:58</td>
</tr>
<tr>
<td>2</td>
<td>External expert</td>
<td>Research &amp; Consulting</td>
<td>International</td>
<td>1</td>
<td>1:31</td>
</tr>
<tr>
<td>3</td>
<td>Government</td>
<td>Ministry</td>
<td>Poland</td>
<td>1</td>
<td>0:51</td>
</tr>
<tr>
<td>4</td>
<td>Government</td>
<td>Regional authority</td>
<td>Poland</td>
<td>1</td>
<td>0:55</td>
</tr>
<tr>
<td>5</td>
<td>Government</td>
<td>Agency</td>
<td>Lithuania</td>
<td>1</td>
<td>0:37</td>
</tr>
<tr>
<td>6</td>
<td>Policy analyst</td>
<td>Consulting</td>
<td>Lithuania</td>
<td>1</td>
<td>1:11</td>
</tr>
<tr>
<td>7</td>
<td>Science</td>
<td>University</td>
<td>Lithuania</td>
<td>1</td>
<td>1:09</td>
</tr>
<tr>
<td>8</td>
<td>Science</td>
<td>University</td>
<td>Lithuania</td>
<td>1</td>
<td>1:15</td>
</tr>
</tbody>
</table>

Source: own elaboration
3.3 Data analysis

Grounded theory methods will be applied for the data analysis. The data analysis will by undertaken parallel to the collection of further data. Approaches of Poland and Lithuania are going to be compared. As a lens for data interpretation, structuration theory in combination with neoinstitutional theory will be combined. Figure 1 represents the framework for the analysis.

Figure 1. Entrepreneurial discovery process from the structuration theory perspective.
Source: own elaboration

4. Preliminary results

4.1 Brief presentation of innovation policy approach prior to smart specialisation strategies

Poland

In Erawatch country specialisation report for 2006 Poland's economy has been described as mainly specialised in the manufacturing sector. Share of business funding on R&D has been declining and share of funding by public increased. Scientific specialisation lied mainly within natural sciences and material sciences, while business specialisation was mainly in the sectors of low R&D intensity and included basic metals, mining, agriculture, community services (ERAWATCH: Poland, 2006). Government has been providing funding for the sectors with a higher value added, such as pharmaceutical or machinery. In the report it is noted, that technological specialisation was not germane with the BERD specialisation and lied in such sectors as chemicals, pharmaceuticals, transport equipment or publishing among others.

As noted in Erawatch country report 2007, Poland's business sector is mainly composed of SME's with less than 250 employees, the lack of big companies has been viewed as a reason for relatively low R&D spending by the firm (Nill, 2008). According to the report, only one company from Poland, Telekomunikacja Polska, was at that time in the European ranking of top 500 R&D investors.
In 2008, Poland was still undergoing major changes in its research system, moving towards decentralisation: research priorities from 2004 should be established by Ministry of Science and Higher Education, instead of scientific community (Górzyński, & Jakubiak, 2009). Continuing the reform, funding should be provided on the project basis and move away from statutory approach. The role of regions in policy making has been deemed as limited, although the regional strategies have been introduced and each region has got its own operational programme, and disposed by significant resources from European Structural Funds to support innovation (Górzyński, & Jakubiak, 2009). Nevertheless, lacking links and low cooperation levels between business, government and higher education institutions inhibited knowledge circulation, demand for sophisticated R&D and knowledge in domestic business sector was rather low, but to some extent was compensated by the local branches of foreign companies (Górzyński, & Jakubiak, 2009). Local business was dominated by R&D non-intensive sectors and absorptive capacity of the firms has been low, at the same time lacking links were also mirrored by the fact that different Ministries were responsible for STI and Innovation policies (Górzyński, & Jakubiak, 2009). In 2014, low levels of business investment into R&D and lacking limited synergies between science and industry have still been named among main challenges for the polish innovation system (Klincewicz, 2014). Polish National R&D centre established cooperation with business and other government institutions and involved technology transfer specialists for project evaluations, it also started jointly with industry numerous programmes to address upcoming research trends (Klincewicz, 2014).

**Lithuania**

In the Erawatch country specialisation report from 2006 it is noted that little data is available to define country's specialisation. Nevertheless, the level of basic research specialisation in Lithuania has at that time being among the highest compared to the EU in 2002 (ERAWATCH: Lithuania, 2006). Main scientific specialisation lied in the fields of natural sciences, mathematics, computer sciences etc., technological specialisation in 2001-2003 was limited to electronic equipment and office machinery, and economic specialisation was limited to telecommunication and transportation activities (ERAWATCH: Lithuania, 2006).

In the Erawatch country report in 2008 asymmetric concentration of R&D resources and weak inter-sectoral links have been noted, at the same time public spending on R&D has been increasing, but national budget expenditures were replaced by EU funding (Kriaucioniene, 2009). The strength of the research system at this time lies in the high number of graduates in the fields of science and technology, but this effect is diminished by insufficient quality of public higher education sector and lacking opportunities for careers (Kriaucioniene, 2009).
In terms of innovation related policy making, two Ministries shared responsibility: Ministry of Economy being responsible for innovation policy, while Ministry of Education and Science coordinates Education and public R&D Policy, which resulted in competition and lacking trust between these bodies (Paliokaitė, 2015). Additionally, Ministry of Finance has been responsible for managing ESIF funds (Paliokaitė, 2015; Reimeris, 2016). According to Respondent 1, Lithuania has been setting research and innovation priorities, but these have been different document, first with the smart specialisation approach was clear that now it has to be one single document. Lithuania's innovation system has been constantly deemed as fragmented by numerous reports (see: OECD, 2016; Paliokaitė, 2017; Paliokaitė, Petraitė, & Gonzalez Verdesoto, 2018). As confirmed by Respondent 6, this fragmentation still persists.

4.2 Emergence of a new paradigm – concept

**Government.** Upon government officials in both countries has been imposed an ex-ante conditionality to develop smart specialisation strategies in a bottom-up process. In Lithuania Ministries have delegated organisation and coordination of the process to a government agency MOSTA, previously mainly responsible for analyses of the education and research system. Policy makers consulted external advisors for the help in the process, which is indicated by active involvement of advisory firms on the preparation and facilitation of EDP. Experts selected on convenience basis have been asked to prepare a report on Lithuania's strengths and identify its priorities. Experts reported Lithuania had no priorities yet and advised to organise more in depth, evidence based process (Respondent 5). Responsible Ministries had no objections therefore stakeholders and consultants started preparing and implementing EDP.

Poland already had some experience with RIS approach at the regional level, but not at the national. But previous approach has still been to fresh in some in order to establish well functioning innovation systems in the regions (Respondent 4). Country has already had discussion about prioritisation and there existed different documents with priorities, but this has been rather technology push approach, therefore the problem was to adopt novel way of thinking and overcoming scepticism (Respondent 1). Noteworthy, in Poland existed sectoral programmes characterised by EDP qualities, nevertheless this could not be easily transposed for the purposes of S3. As noted by Respondent 2, it could be difficult to aggregate about 30 programmes into more limited number of priorities.

**Science.** Science has traditionally being focus of the STI policy, as can be seen from ERAWATCH country reports from the last decade. Hence, scientific community has been quite familiar with the developments. Smart specialisation strategy in Poland started with academic discussion and only later moved to political level (Respondent 1). Also in Lithuania scientists
followed developments at the EU level, therefore scientific community was aware of changes to come. Government officials invited scientists to participate in the EDP, as official EU documents with ex-ante condition appeared (Respondents 7 and 8). In Poland scientists have been involved into discussion at the very early stages, when smart specialisation has still been an academic topic, which spread into the broader community after EU official documents appeared (Respondent 1). Hence, science representatives seem to be among the first who knew what is going to come.

**Business.** Both countries struggled with involvement of business and managed this to a limited extent. In Lithuania lack of trust between business and government played a great role (Respondent 5). Business was sceptical about new approach and government changing its practices. Government had to manage tension between need to include business into prioritisation process and being accused of lobby influences due to negative attitudes in the society towards business (Respondent 6). Broader business community has not been included in the EDP (Respondent 6). Lacking trust between business and government is also an issue in Poland, which has been mentioned in the ex-ante evaluation report in 2017 (Otręba-Szklarczyk, Pierzchala, Strzebońska, Szklarczyk, Ulatowska, Winogrodzka & Worek, 2017).

### 4.3 Defining smart specialisation strategy - Process

**Government.** At this stage may be distinguished among policy makers, who actively form and coordinate the process, and government representatives (actual policy makers), who take the role as one of the stakeholders, and not the organisers and coordinators. In Lithuania policy makers with help of external consultants designed guidelines for the process and conducted initial analyses. This served as background for selecting fields for detailed priorities to be defined within. From this point entrepreneurial discovery process reaches more actors as working groups for every priority field have been designed. In Lithuania representatives of the policy makers take part in the meetings but cannot contribute much at the initial stages due to lacking specific knowledge in respective fields. Government representatives trust what science and business representatives discuss. During the last meeting, when it comes to implementation and necessary support, government representatives take initiative. They are in their familiar field, business and science have lost the lead in the discussion (Respondent 8). From the perception of the actors, who have been taking active role in EDP, it seems that government has been interested solely on the list of priorities and not the means of implementation suggested by stakeholders. This refers mainly to roadmaps, that have been prepared during the last meeting of working groups in Lithuania, but were not adopted by ministries.

In Poland strategies are been prepared at two levels: national and regional. Every region organises EDP in their own view and with own capabilities. At the national level, main source of
evidence are two foresight reports: technology foresight InSight 2030, and Polska 2020. First one is about technology and business, while other identifies societal challenges the country is facing. These foresights have not been carried for the purposes of smart specialisation, but few years before. Based on these and other existing documents on priorities, thematic fields emerged. Similar as in Lithuania, working groups have been designed to discuss priorities for every priority field.

Science. Science representatives are part of the expert groups and engaged in the process. But they should not be dominating over business community. The balance has to be maintained. Probably, compared to previous perspectives, role of science is less prominent.

As one of the main backgrounds for National smart specialisation strategy in Poland has been Technology foresight (InSight 2030). It has been conducted in 2011 and is characterised by a relatively comprehensive involvement of stakeholders, even though mainly experts. As can be seen from the report on Delphi exercise, scientists have been most active group. They constituted 84% and 85% of realised respondents in the first and second round respectively (Polish Chamber of Commerce for High Technology, 2011). Also in Lithuania scientists are involved into EDP. Each working group has one group leader from science and one from business community.

Business. Business had to be active player when it comes to defining priorities. It should be also the main beneficiary of the funds. In the working groups formally the balance among business and science has been maintained. Nevertheless, given the size of these communities, business is rather under-represented. Due to the lacking ties among government and broad business community but also very few organisations representing joint business interests it is difficult to assume the business sample has been representative in both countries. Furthermore, some businesses are familiar with EU support and have been using it actively, therefore there is a risk that process has been captured by a “usual suspects” and broader business community has not been reached, hence, not included. As noted by Respondent 4, in Lithuania experts have been contacted from the five existing “valleys”, as government officials already knew the people and had experience in working with them during the previous financial perspective. Notably, valleys were established and actively supported in 2007-2008 by the Ministry of economy, as a mean to foster business-science collaboration. They consist of higher education and research institutions as well as some companies, and have some thematic focus, e.g. health and biotechnology, laser etc.

In Poland, business involvement at the early stages of defining priorities has been mainly via technology foresight project, which has been largest firm-involving exercise ever carried out in the country, and pilot project of the World Bank (Respondent 3). Notably, rate of business respondents in the Technology Foresight varied between 4% in the first and 6% in the second round (Polish Chamber of Commerce for High Technology, 2011). World bank pilot project involved four regions
(Woiwodeships) out of 16, and according to Respondent 1, has not brought as much new practices as it has been assumed. According to Respondent 1, it mainly presented solutions, already adopted in the Pomorskie region. This has also been the finding of the ex-ante evaluation report 2017, when it comes to the World Bank pilot project: many participating parties have seen it somewhat critical afterwards (Otręba-Szkłarczyk et al., 2017). Therefore, it might be assumed that influence of broader business community at the early stages of smart specialisation strategy has been rather minor.

4.4 Implementation – transition to another stage

**Government.** Government officials had to decide upon implementation means for smart specialisation strategies. These include selecting financial instruments, developing action plans and announcing calls for the projects. Main tool for implementing smart specialisation strategy in Poland is operational programme POIR (for the national level) and Regional Operation Programmes. From the government perspective, possibilities to engage broad population of firms into operational programme design is limited as there are so many firms, especially SME’s and micro-firms, therefore important role in this respect play socio-economical partners and associations of entrepreneurhip, even though policy makers are aware that these may not be entirely representative (Respondent 3).

In Lithuania action plans for every priority have been developed and financial instruments, mostly similar to these available during financial programming perspective 2007-2013 have been designed. Although, there is some contradiction: according to Respondent 6, about 50% of the instruments are new, while respondent 8 perceived most remained the same but the names have been changed by adding prefix “inno”. In these plans is explicitly stated that while preparing them, roadmaps developed by working groups have been taken into consideration. But, as already mentioned, stakeholders do not entirely shared this view. According to Respondent 7, priority setting process followed “anti stage-gate” approach, but despite this, defined priorities could be implemented if specific funding would be assigned and decision on what to finance would not be left for experts, evaluating projects. The implementation process in Lithuania has been delayed due to the late agreement on financial instruments by responsible ministries. After smart specialisation strategy has been defined, it appeared that Ministry of Finance has not been involved in the process, even thou it is responsible for managing the funds (Respondent 6). The reasons for the delays are assumed to lie within lack of agreements between three ministries and are not clear for other stakeholders.

**Science.** In Lithuania, collaborative projects between science and business had to be implemented by the financial instrument “Intelektas”, which appeared in two waves. Nevertheless,
from the perspective of science community, participation in collaborative projects with business appeared to be difficult due to requirement co-finance the projects. Even though share of own financial contribution has been relatively small, this proved to be an obstacle for the scientists due to decentralised accountability structure of the departments, which meant even small amount of money being significant part of departments budget (Respondent 8). Alternatively, science could realise smart specialisation strategy related projects with the funding provided by Lithuanian Research Council, via instrument, introduced by Ministry of Education and Science.

**Business.** Both in Lithuania and in Poland priorities are not equal in terms of attracting applicants. Some areas, e.g. ICT are indeed very popular which is true in both countries. Others are less successful. Areas also vary in terms of application failure rates.

At the time of first evaluation in Lithuania, the main instrument for which the results are available is “Itelektas”. At the hearth of this instrument was to found business and science collaborative projects. According to preliminary results, summarised in the RIO report 2018, priority areas varied by the application intensity and quality of accepted projects. While health technologies and biotechnologies, as well as new production processes, materials and technologies scored relatively high on both application number and average evaluation score for the projects, priorities from the field of inclusive and creative society and agri-innovation and food technologies have been less successful in both criteria. For transport, logistics and information and communication technologies number of applications have been relatively high, but quality of the projects relatively low.

The Latest data available on implementation of smart specialisation priorities in Poland is for June 2016 (at the website of *Krajowa Inteligentna Specjalizacja*, MR, 2016). The picture is similar as in Lithuania in regard to differences in success rate of application by particular fields. These range from 0% within the maritime priority to 31% in the field of modern technologies for exploitation of natural resources and production of their substitutes, similarly, success rate in terms of total funding asked and received within a priority ranges from 29% in smart and energy-saving construction to 0% in maritime (MR, 2016). Notable, that priority with most interest for the community in terms of number of applications has been smart networks and geoinformational technologies, with 500 initial applications being at the lead but success rates lied by 0,4 % of accepted application and 0,5% of provided funding respectively, which is the lowest value after maritime (0% out of four initial applications).

Noteworthy, that in both countries applications have been least successful in these priorities, that by respondents in both countries have been named as rather dominated by business initiative during EDP while defining smart specialisation strategies (e.g. transport and logistics in Lithuania
or ICT and maritime in Poland).

4.5 First evaluations and adjustments

**Government.** In Lithuania policy makers contact experts to form working groups again in order to review smart specialisation strategy. But, as noted in the Rio country report for Lithuania for 2017, country's policy, relating to smart specialisation has been subject only to minor changes. Two monitoring reports have appeared by now, but it is difficult to draw comprehensive conclusions on their basis. As noted on the web-page of smart specialisation in Lithuania (sumani2020.lt), experts have presented suggestions for further revision of smart specialisation strategy and Ministry of Economy is going to analyse this information. First evaluation of smart specialisation in Lithuania has been set for the autumn 2018, but the results of this evaluation are not available yet. By the end of 2018 approximately one third of the funds for smart specialisation have been absorbed (MOSTA, sumani2020.lt).

According to Rio country report 2017 for Poland, country still lacked well established monitoring mechanisms. The monitoring body was composed of working groups, economic observatory, steering committee and consultative group (Klincewicz, Marczewska, & Szkuta, 2018). Nevertheless, as noted in the report, the main outcome of the work of this body was some updates to priorities, that now are 17 instead of initial 20. The revision at national level has not been extensive, there also lacks an evaluation through entrepreneurial discovery process (Klincewicz et al., 2018).

The report on planned evaluation measures of national level smart specialisation strategy in Poland puts starting point for first evaluation in 2017, according to this plan, evaluation should be carried in three stages, first of them being ex-ante evaluation, followed by mid-term evaluation in 2019 and ex-post evaluation in 2023 (PARP, 2017). First report for ex-ante evaluation is already available. In the report has been pointed out that involvement of business in the entrepreneurial discovery process bears risks that have not been appreciated yet, therefore it is not clear how they should be dealt with (Otręba-Szkłarczyk et al., 2017). As stated in the report, these risks connect primarily to the lack of trust between different entrepreneurs as well as between entrepreneurs and public administration. Report also highlights lacking coordination between national and regional smart specialisations and notes that at the moment there seem to be two smart specialisation strategy systems: one regional and one national (Otręba-Szkłarczyk et al., 2017, p.13). Non inclusion of the Forum for Regional Smart Specialisations within the framework of monitoring system has been pointed as another related issue (Otręba-Szkłarczyk et al., 2017, p. 20). The Forum has been established as a platform of exchange of experiences within smart specialisation strategies.
**Science.** Scientific community in Lithuania participates in the process of smart specialisation revision and provides recommendation to policy makers. Nevertheless, the process is not continuous and community can only actively engage when being asked. Each group of experts has also one group leader from the science and one from business. The group leaders get remuneration for their work, but majority of the experts work on voluntary basis (Respondent 8). Broader involvement of stakeholders is not in place. Similar situation can be noted for Poland.

**Business.** Business can participate on the same rules as scientific community. Its involvement is difficult due to low community organisation level to be able to act as a single body with common interest. Nevertheless, in Lithuanian case the step forward is that business is taking part at all as it has formerly been away from policy making and cooperation with government sector.

In the ex-ante evaluation report for Poland’s national smart specialisation strategies has been noted that not all targeted groups have been sufficiently involved, e.g. representatives of the National Key Clusters, socio-economical partners, and special-purpose companies (Otręba-Szklarczyk et al., 2017, p. 19).

5. Discussion and implications for further research

Initial results show, there have been similar struggles with the approach in both countries. Both countries ended up with rather broad lists of priorities, which is mainly due to the time pressure to deliver the official documents, called smart specialisation strategy. But also due to the anxiety not be able to absorb funds if the fields are to focused as innovative business landscape is rather scarce (Otręba-Szklarczyk et al., 2017). Bottom-up approach requires time for discussion and leveraging interests of different stakeholders and actors within particular groups in order for priorities to emerge. This seems to some extent going to be fixed in result of the mid-term revisions, taking place in both countries. Nevertheless, there is a need to acknowledge that smart specialisation strategy is a continuous process, which hardly can be captured within a rigid document at the static point of time. This is given by the nature of innovation as it is hardly predictable what is going to come.

Preliminary answer for the first research question may be that entrepreneurial discovery process as intended by smart specialisation approach of European Commission has still not emerged neither in Poland nor in Lithuania. The mechanisms ensuring possibilities for broader range of stakeholders to participate in the process have not been set yet, especially with regard to the business community that has traditionally being isolated from public policy making. Setting up these mechanisms may be hindered by fragmented innovation system, low institutional capacity of
policy making bodies and lacking trust. To express this in terms of the literature discussed in this paper, lacking links and fragmentation may hinder amplification of the new frame. Therefore, there is a risk that no change will happen as multiply frames may co-exist.

With respect to the second research question, in Lithuania implementation started with substantial delay, which is mainly attributed to delays in providing financial instruments. In Poland, monitoring process have not been agreed upon, therefore it is difficult to measure the progress. This shows that entrepreneurial discovery process in these countries was mainly focused on defining priorities, without further consideration of other aspects. The process seems to be linear, considering one stage after another instead of taking holistic approach and treating the issues complexly and systemically. Additionally, discontinuity of the process and its decoupling from the daily actions of policy makers in the ministries rise question about its potential to render substantial results.

Relationship of different stakeholder to smart specialisation strategy may be determined by fragmentation of the innovation system and lack of triple or quadruple helix coalition (identified as heroic assumption by Marques and Morgan, 2018). Therefore, there is a mismatch between the groups defining priorities, financial instruments, and the ones who could be potentially innovating. As a result, problematic may be ownership of the strategy, which illustrates Lithuanian case. Government saw the strategy being relevant mainly for the business (former prime minister Butkevičius has said this publicly) but not for themselves. Science could reap little benefit from priorities as focus in the financial perspective 2014-2020 should be shifted towards innovating firms. Finally, it is possible that broader range of businesses might be unaware of the strategy as due to the lacking links between different groups of actors, sufficient information may have been reached mostly these firms, that were already familiar with EU support schemes.

Finally, due to discontinuous and fragmented entrepreneurial discovery process and lacking coordination capacity, project selection mechanisms have not been developed jointly by stakeholders during entrepreneurial discovery process, but decision has been left for agencies and experts.

A conclusion for now may be that policy makers started seeking advise from local experts and representatives of the science and business communities, which formerly was not always the case, especially in regard to business participation in innovation policy making. Nevertheless, the entrepreneurial discovery process has to be established yet. The old institutions seem to prevail in the business sector, which does not actively seek to engage in the process. Possibility to take part in defining priorities for smart specialisation strategy and ensure better possibilities to get funding for own innovative projects seems not to provide enough incentives for the business to self-organise. Relative low application success rate in some priority fields, especially there where business interest
is potentially high, point out there might be problems in understanding by business the scheme or nature of the kind of projects that could be supported, inadequacy of project evaluation criteria or mismatch between priorities and activities of the firms.

Governments seem to be attempting to leverage contrasting institutional demands: comply with EU rules on the one hand but struggle to depart from existing practice of financing everything, without prioritising, on the other hand. Lacking links to business community and mistrust seem to complicate the situation. Scientific community has been supporting government with its involvement and expertise, but it can reap relatively little benefit from smart specialisation without cooperating with business. Broader business community seems to be out of reach for policy makers. Even though while selecting smart specialisation, societal challenges have been considered, society has not been involved in EDP either in Poland, nor in Lithuania. Moreover, its involvement has not been considered seriously, which can be seen from official documents that have no notions about society involvement measures.

References:
Kroll, H. (2015). Efforts to implement smart specialization in Practice—Leading unlike horses to
the water. *European Planning Studies*, 23(10), 2079-2098.

Reports:


Internet sources:

