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Title

Multi-Level Innovation Policy in the Baltic Sea Region Countries

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Abstract
Paper discusses how innovation policies in the six Baltic Sea Region (BSR) countries - Sweden, Denmark, Finland, Latvia, Estonia and Lithuania - relate to the innovation policy activities at other government levels. Expansion of innovation policy to different government levels may create a risk of overlapping between various initiatives, therefore a distribution of tasks and coordination is important. The theoretical background of the paper focuses on the concept of policy mix that emphasizes the role of interactions between different policies. Twelve innovation policy strategies were analyzed in the BSR countries. The results demonstrate that innovation policies in the BSR countries do not consider other government levels and coordination important topics.

Key words
Innovation policy, policy mix, Baltic Sea Region.

Introduction

In times when new or even existing government programs are strictly scrutinized before budget for implementation is awarded, the field of innovation support is somewhat an exception. This stems from the fact that successful innovation policies are expected to help promote the economic growth. While national governments try to safeguard budgets and think of new ways how to support innovation, regional, local and supra-national authorities, increasingly consider innovation policy an important activity. Therefore it can be argued that innovation policy is characterized by multi-level implementation. The term multi-level implementation is knowingly used here instead of the more popular term "multi-level governance", frequently employed in public administration and policy analysis literature. This is so because the concept of multi-level governance considers also the involvement of non governmental actors in the policy making, but this topic is not addressed in this paper. However, the multi-level policy implementation can complicate the coordination of the innovation policy. Despite that, it is unclear whether the policy makers at different levels acknowledge this complexity and whether they have effective coordination mechanisms at hand.

The Nordic countries in the Baltic Sea Region are the ones with the most developed regional dimension of the innovation policy. Several regions in Finland, Sweden and Denmark have all developed innovation strategies and support instruments. As such, these regions are considered to be important players at the level of national innovation system. For example, the capital region of Denmark has its strategy "The Capital Region of Denmark: The Green, Innovative Growth Engine of North Europe". The role of the regions or local authorities in the innovation support is less pronounced in the Baltic States; however the challenge of coordinating the national and supra-national initiatives remains. The picture in the Baltic Sea Region becomes more complicated with the EU Strategy for the Baltic Sea Region and its emergence as a macro region.

Multi-level implementation complicates the innovation policy mix by adding new goals and tools to achieve these goals. It is mainly the adaptation of new initiatives and instruments that complicate the policy mix. The problem is that innovation support activities may start to overlap and scarce public resources end up being spent by different authorities without seeking complementarities of their actions. This would be prevented if systemic thinking about innovation was taken into account. However, it is assumed in this paper that with the help of policy coordination, these challenges can be addressed. In order to coordinate efforts effectively, the policy makers have to, first of all, acknowledge that innovation support is no longer an activity limited to national governments.

The present paper investigates whether and how national and regional innovation policy planning documents in the BSR countries consider the innovation support activities performed by other government levels besides the one that has developed the very strategy. Documentary analysis was performed to investigate the discussion of other government levels in the innovation policy strategies. The first section introduces the theoretical basis of the study. The paper will present the background information about the intensity of innovation support activities at national, regional, local and supra-national levels in the BSR. The second section will introduce the research method and findings of the study. In conclusion a discussion about the results and challenges related to the multi-level implementation of innovation policies in the BSR will be presented.

The concept of innovation policy mix in the context of multi-level policy implementation

The concept of policy mix

Academic research on government policies and policy instruments is slowly moving away from a narrow perspective that analyzed separate fragmented policies and instruments to a more complex one, which emphasizes the interactions and mutual influences between different policies. In this respect, combinations of different policies and policy instruments are labelled as policy mixes. On the one hand, the emergence of policy mix concept results from a new understanding of the character of problems that modern policies have to address as well as the ways these problems can actually be addressed. Nowadays policies are characterized by complexity therefore very often it is not enough to have one or few policy instruments to solve the pressing problems. Instead combinations or mixes of policy instruments are necessary (OECD, 2007). On the other hand, policy mixes come into existence naturally, as new policies develop in an already dense environment (Peters, 1983). Thus, policy mixes are somehow inevitable elements or characteristics of modern policies. Besides the reasons mentioned above, such as the need to solve complicated problems, the policy mixes came into existence due to several government levels that work to implement the policy (Sterner, 2003). For this reason, this paper considers other government levels to be important in the policy planning process as this may ensure that policy mixes are coherent and well-functioning.

Patrice Boekholt defines policy mix as "the combination of policy instruments, which interact to influence the quantity and quality of R&D investments in public and private sectors. Thus policy mixes are looking for holistic solutions to address RTDI issues and to increase (public and private) investments in R&D, in particular" (Boekholt, 2011).

The major characteristic of policy mix is that it consists of several policy instruments. When policy mixes are considered, a distinction can also be made between different policies according to their complexity (Howlett, 2006). Howlett starts by distinguishing between simple policy and complex policy space, where the former relates to only one government agency implementing one policy program at a time and the latter relates to multiple agencies implementing several programs (Howlett, 2006). If one should insert the innovation policy in one of these categories, it would be certain that in most countries this policy would fall under the category of complex policy space, because usually, there are multiple government agencies that implement this policy and there are also multiple programs. The existence of several government levels implementing innovation policies complicates the picture even more, because it adds new agencies and programs. As a result, the whole innovation policy making picture may become blurred and sporadic.

Conditions for successful functioning of policy mixes: the role of coordination

The previous section introduced the concept of policy mix. What follows is a more detailed elaboration concerning the characteristics of policy mixes as well as the preconditions for them to function successfully. This will help to understand the context for the need to analyse the consideration of other government levels in the innovation policy planning documents. It has been emphasized that it is not really possible to define good policy mixes (Flanagan, 2011). However, there have been attempts to characterize what innovation policy mixes should look like, for instance, calling for more coherence and appropriateness (Boekholt, 2011). When new instruments emerge and new government levels are involved in the policymaking, the interaction between these instruments may become not only complementary, but also negative, resulting in an ineffective policy (Boonekamp, 2006). Research has concluded that the instruments

in the policy instruments mix may be a) complementary; b) complementary if implemented sequentially; c) incompatible or their interaction may be dependent on specific context (Sorrel, 1998). OECD offers more general classification of interaction forms. Interactions can be complementary, neutral and conflicting (OECD, 2010). Interaction between the instruments was emphasized as a factor that determines policy success. That said, it was also concluded that practical evaluation of the impacts of these interactions is complicated (Howlett, 2011). Despite that, several studies have been performed. For example, Glachant concludes in his research that the existence of coordination mechanisms is an important prerequisite for hindering of the development of unpredicted and negative instrument interactions (Glachant, 2000). This posits a challenge for policy makers especially when policy instruments are implemented at several government levels. Lack of coordination or its intensity is used to explain the overlapping between policies (Peters and Savoie, 2000). However, for coordination to happen, it is first of all important to identify what has to be coordinated. If it is not acknowledged by policy makers that not only their government level is implementing specific policy, coordination can only be performed at a local level. This case does not take into account other government levels and respective policy instruments or initiatives.

According to Guy Peters (1998), since the public administration structures were split in different departments and organizations, the problems of coordination have existed for a while now. In other words organizations are not aware of what others are doing and government programs end up being contradictory in their effects. One of the explanations of the vague and blurred concept of coordination in the field of science and technology policies says that coordination is a condition when policies or programs work together in a coherent and mutually reinforcing manner (Pelkonen, Teravainen,

Waltari, 2008). Other definitions emphasize aversion to overlapping and conflict, concentration on coherence, agreement about priorities, reduction of conflict, elimination of the narrow, fragmented view of policy making and its replacement with a common perspective (Pelkonen, Teravainen, Waltari, 2008). The lack of coordination therefore may lead to an overlapping and insufficiently systemic view of innovation. Therefore authorities should be informed about developments other than their field of responsibility either in formal or informal manner. If a policy maker is aware, for example, that grants for international R&D cooperation for SMEs are available at, say, supra-national level, one may think twice before introducing the same or similar program on the national level.

Innovation support activities at national, regional and supra-national levels in the Baltic Sea Region

Although innovation policy can be increasingly considered to be a multi-level phenomenon, the intensity of innovation support activities differs at various authority levels. The main differences in the BSR region lie at the level of regional strategies which in the case of the Baltic States hardly exists, whereas in Nordic countries regional innovation strategies are advanced. While the national level strategy as it has been traditionally understood, dominates the system, the influence of the European Union cannot be underestimated especially in the case of the Baltic Sates. As such, the macro regional development in the BSR is yet another aspect to be taken into account when multi-level innovation policy is considered.

The role of national level

The national government in the form of ministries of science or economy and some other institutions has always dominated and still dominates the field of innovation

policy. It is the national level that decides the priority sectors, it provides grants for R&D; it initiates R&D tax credits, organizes the innovation procurement and implements other innovation policy instruments. The European Commission concludes that most of the innovation policy instruments are implemented at national level, but it also concludes that in the long-term other government levels should also be involved (PRO INNO EUROPE, 2008). National innovation policies in Sweden, Denmark and Finland have a longer history then their Baltic counterparts and are often portrayed in the innovation policy discourse as forerunners of the field. Sweden, for its part has followed the prescriptions from the theoretical literature on National Innovation Systems by developing the national innovation agency VINNOVA. Finland has been set as an example due to merits of the Science and Technology Policy Council of Finland (Pelkonen, 2006). Less optimistic views have been expressed about the coordination of science, technology and innovation policy in Denmark (Koch, 2008). The three Nordic countries are labelled as innovation leaders in the Innovation Union Scoreboard developed by the European Commission (European Commission, 2011). While innovation policies in Latvia, Lithuania and Estonia are more recent, the membership in the EU has had a great influence on these policies. However, development of these policies has been hindered by comparatively new and weak public administration in these countries. Therefore the national innovation policies are characterized by several challenges.

The role of the regional and local level

The regional level in this article is understood as a unit comprising several local territories. In Baltic and Nordic countries the regions and local municipalities play

different roles in the field of innovation support. Nordic countries have developed their regional innovation strategies and policies in many regions. For example in Sweden, there is the "Regional Development Plan for the Stockholm Region". Finland has the strategy "Prosperous Metropolis: Competitiveness Strategy for the Helsinki Metropolitan Area". A region in Denmark has its innovation strategy "The Capital Region of Denmark. The Green, Innovative Growth Engine of North Europe". In the case of Baltic countries there are no strategies to be found below the national level. There are some activities by local municipalities, however. For example, Riga City Council is organizing annual business ideas competition to support innovation, but such activities are rare and fragmented and there is no evidence of actual strategy building taking place. This can be explained by a relatively small size of the regional and local units in the Baltic countries. These countries as a whole are considered as regions in the context of European Union.

It has been emphasized that innovation has to take into account the local context and learning possibilities (Morgan, 2004). This is why regions in such countries as Finland, Sweden and Denmark recognize the need for activities in this field and develop their own regional innovation strategies and support instruments. There are ways in which the regional authorities can contribute to the innovation policies at national and supra-national levels. This has led regions to play an increasingly bigger role in the process of innovation support. Therefore the research on innovation policies has to take into account these activities and explore whether regional innovation strategies consider what is taking place at other government levels.

The role of the supra-national level

When supra-national level is analyzed in this paper, it focuses mainly on the activities of the European Union, respectively, the European Commission, and the activities taking place at the macro regional level – the BSR. The European Union has been active in science, technology and innovation policies since its early days. Now the European Commission implements a large research funding program – the annual Framework Program and sets new trends in the innovation policy (service innovation, innovation procurement and other initiatives). Besides that, as its structural policy funds are the most important source of funding on the national level, European Commission also influences the national innovation policies among the new member states. European Commission is also active in proposing common goals in this field for Europe (e.g. Lisbon strategy). However, the activities at the macro regional level are more recent. As such, innovation support is one of the priorities in the EU's Strategy for the Baltic Sea Region and there are initiatives to create innovation support programmes. Of course, both of these supra-national level layers are limited in their actions, because they cannot propose regulation in this field (the initiative to have common European patent is an exception.)

Scholars have extensively discussed the role of European Union be in the field of innovation support. Stefan Kuhlman, for instance, has concluded that the European dimension could be responsible for the research policy, industrial clusters and innovation culture. As for the BSR, a detailed academic discussion about the role of this region in the field has not yet taken place. It has been concluded, though, that there are common grounds and reasons for cooperation in the field of innovation in this region (Serger, Wise, 2004).

The research method

This paper considers the way national innovation policy planning documents/strategies in six BSR countries consider other government levels. Besides the national level, government levels are considered to be supra-national levels – EU and BSR activities and local/regional levels. However, the main focus is on the BSR activities. The paper discusses the manner and the extent to which other government levels are considered. It explores the context and main themes in the innovation policy documents at national level and regional level, limiting the scope to the capital regions of Sweden, Denmark and Finland.

The paper and analysis is based on the national innovation strategies of the BSR countries. The policy documents that were analyzed are developed by the national authorities responsible for innovation policy and can be found on their Internet home pages. In total nine innovation strategies from six countries and regions were analyzed. For all of the documents the English version or at least a detailed summary was available. The length of the documents varies from 14 to 84 pages, but the average is around 50 pages. The policy documents were systematically analyzed and summarized using qualitative content analysis to identify important aspects of the document content. The respective method was used to obtain a general idea from the innovation policy documents regarding other government levels as well as to identify the ways in which other government levels are approached in the text. To understand the interactions between the government levels in the field of innovation policy, it is important to analyze if and how other government levels are considered in the innovation policy documents. For the purposes of analysis, categories were developed before reading of the documents.

The categories are based on theoretical considerations described in the first part of the paper. Multi-level innovation policy and policy coordination were the two main themes. The analysis was performed in the following steps: 1. All paragraphs considering other government levels (for example, supra-national, regional, local, BSR) or policy coordination were marked. Altogether 40 paragraphs were marked in the national documents and 7 paragraphs in regional documents in Sweden, Finland and Denmark. The selected paragraphs where analyzed according to several categories (see Table 1) – cooperation, coordination, responsibility and tasks of the mentioned government levels. For the theme of coordination such categories as the role of national, EU level and coordination mechanisms were used (Table 1). The number of times when the categories were used numbered. Finally, the context in which regions were mentioned in the documents was analyzed.

There are several limitations for the use of documentary analysis to identify the discussion of other government levels and the topic of coordination. First, these topics may be addressed by policy makers in other formal or informal communication formats than innovation policy planning documents. Second, there are no strict rules for the content of the innovation policy planning documents and it may be that at the time of the creation of these documents other topics where considered to be more important. This means that the conclusions derived from this analysis can only be attributed to the very formal and declarative level of the policy making and further data collection is needed.

Table 1. Themes and categories used for the analysis.

Themes	Categories			
Multi-level innovation policy	Cooperation	Coordination	Responsibility	Tasks
Policy coordination	The role of national government level	The role of supra-national government level	Coordination mechanisms	Problems

Analysis of innovation policy documents

The topic of other government levels in the national and regional innovation policy documents

All of the analyzed national and regional policy documents mention and consider other government levels in one way or another. In general this indicates that innovation policy makers who created and adopted the strategies are aware to be operating within a multi-level innovation policy system and that there are other government levels performing innovation promotion activities. However, a more detailed analysis is needed to understand the contexts in which other government levels are considered, because it may be the case that the reference to other government levels is formal and does not indicate detailed knowledge about activities or roles.

Most often national innovation policy documents consider the regional (or local in case of the Baltic States) government level. From the pre-defined categories for analysis,

cooperation was mentioned most often. For example, in the Swedish strategy "Innovative Sweden: A strategy for growth through renewal" it was emphasized that: "Issues that could previously be decided at national level must now increasingly be dealt with by regional, national and international levels in close collaboration". However, other contexts were found that could not have been related to any of the categories. For instance, some regions were considered in contexts such as specialization of regional universities or the need to raise awareness among regions regarding the innovation policy topics. It is important to point out that the second most often mentioned category from the pre-defined ones was the tasks for specific government level, which indicates that national level documents, in fact, take into consideration what the regional level should do. This observation (the most often mentioned government level is regional/local) can be explained by the fact that regions can actually contribute to the achievement of the goals prescribed by the national innovation strategies. It means that at least on the conceptual level national governments consider regions as cooperation partners and recognize their role in innovation promotion. As for the most often mentioned categories or contexts in which the regions where discussed (namely, cooperation), it can be concluded that relations between the government levels in the field of innovation support are still in their initial stages, because the documents do not mention specific responsibilities or tasks to be undertaken by regions.

The second most often mentioned government level was the supra-national level – the European Union and its activities in the field of innovation support. However, in case of the European Union as the second most often mentioned government level, it most frequently appeared in the texts in different contexts than those pre-defined. For example, in the case of Latvia's innovation strategy it was emphasized that the target

group of innovation policy (SMEs) is not even aware of the activities of the EU's innovation policy. Meanwhile, Finland's strategy emphasizes that the EU is the framework for international cooperation activities. In the case of Estonia's strategy it was said to be a tool to achieve the goals of the Lisbon strategy. These examples indicate various attitudes towards the EU as a player in the field of innovation policy and cannot be interpreted unambiguously. Again, the second most often mentioned category was cooperation and specific tasks or responsibilities were not discussed in the documents.

The analysis indicates that BSR as a macro region was not considered an important cooperation platform. Only 3 paragraphs of the whole material discussed the BSR cooperation. Only documents from 2 countries (Lithuania and Finland) discussed the BSR. In the case of Nordic countries, Nordic cooperation was mentioned more often, but in case of Baltic States macro regional or Baltic cooperation was not addressed at all. This might be explained by the fact that the EU Strategy for BSR was adopted in 2009, however most of the analyzed documents where developed before this period.

In the innovation strategies of capital regions in Finland, Sweden and Denmark other government levels were not often discussed. The strategy from the Capital Region of Denmark was the one that discussed other government levels most frequently. It talked about all of the possible other government levels. In all of the analyzed documents, the national level was discussed most often.

The topic of policy coordination in the national and regional innovation policy documents

Policy coordination is not widely discussed in the innovation policy documents of the BSR countries. Only the national innovation strategies of Sweden, Denmark and Latvia and the capital region of Denmark consider the topic of innovation policy coordination. This means that policy coordination is not a very important and problematic topic from the perspective of innovation policy makers. It may also be that the innovation strategies are not considered to be the right documents were to discuss these kinds of issues.

In documents where policy coordination is discussed it is done outside the pre-defined categories. This means that documents say nothing about the responsibilities of coordination, the coordination mechanisms or problems. From the pre-defined categories, only coordination mechanisms and coordination problems were each discussed in only one document. The Danish strategy emphasizes that: "Partnership agreements should be entered into between the Regional Growth Fora and the central government". Other themes discussed include coordinating the timing of the innovation support programs and integration of several planning documents into one. However, none of the documents consider which of the government levels should take the responsibility for the process of coordination. This can be explained by reluctance to take the initiative or assign responsibilities and trust to others. Therefore it can be concluded from the analysis of innovation policy planning documents that policy coordination among different government levels is not considered to be topical among the policy makers in BSR.

In addition to other government levels and policy coordination, one more theme was initially proposed for the analysis, namely policy justifications/rationales (whether

innovation policy documents/strategies consider why the policy is implemented). However, none of the analyzed documents discussed this topic. This can be explained by concentration of tasks and specific instruments, rather by discussing broader and more conceptual topics.

Conclusions

The purpose of this paper was to explore if and how the national and regional innovation policy documents in the Baltic Sea Region countries discuss other government levels and policy coordination among the government levels. It can be concluded that policy makers are aware that they are functioning within a multi-level policy making system. The analysis shows that although innovation policy documents consider other government levels, it is done in a broad and general fashion. As such, the reference to other government levels is formal if at all.

It can also be concluded that the role of regions is important, because national strategies in the Baltic countries, and especially in the Nordic countries, discuss the regional level very often while the cooperation with the regions is the most often discussed theme of all. Although it is important to cooperate, and the policy documents convey an awareness that cooperation is necessary, they fail to specify in what kind of forms this should happen, which leads to a conclusion that policy makers do not have specific ideas how to actually cooperate with the regional level. This is important, as both the theoretical and practical debate about the regional innovation is very popular. Notwithstanding, the policy makers at national level seem to be stuck in the discussion about the importance of regions and do not appear to know how to actually address it in detail. The supra-national government level or the European Union is also considered to be important as far as innovation strategies are concerned, but it is discussed in very

many different contexts and, as such, it remains problematic to draw any general conclusions about the role assigned to the EU.

The most important conclusion to be drawn from the analysis is the fact that innovation policy documents hardly ever engage with the topic of distribution of responsibilities between the various government levels. Although there are signs that policy makers are aware of the multi-level system, the topic is not discussed in a detailed fashion. This indicates that there is a risk of overlapping between various initiatives; a risk of policy instruments developed at different government levels and the overall policy mix lacking coherence. The risk could be minimized if the policy makers would take into account the work of other government levels, However, as long as it remains superficial, as this study indicates, there may be problems of overlapping and lack of complementarities, which are so important in the innovation systems. Taking this into account it should be reminded once again that policy documents is a specific type of information source and their limitations have to be considered in advance. Therefore, it would be important to continue the exploration by analysing how policy makers themselves position these topics. Interviews with policy makers could help to establish whether the conclusions drawn here are justified.

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