

## Support policy in old-industrial regions – theoretical resources and case studies

PETER DŽUPKA

*Technical University of Košice – Faculty of Economics*  
Němcovej 32, Košice  
Slovak Republic  
Peter.Dzupka@tuke.sk

### Abstract

*For the abstract use Times New Roman font, italics, 10-point type size, centered.*

*The purpose of the article is to describe the innovation support policy in old-industrial regions from theoretical point of view. First part of the proposed article is describing the theoretical background of innovation policy. Next part of the article is describing the theoretical rationale for regionalization of the innovation support policy. According to theoretical works investigation we are trying to answer following questions: What is the appropriate level for innovation policy? Is support policy more ex-post coordinated or pro active? Is policy more focused on indirect support (basic infrastructure, tax support etc.) or directly on dynamic knowledge (clusters, support services etc.)? In last part of the article we try to answer the same questions by analysing two case studies of old industrial regions.*

**Key words:** Innovation policy, old-industrial regions, dynamic knowledge.

**JEL Classification:** R10

### 1 Introduction

This paper is result of the theoretical research made within “Regional dimensions of the knowledge economy” (REDIPE) project. The project objective comes from a theoretical conception of innovative systems as applied to knowledge-based economies. The economic performance of territorial units is not only a result of individual business entities performance's but is also a result of mutual cooperation and relationships between businesses and the public sector, in the process of the creation and diffusion of knowledge. The project examines the influence of knowledge on economic development and its spatial aspects, via macro analysis (by region and sector) and microanalysis (at the level of a company, networks and the individual). The project is divided into six work packages in which prestigious research teams from universities covering an area of analyzed Slovak regions will participate. Results of the project will be used by institutions working on operational programmes and on specific projects within the EU support policy, for the period 2007-2013 and by other public administration bodies, at national and regional levels.

The aim of this paper is to deal with support policy in old industrial regions from theoretical point of view. Just like there are trends in changing of economies to knowledge based economies, there are similar changes in support policies. Policies are changing in focus, tools and goals used. Therefore we analyze several theoretical works, studies and case studies with aim to answer following questions:

- What is the appropriate level for innovation policy?

- Is support policy more ex-post coordinated or pro-active?
- Is policy more focused on indirect support (basic infrastructure, tax support etc.) or directly on dynamic knowledge (clusters, support services etc.)?

First part of the paper is defining the old industrial region and trying to find specialized type of the support policy which we will focus on in our further work.

Next part of the paper is describing results of theoretical works, studies and case studies with aim to answer questions described above.

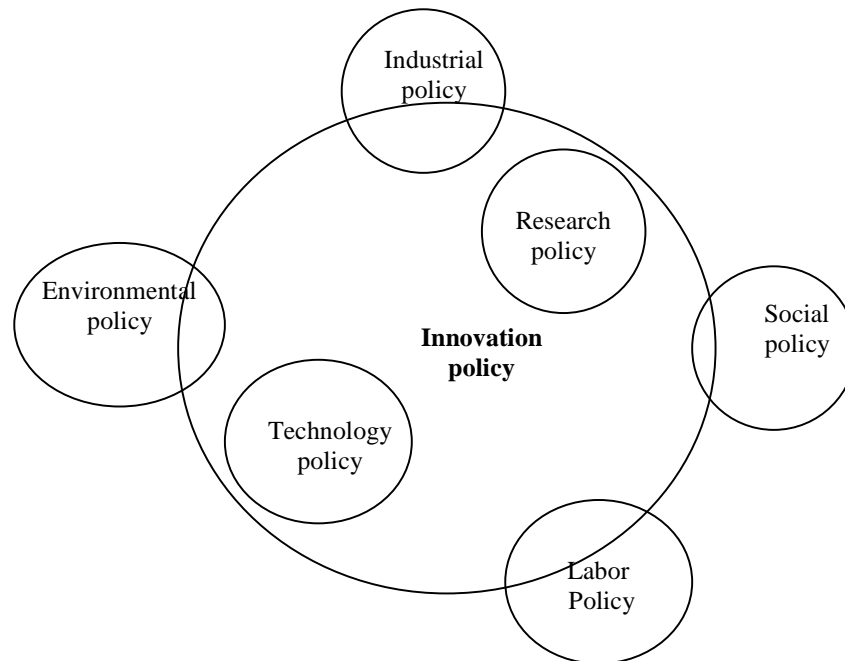
## 2 Old industrial regions definition and support policy type selection.

First of all we have to define the structure and describe the characteristics of the old industrial regions. As basic for this description we took the division of the three types of region from Tödting, F., Trippel, M., 2005 and their study “one size fits all ?”[1]. Following table summarizes the most important characteristics and factors underlying weak innovation capability of the old industrial regions.

**Tab. 1: Old-industrial regions and support policy**

<b>Problem dimension</b>	<b>Old industrial regions</b>
<b>Firms and regional cluster</b>	often specialized on mature industries large firm dominance
<b>Innovation activities</b>	narrow technological trajectories domination of incremental and process innovation
<b>Universities / research organizations</b>	often oriented on traditional industries / technologies
<b>Education / training</b>	emphasis often on technical skills; managerial skills and “Modern“qualifications often missing.
<b>Knowledge transfer</b>	many and specialized organizations but weakly coordinated
<b>Networks</b>	often characterized by technological and / or political lock-ins

There exist several types of support policies on regional level. When we want to investigate how the support policy of technology development was changing on regional level, probably the best type of the support policy will be the “Innovation policy” Innovation policy is combination of the research, technology and industrial policy. Innovation policy can be characterized as the most general [2]. Innovation policy often includes also environmental policy, social policy or labor policy.



**Pic. 1 Innovation policy regarding to other support policies. [2]**

### **3 Trends in level of innovation support policy – national or regional level**

According to several authors the regionalization of the innovation system is the key element [3], [4], [1], [5]. Using innovation policy on regional level can have different results in different types of regions. The level of autonomy and political power, which different regions operate with is different from region to region and depends on national government structure. According to [6] regions with its own political system, decisions competencies and ability to claim their “regional interests” can gain from regionalization much more than regions with lower level of independents. However success of the regional innovation policy depends on more factors, such as industry structure of the region, period of planned and implementation etc.

By defining relationship between national and regional policy there are, from theoretical point of view, two basic approaches (or theirs combination) – bottom-up and top-down approach. Top-down approach in innovation policy is connecting regional innovation policy very closely with national interests and priorities. Vice-versa, bottom-up approach should respect regional specifics and innovation policy is created directly in the regions. From the external funds point of view, this approach allows regions to use national or EU funds for innovation according to their own priorities and needs. In innovation policy theory is move to bottom-up approach very visible. According to several studies, this approach allows regions to reach the policy goals more efficiently. For example [7], [8], suggest creating national innovation policies as a conjunction of regional innovation policies within the country. Regional innovation policy is starting to be not only implemented, but also created at regional level in last years.

#### 4 Trends in timing of innovation support policy – ex-post or proactive

Timing and promoting of the policy leads to question about the support policy as pro-active or ex-post coordinated. To find the answer on this question is not easy. There exist several types of innovation policies which are implemented in different types of regions. Methods and tools depend a lot on political autonomy of the region, on structure of the national policy, level of country development, industrial structure of the region etc. When investigating development of the innovation policies within EU countries, a move from ex-post coordinated policies to proactive policies is visible. Following table describes development of the innovation policies in EU in connection to its main goals, clients, content, process and systems

**Tab. 2 Development of the innovation policies in Europe [9].**

	PRIMARY GOAL	CLIENT	CONTENT	PROCESS	SYSTEM
Financial (1970 +)	Stimulating R&D One to one	Private firm	R&D subsidy		
Diffusion (1980 +)	Transfer of knowledge and/or technological competence	One to one; Private firm (Public institution)	Science subjects; Formal	Science subjects; Formal	
Managerial gap (1990 +)	Support running a business	One to one One to few (comakerships) Private firm	Social science; Formal; Tacit	Limited to specific consultancy project; Demand articulation; Strategy development	Organising small chains and clusters; Mgt interfaces
Systemic (Last years of the 1990 +)	Facilitating change	Chains; Networks; Systems;	Science, social sciences; Formal; Tacit; Strategic Intelligence	Mgt complex projects; Strategy & vision development; Demand articulation; Stimulate learning; Stimulate experimenting	System organiser; System builder; Mgt interfaces; Identifying, mobilising, involving users; Guarding democratic content; Developing infrastructure strategic intelligence

From this table it can be clearly seen, that from 1970 to beginning of 90's were innovation policies more ex-post coordinated and they react on actual needs of innovation of SME's, later on needs of technology and know-how transfer. These policies were more focused on support of concrete research project than on system development. In late 90's strategy development in processes of support policies can be seen for the first time and by the end of 90's system approach is starting to be used in innovation policies. This system was characterized by the change management and reorganization of the innovation networks. Therefore it can be characterized as pro-active approach.

## 5 Trends in focus of innovation support policy – supply or demand side

Next question is, whether the innovation policy directly support the knowledge dynamics (consultation, clusters etc.) or it has a character of indirect support (basic infrastructure, taxis etc.) Tools used, are very closely connected to focus of the innovation policy. More authors [10], [11] state that first EU innovation support programmes were focused on solving the problem of offer side. Used tools were stimulating innovation offer through the innovation infrastructure building. In many cases it leads to „cathedral on the desert paradox”. Innovation infrastructure was build within the region, but local companies were not able to utilize it efficiently. Understanding of this paradox leads Europe Commission to change its statement to till then used innovation policy tools: „...it is not simply the presence of units of RTD infrastructure, but of the degree of interaction between them which is the most significant factor in local innovation. The quality of the linkage and the presence of local synergy is the key element. Therefore a systems or network approach provides the best basis for understanding and promoting regional RTD-based innovation [12].

This approach is at the present dominant by the development and implementation of the innovation policies also in less developed regions. Regional governments, at the present, do not deal only with the innovation demand side problem, but at the same time they are trying to solve the problem of supply side. In EU countries are at the present demand side tools dominant. Looking closer at tools usually used for demand side support [13] it can be clearly seen that the tools focused on network creation, clusters support, standards and regulations adjustments are dominant in innovation policy at the present.

## 6 Conclusion

From above mentioned the following trends in innovation policy in EU can be summarized:

- Move from national level on regional level by creation of the regional innovation policies,
- Change from ex-post approach to pro-active approach in regional innovation policies
- Move from building of the innovation infrastructure to support of knowledge dynamic in the regions.

On basis of research realized by Europe commission - Joint Research Centre - Institute for Prospective Technological Studies - Directorate General Research RTD policy approaches in

different types of European regions [14] we were analyzing two regional case studies reports (similar to old-industrial regions) with aim confirm the answer we have found in the literature.

The two selected regions are from new EU countries:

- Jihozápad – Czech Republic
- Dél-Dunántúl –Hungary

Form two analyzed case studies it can be clearly seen that there exist differences between trends in regional innovation policy theories and the real development. Most of the authors in theory of innovation policy agree that the innovation policy should be created on regional level. In investigated regions this trend is not fully applied. Regionalization of the innovation policy in both regions was directly connected to entrance of the countries to EU. That means – bottom-up approach was “de facto” applied top-down. In both regions it is not “real” regional policy, but it is more regional strategy, which reflects and develops goals of the national innovation and EU policies. However, also this trend can be considered as positive.

From theoretical point of view the trend of moving from ex-post to pro-active support policies is visible. Similar situation is also in investigated regions. The only difference is that this move was much shorter in time than in old EU countries. In new EU member countries, in 90’s, only first signs of innovation support activities could be seen. Then, after these countries became members of EU, all policies were strongly connected to strategic document and plans of the EU. Therefore we can state, that in new EU countries there was a move from “no” to pro-active innovation policies. From this point of view this can be compared to advantage of the “technological jump” of these countries from the 1989.

Theory also confirms move from policies focused on building of the innovation infrastructure to direct support of knowledge dynamic in the regions. In investigated regions is this trend also partly visible. For example, in national development documents in Czech Republic most of the goals and tools are already focused directly on knowledge dynamics, but on regional level, in Regional innovation strategy of the Plzeň region, most of the goals are still focused on building of the basic research infrastructure.

### **Acknowledgements**

This work was supported by the Slovak Research and Development Agency under the contract No. APVV-0230-07

Táto práca bola podporovaná Agentúrou na podporu výskumu a vývoja na základe zmluvy č. APVV-0230-07.

### **References**

- [1] TÖDTLING F., TRIPPL M.: One size fits all? Towards a differentiated policy approach with respect to regional innovation systems. Department of City and Regional Development Vienna University of Economics and Business Administration, Austria. (2004)

- 
- [2] KUHLMANN, S., EDLER, J.: Scenarios of technology and innovation policies in Europe: Investigating future governance. *Technological Forecasting & Social Change*, vol 70, pp. 619-637. (2003)
- [3] EDQUIST CH.: *Innovation Policy – A Systemic Approach*. Department of Technology and Social Change Linköping University, Sweden. (1999).
- [4] KUHLMANN S.: *Future governance of innovation policy in Europe— three scenarios*, Fraunhofer Institute for Systems and Innovation Research, Germany (2001)
- [5] KUTVONEN A.: *Ranking regional innovation policies: DEA-based benchamrking in a European setting*, Tutkimusraportti – research report 193 (2007)
- [6] KEATING, M.: Is there a regional level of government in Europe? In Le Galès, P., Lequesne, C. (Eds.). *Regions in Europe*. New York, (1998) Routledge. 267 p. ISBN 0-415-16483-4.
- [7] FRITSCH, M., STEPHAN, A., WERWATZ, A.: *A Regionalised Innovation Policy Should Be Adopted*. *Economic Bulletin*, Deutsches Institut für Wirtschaftsforschung, Institut für Konjunkturforschung, vol. 41, iss. 9, pp. 289- 292. (2004)
- [8] CHUNG, S.: *Building a national innovation system through regional innovation systems*, *Technovation* 22, 485-491. (2002).
- [9] SMITS, R., KUHLMANN, S.: ‘Strengthening interfaces in innovation systems: rationale, concepts and (new) instruments’, paper for the EC Strata workshop, ‘New challenges and new responses for S&T policies in Europe’, Brussels, (2002).
- [10] MORGAN K.: *The Learning Region: Institutions, Innovation and Regional Renewal*, *Regional Studies*, Vol. 31.5, pp. 491± 503 (1997)
- [11] *CEC Competitiveness and Cohesion: Trends in the Regions*. CEC, Brussels. (1994)
- [12] *CEC Science and Technology for Regional Innovation and Development in Europe*. CEC, Brussels (1988).
- [13] GEORGHIOU L.: *Effective innovation policies for Europe – the missing demand-side*, PREST, Manchester Business School, University of Manchester. UK, (2006)
- [14] DORY, T.: *RTD policy approaches in different types of European regions*, European Commission, Joint Research Centre - Institute for Prospective Technological Studies, Directorate General Research, Brussel (2008)
- [15] TÖRÖK, Á.: *Innovation policy and EU enlargement. Future directions of innovation policy in Europe*, innovation papers No. 31, European Commission, pp. 31-34.(2002)
- [16] VACHOVA, D., HEBAKOVA L., KOSTIC M.: *Analysis of the regional dimensions of investment in research – Case study regional report: Jihozápad (Czech Republic)*, EraWatch (2006).
- [17] ZOLTÁN G., CSONKA L. : *Analysis of the regional dimensions of investment in research – Case study regional report: Dél-Dunántúl (Hungary)* EraWatch (2006).
- [18] BJØRN A.: *Industrial districts as ‘learning regions’. A condition for prosperity?. STEP report*, (1995)
- [19] HARRISON B.: *Industrial districts: Old wine in new bottles? Pittsburg USA* (1991)

- [20] WERKER C.: An Assessment of the Regional Innovation Policy by the European Union based on Bibliometrical Analysis, Germany , (2005)
- [21] EUROPE COMMISSION: Future directions of innovation policy in Europe, Brussels (2001)
- [22] DIETRICH E.: Adopting a ‘High-Tech’ Policy in a ‘Low-Tech’ Industry. The Case of Aquaculture. STEP rapport / report (1995)
- [23] SMITH, K.: New directions in research and technology policy: Identifying the key issues, STEP rapport / report (1994)