

Financing the Cluster Development in Moravia Silesia by EU Funds

Financování rozvoje klastrů v Moravskoslezském regionu z EU fondů

Karel Skokan¹

Abstract

Industry or regional clusters govern the industrial policy in most countries not only within the European Union and they are considered as an effective instrument for the growth of regional and national competitiveness. That is why their development is promoted and supported by many financial schemes at regional, national and even supranational level including EU Structural funds. This is also the case of the Czech Republic and its old industrial region Moravia Silesia which became in the last decade the leader in cluster development. The aim of this paper is to outline the clusters development in Moravia Silesia and to evaluate the ways of their financing which plays an important role in restructuring and transformation of the region.

Key words

Cluster, cluster initiative, old industrial region, financing, development

JEL Classification: L2, O5, R3

1. Introduction

The Moravia Silesia region in the Czech Republic as the most populous region (1.3 mil. inhabitants) lying in the north-east of the country near Slovak and Polish borders was labelled as an old industrial region after the transition to market economy in the 90's. Formerly it was the region with a huge concentration of mining, metallurgy and heavy industries known under the name the steel hart of the country. Its restructuring was very painful and in the last two decades it resulted in the decline of employment in mining from about hundred thousand employees to about twenty thousand and in metallurgy in a similar way (Suchacek, 2005). The unemployment at the beginning of the century was growing very fast and reached more than 16 % in 2004 (Skokan, 2009). The region was identified by the Czech government the priority regions and a number of regeneration projects were launched in the near past including establishment of Regional Development Agency (RDA), Science Technology Park, Industrial Zones Programme and FDI support and co called "cluster approach". The main objective of the paper is to analyze the cluster development in the region of Moravia Silesia in the first decade of this century from the point of view of their financing by EU funds and to evaluate their development in a comparison with other Czech regions. The paper is organized as follows. At first brief introduction to cluster theory is outlined and the methodology of the paper and cluster financing in the Czech Republic is explained. Then follows the development of clusters in the regions of the Czech Republic and the detailed assessment of their financing mainly in Moravia-Silesia region which is concluded by the lessons learned. The content of the paper was restricted by the recommend paper extent.

¹ Prof. Ing. Karel Skokan, Ph.D., VŠB-Technical University of Ostrava, Faculty of Economics, karel.skokan@vsb.cz.

Industry clusters as specific form of networked organisations in a given industry and territory have become very popular tools of economic policies mainly in the last two decades. The first ideas on firms clustering were presented by the concept of industrial districts already in the end of 19th century by A. Marshall (1920). However only recently in the 1990s clusters started to be incorporated into the public economic policies in many countries throughout the world. The outbreak of industry clusters in different industries was accompanied by the detailed cluster analyses and various theoretical approaches which resulted in national cluster policies. The modern ages of clusters is closely connected with Michael Porter who described in his work *Competitive advantage of nations* (1990) the tight relationship between cluster participation and the competitiveness of firms and industries and proposed the first cluster definition, very often criticized and improved later by many authors. By him clusters are geographic concentrations of interrelated companies, specialized suppliers, etc. in similar sector as well as related institutions. Porter's theory of clusters has become the standard concept and was further elaborated by many followers. Critical view to this theory was presented by Martin and Sunley (2003) who argue for cautious use of the notion and grant this definition rather chaotic. Despite many weaknesses the cluster policies are increasingly popular all over the world. A Report prepared by expert group of European Commission (2005, p. 9) describes clusters in accordance with Porter as "groups of independent companies and associated institutions that are collaborating and competing; geographically concentrated in one or several regions, even though the cluster may have global extensions; specialized in a particular field, linked by common technologies and skills; either science-based or traditional; cluster can be either institutionalized or non-institutionalized". Alongside with clusters we often refer to cluster initiatives as organized efforts to enhance competitiveness of clusters involving private industry, public authorities and/or academic institutions (Sölvell et al., 2003). Clusters are expected to bring benefit not only to their business members but to the regions they operate in and to universities as well. Firms in clusters can be more specialized and can better cooperate than in isolation. They can also reach the higher level of innovation due to the knowledge spill-over in a proximity, clusters also stimulate the new start-ups, etc. Cluster activities cover many joint actions in areas of networking, human resources and training, research and development, marketing, internationalization, financing and others (Pavelková et al., 2009). Clustering enables to increase the competitiveness of clusters and the regions they operate in.

There are many ways how clusters emerge, however we can distinguish two basic approaches. The first business driven is the approach bottom-up by which clusters are results of entrepreneurship and networking activities of firms; the second top-down approach is the result of public economic policies focused to cluster establishment, development and support often denoted as cluster policy. Generally the cluster policy is an intersection of different policies most important of them are by OECD (2007) regional policy, science and technology policy and industrial and entrepreneurship policy. Cluster policies in EU offer a wide ranges of Community or national and regional programs and initiatives which offer various forms of cluster financing. Since 2000 European Commission launched many initiatives focused to cluster development support, e.g. European Cluster Alliance in 2006, European Cluster Observatory in 2007, European Cluster Excellence Initiative, World Class Clusters (EC, 2010). The financial support was also incorporated in the main programming documents for the EU period 2007-2013 as were the Strategic guidelines on cohesion or Competitiveness and Innovation Framework Programme (2007-2013). Similar initiatives were coordinated in many EU member countries as well.

Financing clusters plays very important role mainly in the early stages of their lifecycle (emerging clusters) and can take many different forms mostly as the combination of public/private sources (Bialic-Davendra, 2011). Financing is needed for implementation of

joint cluster projects and for operational expenditures of managing cluster organizations. Private sources are either own sources of cluster members as regular membership fees or bank loans, risk capital, business angels or FDI. Public sources cover regional or national budgets and EU funds. We distinguish open-end or temporary public financing which is expected after 3-5 years of cluster operations.

The Czech Republic belongs to the advanced countries among new EU members in this field. The cluster development in the Czech Republic can be divided into two stages (Skokan, 2011). The first stage covers the years 2002-2006, in which the cluster concept was presented in the Czech professional literature, to the public authorities at both the national and regional levels and to company managers in industries with clustering potential. It includes also the announcement of first cluster programme called CLUSTERS supported from the EU Structural funds for the search for prospective clusters and their establishment in the first programme period 2004-2007. The second stage covers the years 2007 up till now (2011), when the established clusters developed or new clusters appeared and gained the access to public funds offered by the programme COOPERATION funded by EU structural funds in the EU programming period 2007–2013. In the paper we present the evaluation of public aid provided for cluster development in both stages.

The paper is based upon author's own experience, who participated in cluster development mainly during the first stage and in the first cluster study in North Moravia and Silesia. The information is gained from the programme documents – Operational Programmes (MIT, 2003; MIT, 2010) and official public documents on clusters. The data for evaluation of cluster projects financing were derived from public data on clusters (CzechInvest, 2011) and from internal databases provided by the CzechInvest to the author.

2. Financing clusters in the Czech Republic

Before we start to analyze the situation in Moravia Silesia region (Moravskoslezský) we present the Czech national approach to cluster financing which is connected with two cluster programmes. The results of these programmes are given in Table 1.

Region	Number of cluster projects			Funding (000 CZK)		
	Clusters	Cooperation	Total	Clusters	Cooperation	Total
Jihočeský	1	2	3	9540	116 153	125693
Jihomoravský	3	4	7	37837	143 524	181361
Královéhradecký	3	3	6	90323	121 625	211948
Liberecký	0	2	2	0	34 409	34409
Moravskoslezský	4	6	10	56511	173 702	230213
Olomoucký	0	1	1	0	18 544	18544
Pardubický	0	2	2	0	78 683	78683
Středočeský	0	3	3	0	35 992	35992
Vysočina	0	2	2	0	94 730	94730
Zlínský	1	1	2	4913	5 939	10852
Total	12	26	38	199124	823 301	1022425

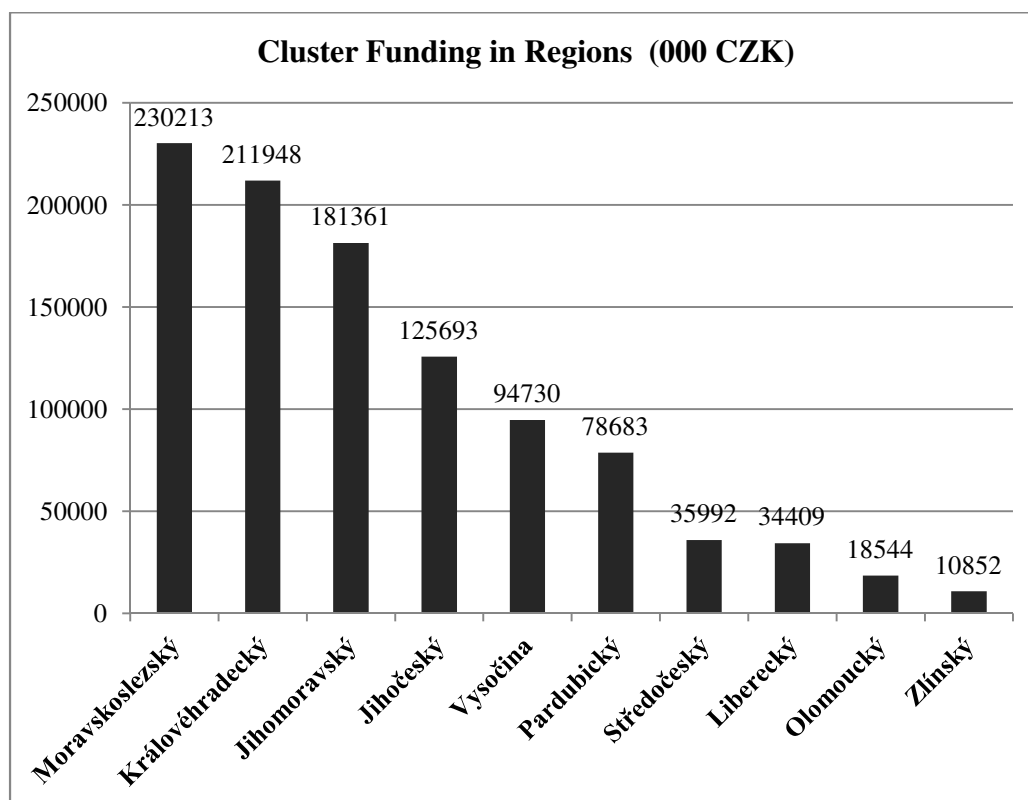
Table 1: Development cluster projects in the Czech regions. Source: CzechInvest (2011), own processing

Cluster policy in the Czech Republic was prepared between 2001 – 2003 at the Ministry of Industry and Trade by the CzechInvest Agency (Skokan, 2011) and its actual implementation started with the access to EU Structural funds in the period 2004-2006. The first cluster

programme titled CLUSTERS was announced with the aim to identify potential clusters in regions and to establish most prosperous ones. Total 53 project were financed by EU funds with the amount CZK 230 mil. (approx. 9,2 mil. EUR) of which 41 projects were so called identification cluster projects which identified potential clusters in regions with financial contribution of CZK 31,6 mil. and 12 projects were supporting the establishment of new clusters by CZK 199 mil. The second cluster programme was announced for the period 2007 – 2013 titled COOPERATION with the aim to support the development of already established clusters. Between 2007–2011 two calls for projects were announced and 26 projects with total amount of CZK 823 mil. (approx. 33 mil. EUR) were financed. In Table 1 we present only support given to cluster establishment and development. Projects for cluster identification are not included.

As can be seen from Table 1, out of 38 financed project 10 projects (26,3 %) were located in Moravia Silesia region (Moravskoslezský in Czech) and CZK 230 mil. (22,5%) of sources for clusters were allocated here. Taking into account the fact the first ideas on clusters appeared between theoreticians in the Czech Republic only 10 years ago and the real financial support started since 2004 then today's achievements with more than 40 established clusters in the Czech Republic can be regarded for successful results.

Figure 1: Allocation of EU funds for cluster development in the Czech Republic. Source: CzechInvest (2011), own processing



The distribution of EU funds for the support of clusters in the Czech regions is very uneven and only four regions out of 13 eligible Czech regions received more almost 75% of all grants as it is shown in Figure1. Moravia Silesia region (Moravskoslezský) received the highest financial support of CZK 230 mil. from specials programmes focused to cluster development.

However other sources which clusters can utilize are available for projects in human resources development , R&D, entrepreneurship, etc.

3. Development of Clusters in Moravia Silesia

The restructuring of Moravian-Silesian Region after 2000 is marked by huge inflow of foreign direct investment and by the development of clusters in traditional industries such as engineering and wood industry and also in new industries the most important being automotive, ICT and new energy sources. In fact, already before 1989 under communist regime the main metallurgical, mining and heavy industries were clustered in the region with their headquarters, main suppliers and also with a specific VŠB-Technical University offering the education at faculties of mining, engineering, metallurgy and business and economics.

The new era of cluster development started in the region as a joint initiative of Czech Investment agency CzechInvest and VSB-Technical University of Ostrava supported by the Moravian Silesian Regional Authority. The region was the first Czech region to carry out a study identifying clusters (2002), and then established the first cluster in the country – the Moravian-Silesian Engineering Cluster (2003) which was later transformed into national Czech machinery cluster. Main stages of this development which was strongly influenced and supported by regional authorities and by the financial aid from EU Structural funds are given in Table 2.

Year	Action
2002	Pilot project “Identification of industry grouping for state aid support in North Moravia Silesia”
2003	Establishment of first Czech cluster “Moravian Silesian Engineering cluster”
2004-2005	Search for clusters in Moravia-Silesia (identification phase)
2006	Regional initiative ClusterNet in Morava-Silesia
2005-2008	Establishment of 8 regional clusters in Moravia Silesia (CLUSTER Programme)
2008	Czech National Cluster Association
2009-2010	Development of established regional clusters (COOPERATION Programme)

Table 2: Main phases of cluster development in Moravia Silesia. Source: Own processing

The cluster development in the region is the outcome of effort and initiatives of both the national and regional actors. At the national level they were Ministry for Industry and Trade and the CzechInvest–Investment and Business Development Agency who prepared and managed the cluster programmes. At the regional level they were Moravian Silesian Regional Administration, Union for the Development of the Moravian Silesian region (UDMS), Regional Development Agency Ostrava (RDA) and VŠB-Technical University of Ostrava (VŠB-TU) which is a member of the majority of MS clusters.

The main clusters – machinery, IT and automotive are remarkable for a high number of their members over fifty which proves the changing sectoral structure in the region towards new industries. After ten years as a result of its highly developed industrial base, extensive education system and range of initiatives supporting research and development, the Moravian Silesian region has become the Czech leader in utilizing the cluster concept to support the local development of key economic sectors. Today, clusters form an integral pillar of the region’s future industrial development, and provide a key support for the growing

competitiveness of the region as a whole. Establishment of cluster is also accompanied by new FDI in modern industries such as TietoEnator in ICT which created about 1800 new jobs and Hyundai in automotive industry with 3000 new jobs in their new assembly plant in Nošovice and further 10000 jobs in suppliers. The overview of clusters in the MS region according to the year of foundation and current number of members can be seen in Table 3.

Nr.	Cluster	Established	Members	University
1.	Czech Machinery Cluster (MS engineering cluster)	2003	58	VŠB-TU Ostrava, VUT Brno
2.	MS Wood processing cluster	2005	30	VŠB-TU Ostrava
3.	Envicrack Cluster of alternative energy	2006	28	VŠB-TU Ostrava
4.	Hydrogen Cluster	2006	11	VŠB-TU Ostrava
5.	IT Cluster	2006	50	VŠB-TU Ostrava
6.	MS Automotive Cluster	2006	52	VŠB-TU Ostrava, UTB Zlín
7.	MS Energy Cluster	2008	20	VSB-TU Ostrava
8.	MS Tourism Cluster	2008	35	-
9.	Knowledge management cluster (MS Construction cluster 2009)	2009	32	VŠP Ostrava, SU Opava
10.	Safety Technology Cluster	2010	18	VŠB-TU Ostrava

Table 3: Regional clusters in Moravia Silesia (own processing)

In a short period of seven years ten clusters were established in the region and they exhibit in most cases the growing number of its members.

4. Financing Cluster Initiatives

The initial and very small financing for clusters identification in Moravia-Silesia region between 2003-2004 was given to cluster facilitators (UDMS, RDA) by Regional Moravian Silesian Authority in the amount of CZK 3 mil., the main sources were allocated from official cluster programmes financed by EU Structural funds supporting cluster development. The comparison of allocation in the Czech Republic and Moravian Silesian region is given in Table 4 from which follows the MS region received more than 28% of all funds.

Programme	Public Aid (CZK mil.)		MSR in %
	Czech Republic	Moravia Silesia Region	
I. CLUSTERS Search (2004-2006)	31,6	6,2	19,6
I. CLUSTERS Establishment (2007-2008)	199,1	62,7	31,5
II. COOPERATION (2009-2011)	823,3	230,2	28,0
Total	1054	299,1	28,4

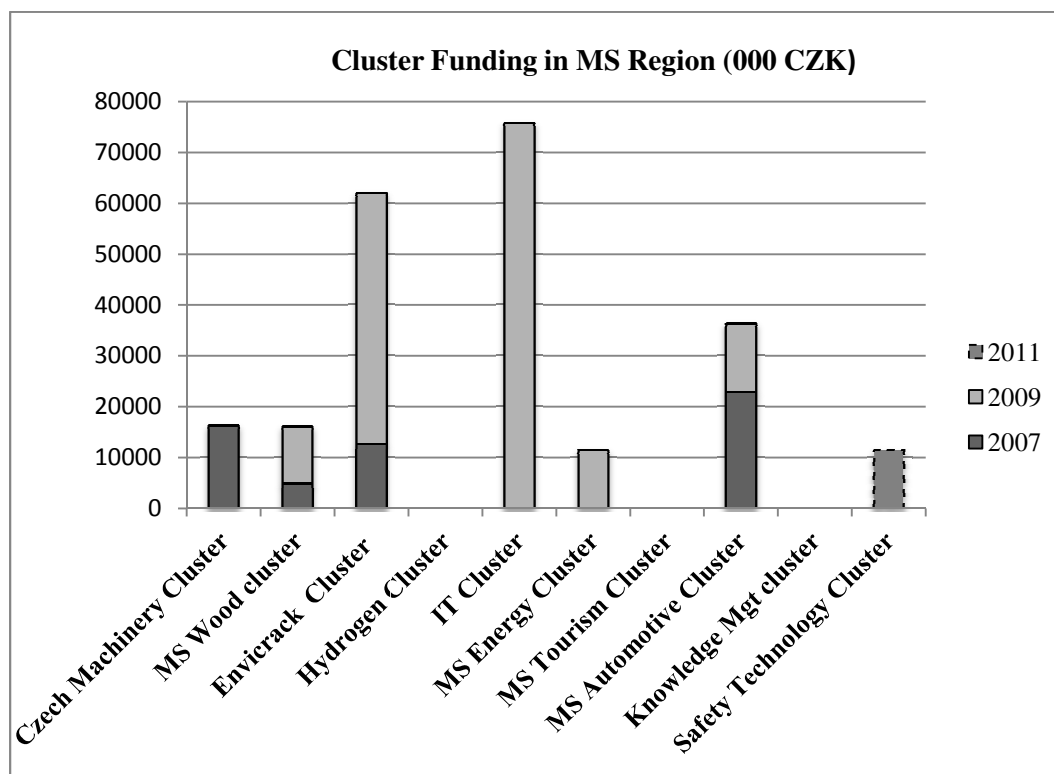
Table 4: Public aid for clusters in Moravia-Silesia Region (Source Czechinvest, 2011)

The establishment of first Czech cluster – Moravian Silesian Engineering cluster was the outcome of general clusters study in the region prepared in 2002 in a cooperation of CzechInvest, foreign EU experts, Faculty of economics of VSB-TU Ostrava and UDMS. Between the years 2004-2006 the VSB-TU Ostrava, UDMS and prepared 8 feasibility studies for cluster identification with total financing of CZK 6,2 mil. Based on these studies establishment of four other clusters followed in 2005-2006 (see Table 3). Already in 2007 the four new clusters applied and received subsidy for their development in a total amount of CZK 65,5 mil. They were Czech Machinery cluster, MS Automotive Cluster, MS Wood cluster and Envicrack Cluster.

The Czech machinery cluster aims to build a prestigious and modern engineering base, well-prepared in terms of human resources, technologies and innovations for the creation of supplier chains for strategic projects in the energy, transport and construction industries on a global scale. The mission of the Moravian Silesian Automotive Cluster is the development of the Region's automotive industry to achieve sustainable competitiveness of regional suppliers for the car industry both in the Czech Republic and internationally. The cluster focuses primarily on improving the quality and ensuring the full utilization of local human resources and technical capacities. The Moravian Silesian Wood Processing Cluster focuses on support for the development of the timber industry in the Region. The industry aims to become a key supplier and exporter of timber structures and innovative components for timber-framed buildings and structures. The Envicrack Cluster is connected with research and development activities related to renewable and secondary and alternative energy sources. The cluster focuses on the utilization of waste as a potential source of fuel for pyrolysis technology generating electrical energy and heat.

The overview of cluster financing in MS region is presented in Figure 2.

Figure 2: Financing clusters in Moravia-Silesia (CzechInvest, 2011, own processing)



In 2007 new programme COOPERATION for cluster financing was announced. In the first call in 2008 applied again and succeeded Envicrack, MS Automotive and MS Wood clusters followed by IT Cluster and a new MS Energy cluster. In the second call in 2010 applied and succeeded newly established MS Safety Technology cluster. The amount of CZK 230 mil. of this programme were allocated to Moravian Silesian clusters.

Out of ten clusters in Moravia-Silesia seven received the public aid for their development with a leading position of IT cluster, three cluster succeeded in two cluster programmes. However the subsidies presented here are not the only EU subsidies for clusters. The clusters can apply also for other EU funded programmes. As an example can serve MS Wood cluster which received within Operational programme education for competitiveness other subsidies of CZK 22 mil. The cluster subsidies stimulated their growth mainly in the first phase of cluster lifecycle.

5. Conclusions

The idea of regional industry clusters appeared in the Czech professional community only about ten years ago, however it was quickly accepted not only by academics mostly at regional universities but also by politicians at the government and regional level as shows the case of Moravian Silesian region. Out of about 40 clusters in the Czech Republic the 10 are located in this region and also almost a quarter of all public aid was allocated to this region.

As the clusters in the Czech Republic were established in most cases only in the last 3 – 5 years it is not possible to make a thorough evaluation of their impact on the regional economies. However a growing number of member companies which exceeded 50 in leading regional clusters, the preliminary analyses and the field research indicate their positive role in the increase of innovative potential in regions employment, the growth of social capital and strengthening the links between industry and academia. Generally the establishment of more than 40 clusters within the last five years can be considered as the success of both top down and bottom up approach and effective cluster policy at both national and regional levels.

In a difference from generally accepted theory that clusters are business or industry driven the Moravian Silesian case seems to be slightly different. The clusters here are “subsidies” initiated and only then business driven. By our opinion this was the public aid for cluster studies which initiated the interest of regional politicians, regional development agencies, innovation centres large and and small and medium-sized enterprises for clusters and only then the following public subsidies determined the cluster development. Significant role also played the universities which saw in clusters the new field of research. Public aid and involvement of Triple Helix actors – government, academia and firms are the main cause of presented achievements in cluster development in the Moravian-Silesian region.

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References

- [1] Bialic-Davendra, M.L. 2011. *Proposal of a framework for a cluster development in the selected Central-European countries*. Doctoral Thesis. Zlín: Tomas Bata University.

- [2] CzechInvest. 2011. *OPEI Statistics* (Statistika čerpání dotací z OPPI). Available at <<http://eaccount.czechinvest.org/Statistiky/StatistikaCerpaniDotaci.aspx>> [Accessed 30 July 2011].
- [3] EC. 2005. *Final report of the Expert Group on Enterprise Clusters and Networks*. Brussels: European Commission, Enterprise DG.
- [4] EC. 2010. *White Paper. The Emerging of European World-Class Clusters*. Brussels: Europa InterCluster.
- [5] MARSHALL, A. 1920. *Principles of Economics*. 8th ed. London: Macmillan.
- [6] MARTIN, R., SUNLEY, P. 2003. Deconstructing Clusters: Chaotic Concept or Policy Panacea? *Journal of Economic Geography*, 3: pp. 5-35.
- [7] MIT. 2003. *Operational Programme Enterprise and Innovations (OPEI) 2007-2013*. Prague: Ministry of Industry and Trade.
- [8] MIT. 2010. *Operational Programme Industry and Enterprise (OPIE) 2004-2006*. Prague: Ministry of Industry and Trade.
- [9] OECD. 2007. *Competitive Regional Clusters: National Policy Approaches*. Paris: OECD Publishing.
- [10] PAVELKOVÁ, D. et al. 2009. *Klastry a jejich vliv na výkonnost firem*. Prague: GRADA.
- [11] PORTER, M. E. 1990. *The Competitive Advantage of Nations*. New York: The Free Press.
- [12] SKOKAN, K. 2009. Regional Clusters and the Transformation of Old Industrial Regions. *Third Central European Conference in Regional Science. Conference Proceedings*. October 7th - 9th, 2009. Košice: Technical University. pp. 761-774.
- [13] SKOKAN, K.; POLEDNÍKOVÁ, E. 2011. Public Aid for Clustering Firms in the Czech Regions. pp. 423-432. In: *Finance and the performance of firms in science, education, and practice. Proceedings of the 5th International Scientific Conference*. Zlín: Tomáš Baťa University. 672 pp.
- [14] SÖLVELL, Ö.; LINDQVIST, G.; KETELS, C. 2003. *The Cluster Initiative Greenbook*. Stockholm: Ivory Tower AB.
- [15] SUCHACEK, J. 2005. *Restructuring of Traditional Industrial Regions in Transitive Economies (Restrukturalizace tradičních průmyslových region v tranzitivních ekonomikách)*. Ostrava: VSB-Technical University.