

DISTRIBUTION OF TECHNOLOGY TRANSFER SUPPORT IN DIFFERENT INDUSTRY SECTORS – CASE OF SLOVAKIA

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ABSTRACT

The innovation plays an important role in economic development. The governments try to stimulate innovation in different ways. One of the main used tools is direct support of private enterprises. However, due to limited public resources, more and more attention is given to effectiveness of such support. When evaluating effectiveness of the innovation policy implementation also raises the problem of "one size fits all" measures, whereby the effects of intervention may vary according to regions or sectors. In central Europe countries, most of this support is financed from structural funds. In this article, we empirically tested effectiveness of one such a measure – support of technology transfer to strengthen innovation processes in Slovakia. We evaluated the influence of the support on labour productivity and value added of different kind of sectors, comparing supported and non-supported enterprises. As methods, we use comparison of localisation coefficients and share on employment with given support. We found that distribution of support is not supported concentration of sectors. We suggest some policy implications from this result.

KEYWORDS: public support, public policies, technology transfer, innovation, structural funds

INTRODUCTION

Within national governments, but also European Union, support policies, we found ongoing discussion of how to adequately support competitiveness and innovation. From space point of view, two streams of thought about the present policy along with fierce debate about whether it should be „place based“ or „spatially blind“ or (OECD 2009; World Bank, 2009; Barca & McCann & Rodriguez, 2012). The first strategy would stress regional-specific interventions and argues that properly designed place-based, not “one size fit all” policies are necessary for exploiting the potential of economic development of the region (Tödtling & Trippel, 2005). The starting point of a place-based policy is the idea that most of the knowledge needed to fully exploit the growth potential of a place and to design tailor-made institutions and investments is not readily available and must be produced through a new process involving all local and external actors. The place-based approach is therefore designed specifically to identify and build on the embedded local knowledge (Barca, McCann and Rodriguez Pose, 2012). It comes from different stages of innovation activities within particular sector and regions (Capello, 2012), so it recommends applying different and relevant philosophy of promoting innovation, just that interventions need to be adapted to the particularities of each region and depending on the conditions are in the region created. A literature confirms that localized resources are key factors in innovation (Karlsson et al., 2015).

The second approach in general does not support the regionally targeted interventions and favours space-neutral policies with universal coverage in every territory. From this perspective, spatially-blind policies are also seen as “people-based” policies, representing the best approach to guarantee equal access to opportunities, regardless of where they live (Barca & McCann & Rodriguez, 2012). One of the key arguments is also the importance of developing the support instruments that do not exclude or discriminate against any group of potential beneficiaries. It is assumed, by encouraging mobility, spatially-blind strategies ultimately lead to a more even geographical distribution of wealth and a convergence of lagging areas. Consequently, development intervention should be space-neutral and factors should simply encourage a move to where they are most productive (Barca & McCann & Rodriguez, 2012).

Empirically, the traditional approach to regional policy is still popular in some member states where a place-based approach is still being created, focusing on financial transfers to firms to compensate for their higher unit capital costs and on public works. In these situations, although cohesion policy funds are not earmarked to sectors, a large part of the resources ends up being allocated to sectoral programmes that lack place-baseness. This is particularly the case for resources of EU cohesion policy – about two thirds of the whole budget, which are managed by the central administrations (Barca 2009). But also sectoral approach is often part of discussions. Some studies found that the actual impact of aid varies on the basis sector; generally greater effect on manufacturing industry compared to other sectors such as services (Huergo, Trenado and Ubierna, 2015). On other hand, policies favour science-based innovation and high-tech industries, with the low-tech industries receiving less explicit political attention and support (Hirsch-Kreinsen, 2008). Not only the sector and region, but also the area of support is crucial - other effects have infrastructure projects and other are produced by soft - support projects such as education and investment in human resources (Rodríguez-Pose and Fratesi, 2004). Several studies try to estimate impact of innovation or competitiveness policies aimed directly on enterprises, usually concentrated on effect of policy on concrete companies (Bondonio and Greenbaum, 2014; Cerqua and Pellegrini, 2014).

However, only few papers are looking at empirical evidence of spatially neutral or place based policies and mainly in the form of case studies (Ortega & Argilés, 2012). In this article, we look at empirical distribution of one spatially neutral measures to support innovation and technological transfer in Slovak Republic. The main aim of article is to evaluate spatial and sectoral effects of spatially neutral innovation support policy in case of Slovak regions.

METHODOLOGY

A selected sample of firms was analysed which applied for innovation and competitiveness support, technology transfers assistance under the previous programming period of years 2007 – 2013 in the Slovak Republic. In this paper we collect data on the measure ‘Operational Programme Competitiveness and Economic Growth’, 1.1. Innovation and Technology Transfers, sub-measure 1.1.1 Support for Introducing Innovation and Technology Transfer. This measure encapsulates state aid scheme to support the introduction of innovative and advanced technologies in industry and services (Ministerstvihospodárstva SR, 2014). Within this sub-measure we analysed six calls for grant applications for businesses in Slovakia. These calls (KaHR-111SP-0801, KaHR-111SP-0902, KaHR-111SP-1001, KaHR-111SP/LSKxP-1101, KaHR-111SP-1101, KaHR-111SP) were announced on yearly basis within the 2008-2012 period. Together 352 mil. Euro was given to companies in different sectors in 400 projects.

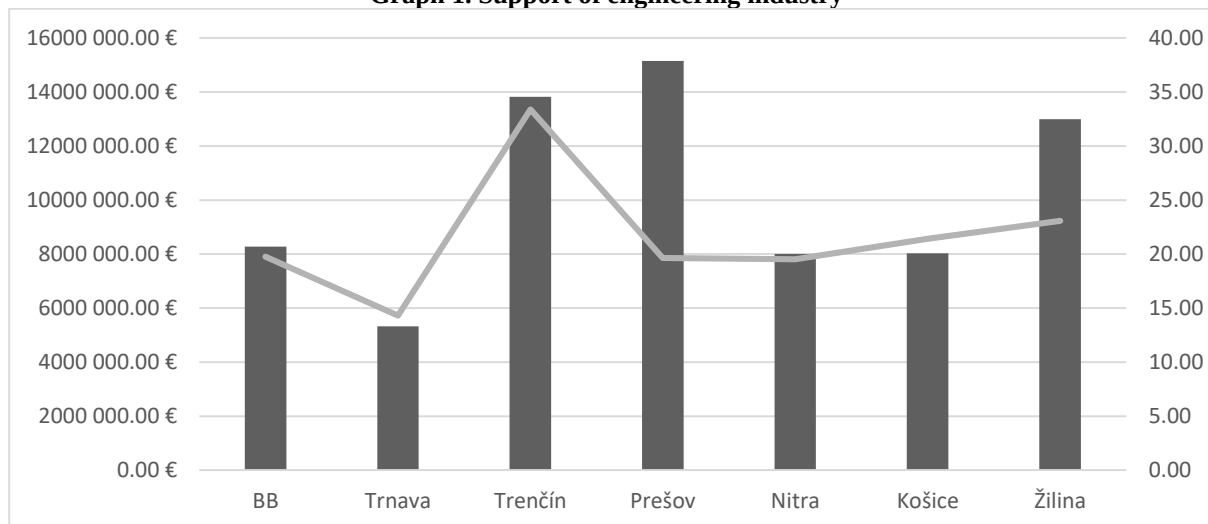
We have analysed industry support in the most important sectors, which will then allow for comparison with regional smart specialization plans. In the analysis are the following sectors - the engineering industry (NACE 25, 28, 29, 30), the electrical industry (NACE 26,27), the wood processing industry (NACE 16,17,31), the chemical industry (NACE 19,20), food processing (NACE 10, 11, 12), wholesale (NACE 45,46) and construction (NACE 41, 42, 43). The groupings are based on NACE classification used in previous studies and governmental materials (Ministerstvihospodárstva SR, 2011). We analysed the support on NUTS III level. In Slovakia, there are 7 NUTS III regions counted as convergence regions from European Union cohesion policy view – BanskáBystrica, Nitra, Prešov, Košice, Trenčín, Trnava and Žilina.

RESULTS AND DISCUSSION

Of all sectors analysed, the engineering industry was the most supported industry, with a total volume of support exceeding 71 million euros. This is in line with the importance of industry in Slovakia. In all regions, engineering is in the terms of employment the biggest industry sector. In each region, it received at least 12% of the total volume of support, and in most regions it exceeded 20%.

The most significant part of the share was supported in the Trenčín Region, where it gained up to 33.4%, more than one third of all resources. In absolute terms, however, the largest volume of support went to the Prešov Region, more than 15 million euros. Surprisingly, the smallest share and volume was in the Trnava region, one of most industrial region in Slovakia.

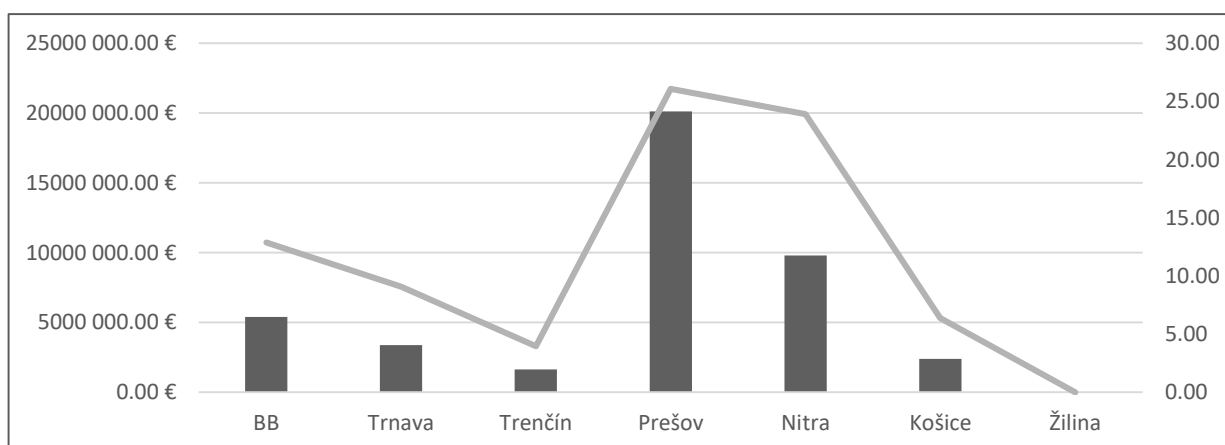
Graph 1. Support of engineering industry



Source: own calculations, bars are related to total amount of support, line is related to % of support going to engineering sector

The second most supported sector was the chemical industry. Its support, unlike in the engineering industry, was far more unevenly distributed within the regions, and neither one project from the sector was supported in the Žilina Region. Strong support was provided especially to companies in the Prešov and Nitra regions. It is very surprising that this sector has received the second highest volume of support, as it is a sector with a very small share of employment in almost all regions (see Table 2.)

Graph 2. Support of chemical industry



Source: own calculations, bars are related to total amount of support, line is related to % of support going to chemical sector

The share of support for other sectors is shown in Table 1. In two regions, these sectors make up about 50% of the aid, but in the other regions a large majority of the total volume of support is devoted to these sectors. The largest share of these industries was in the Nitra region, more than 90 percent. Big fluctuations can be seen in the wholesale sector, which was dominant within two regions, but on the contrary, in three others, this support was negligible. Interesting is also the distribution of support in the wood-processing industry, which has gained a relatively large volume of resources, being

predominantly supported in the Nitra and Trnava regions, which are regions with a small share of forests and companies in the sector. We would rather expect stronger support in other regions with much higher employment share in the sector as BanskáBystrica or Žilina. The construction industry had stronger support in the BanskáBystrica, Žilina and Nitra regions. The food industry had a strong support in the regions like Trnava and Nitra, but also in the Prešov region. The electrical industry had the lowest degree of support from the examined industries, with no higher share of the aid as 7 percent in any of the regions.

Table 1. Percentage shares of total volume of support in selected sectors and regions

	BB	Trnava	Trenčín	Prešov	Nitra	Košice	Žilina
Engineering	19,77	14,32	33,4	19,65	19,53	21,42	23,09
Electrotechnical	6,40	0	0,86	5,07	1,25	5,63	0,89
Wood processing	11,35	24,98	0,25	7,1	13,27	0,46	1,67
Chemical	12,87	9,07	3,97	26,09	23,91	6,37	0
Food	1,93	9,85	0,3	17,9	10,79	4,65	5,92
Wholesale	2,84	25,84	0,47	1,1	9,87	34,6	12,9
Construction	14,75	1,45	9,66	3,1	11,47	2,82	7,84
Together	69,91	85,51	48,91	80,01	90,09	75,95	52,31

Source: own calculations

If we compare these results with the localization coefficients of the given sectors as well as their share of the total employment in the regions, we find that, especially in less advanced regions, the aid was not directed either to the most concentrated regions or to the sectors with the largest share of employment. We can also see the surprisingly low support of the electro technical industry, which is one of the main industrial employers, and certainly has a greater perspective than the chemical industry.

Table 2. Percentage shares of total employment in selected sectors and regions

	BB	Trnava	Trenčín	Prešov	Nitra	Košice	Žilina
Engineering	7,35	11,30	13,16	6,58	9,76	6,71	13,64
Electrotechnical	1,71	4,83	7,35	3,2	4,31	1,89	2,73
Wood processing	3,28	1,72	2,13	1,41	2,76	1,04	3,77
Chemical	0,57	0,6	1,33	0,56	1,62	0,24	0,35
Food	2,02	3,83	2,42	3,11	2,96	1,71	2,24
Wholesale	5,71	5,42	5,56	4,71	6,12	5,05	5,92
Construction	4,51	4,3	3,52	5,03	5,09	3,94	5,32

Source: own calculation based on data from statistical office SR

CONCLUSIONS

Spatially blind support of private enterprises, which has been implemented under support from cohesion policy in Slovakia, has led to a very different sectoral and regional distribution of funds. We also showed that this support distribution did not follow the existing production base in analysed regions. This could be one of the reasons why this support did not produce the expected results, as we have shown in another study (Sztásová et al., 2016). So empirically, it appears that a spatially neutral policy with the same conditions for all sectors and regions was not the most appropriate. Future support would help to better define priorities in the context of the smart specialization concept and their subsequent promotion into the support measures themselves.

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