Assessment of Employment Support Efficiency from EU Funds in the Selected Self-governing Region

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Abstract: The issue of human capital, or more specifically, employment, is one of the priority topics not only at the EU level, but also at individual national and regional levels. Given the significant increase in the impact of the EU Structural Funds, the paper is focused on the assessment of efficiency of employment support. Although the evaluation of the employment is perceived as basic, the evaluation is still underdeveloped at regional level. We firstly redistributed NUTS IV regions according to the extent of support needs in the selected self-governing region. We also applied one of the efficiency evaluation methods, deadweight effect, which was measured according to the selected characteristics of firms in NUTS IV regions. The main aim of our research is to analyze the efficiency of public support of employment from the EU Structural Funds through the deadweight effect for the monitored programming period in the selected self-governing region. Our results suggest that supported employment projects (according to the deadweight effect within the region) would be implemented to a limited extent if the EU Structural Funds were not used.

Keywords: employment; EU Structural funds; deadweight effect

JEL Classification: R58; E24; J68

1. Introduction

The European Union´s Cohesion Policy as well as employment support from EU funds is one of the main investment policies in the 2014 – 2020 programming period. Almost one third of the total EU budget is allocated to cover Cohesion Policy and address the various development needs in the EU regions. The evaluation of programs therefore plays an important role. An essential element in evaluation of the supported activity is the assessment of whether the activities were carried out as planned. Implementation of tailor-made support is difficult and virtually impossible. It is difficult to develop a policy by identifying problems, sorting them by importance, then preparing for politically acceptable action (Mendez et al. 2011). Thus, the evaluation of the EU support can be viewed from different perspectives.

Our paper aims to analyze the efficiency of public support of employment from the EU Structural Funds through the deadweight effect for the monitored programming period in the selected self-governing region. We assume that businesses in the selected self-governing region tend to receive employment support even if they do not really need this support. Moreover, we examine several characteristics of firms in NUTS IV regions and redistribute NUTS IV regions according to the extent of support needs. In the next section we describe the concept of the efficiency evaluation methods, deadweight effect. In further sections we describe the methodology of research and present the most essential results.

2. Deadweight effect

We can maximize the impact of support by allocating support to projects with minimal deadweight effect. Deadweight effect is a type of inefficiency that occurs while applying the principle of additionality (Šipikal, Pisár and Labudová 2013). The principle of additionality is one of the principles governing public support that can be used to examine the efficiency of the EU support. The whole process of the principle of additionality represents the course from the total (gross) result to the

net result of the support. Overall, there are 5 key support effects: deadweight effect, leak effect, reallocation, substitution effect and aid multiplier effect (BIS 2009).

"Deadweight effect is the proportion of total outputs/outcomes that would have been secured without the investment in question" (BIS 2009). The key is to differentiate between changes in the intervention (positive and negative changes or unforeseen and intended changes) from another potential changes. The rationale of deadweight effect is incorrect targeted support or market failure. In practice, we cannot eliminate the deadweight effect, as there is an asymmetry of information between the business and the support provider (Picard 2001). Obviously, businesses tend to receive public sector support even though they do not really need it.

There are several ways we can measure the deadweight effect. Our measurement according to Tokila and Haapanen (2012) is defined by a scale of 5 points:

1. The project would not be implemented at all (0%).
2. The project would be implemented to a limited extent (25%).
3. The project would be implemented at a lower quality level (50%).
4. The project would be fully implemented but later (75%).
5. The project would be implemented without change (100%).

This method of evaluation of the deadweight effect is investigated through the project group. On one hand, the projects are approved, and on the other they are the projects in which the funds were approved but were not supported for the limited resources of the call. There is a high similarity between the groups. Another way of evaluation is by comparing the results achieved by both supported and unsupported groups and creating a control group. It should be stated that selecting a group is very difficult and important. Depending on control group, the percentage of deadweight effect and total support efficiency is measured. The studies examined the effects in different areas (Wren, 2005; Lenihan and Hart 2004) and pointed out different proportions of projects that would have been carried out without support. There is no fixed proportion to be expected. Deadweight effect a highly variable effect and there is a need for clear conditions to support the private sector from EU support.

3. Methodology and Data

As stated in the introduction, the aim of our research is to analyze the efficiency of public support of employment from the EU Structural Funds through the deadweight effect for the monitored programming period in the selected self-governing region.

In our analysis we used data from ITMS2014+ website. The database consists of 43 projects focused primarily on employment and belonging to the Operational Program Human Resources in the programming period 2014-2020. The survey was carried out on two groups of applicants for a non-repayable financial contribution. The first group consisted of businesses that received funding and are implementing their projects. The second group of businesses were unapproved due to insufficient quality and limited resources of the call. So, we can say that we are researching a real and not a hypothetical state (as would be the case with control group). On the other hand, these projects were not initially selected, so there is a degree of distortion.

Tokila, Haapanen and Ritsilä (2008) believe that the likelihood of a minimum dead weight depends on the characteristics of the supported firms and location of the supported firms. If the deadweight effect reaches a high value, the changes that have occurred are irrelevant (changes would have occurred without subsidies too). Employment can be an example. Based on an evaluation of the deadweight effect by the authors, we used three characteristics in the analysis: size, age and location of the supported firms defined by according to European Commission Recommendation no. 2003/361/EC. The size of enterprises is divided into micro, small and medium sized enterprises according to the number of employees or the total annual balance sheet. The age of the enterprises is divided into less than 3 years (start-up) and longer-term existing enterprises. The analysis includes enterprises that have the registered office of the applicant as the location of project implementation in the selected self-governing region.

Firstly, we chose characteristics based on the data availability and based on the evaluation of the deadweight effect by authors Tokila, Haapanen and Ritsilä (2008). We analyzed data of the supported firms in the self-governing region of Banská Bystrica. Secondly, we divided the self-governing region of Banská Bystrica (NUTS IV) according to the extent of support needs, as we assume that enterprises in the selected self-governing region tend to receive employment support even if they do not really need this support. The distribution of the self-governing region according to the extent of support needs is shown in Table 1.

Table 1. Distribution of the self-governing region of Banská Bystrica according to support needs.

Percentage of support need	Districts of the self-governing region of Banská Bystrica
Districts capable of development without direct support (0% support)	Banská Bystrica and Zvolen
25% support	Žiar nad Hronom
50% support	Brezno, Žarnovica, Banská Štiavnica and Lučenec
75% support	Rimavská Sobota, Detva, Veľký Krtíš, Poltár and Krupina
Districts with the highest support needs (100% support)	Revúca

The distribution of districts allows us to compare the deadweight effect and the extent of the need for project support.

4. Results

The assessment of the EU support can be viewed from different perspectives. We have analyzed three selected characteristics that correspond to the hypothesis that firms in the selected self-governing region tend to receive employment support, even if they do not really need it. All characteristics are related to the Operational Program Human Resources in the programming period 2014-2020 and are focused on descriptive of the approved and unapproved applications of the firms in the self-governing region of Banská Bystrica.

Unapproved applicants were represented by 29 firms (67.44%) and approved applicants were represented by 14 firms (32.56%). Eligible beneficiaries were businesses in the self-governing region of Banská Bystrica, more specifically joint-stock companies (2) and limited liability companies (41), while limited partnerships and public companies were not represented (they did not draw funds yet). Excluded from the analysis were enterprises that were not based in the self-governing region of Banská Bystrica or firms whose place of implementation was in several places in Slovakia (it is difficult to determine what proportion of this support was exactly in the self-governing region of Banská Bystrica).

While analyzing the deadweight effect, we considered the criterion of the volume of funds that would be spent in the absence of funds. Subsequently, the database shows the requested amount of the grant, the approved amount of the grant, the size of the enterprise, the existence of the enterprise and the type of call. The data are collected for the years 2016 – 2019, as by 2016 the data for all beneficiaries is zero (non-drawdown of the EU funds).

Companies in the self-governing region of Banská Bystrica received funding for the priority investment axes 1.4, 2.1, 3.1, 3.2 and 4.1. We examine the results of the approved and unapproved applicants depending on the size of the enterprise (Section 4.1.), the length of the existence of the enterprise (Section 4.2.) and the registered office of the applicant (Section 4.3.).

4.1. Size of the supported firms

The section describes the size of the firms in the districts of the self-governing region of Banská Bystrica. The distribution by approved and unapproved applications is shown in Table 2 and their deadweight effect in Table 3. As we can see the district Banská Bystrica is the only district that covers all sizes of companies. The most common size of firm is a micro-enterprise, while this type of enterprise achieves the lowest deadweight value of 26.14 % (Table 3). According to the chosen scale, the projects would have been implemented to a limited extent. When comparing approved and unapproved applications in micro-enterprises, the ratio is 1:1.5 as opposed to other sizes that have a 1:1 ratio. The largest gap can be seen in the district of Rimavská Sobota, which also has the largest number of failed projects. Rimavská Sobota is one of the districts that needs a high level of support, but their ability to draw this support is the lowest.

Table 2. Distribution of the size of firms in the districts of the self-governing region of Banská Bystrica by the number of applications.

Size of firms in districts of the self-governing region of Banská Bystrica	Approved applications	Unapproved applications	Total number
Banská Bystrica	8	6	14
Micro-enterprises	5	4	9
Small enterprises	1	2	3
Medium-sized enterprises	2	0	2
Lučenec	1	2	3
Micro-enterprises	1	1	2
Medium-sized enterprises	0	1	1
Rimavská Sobota	3	18	21
Micro-enterprises	3	18	21
Detva	0	1	1
Micro-enterprises	0	1	1
Zvolen	1	2	3
Micro-enterprises	0	1	1
Small enterprises	1	1	2
Žiar nad Hronom	1	0	1
Micro-enterprises	1	0	1
Total number	14	29	43

As we can see in Table 3, the total deadweight effect in the monitored subjects is 30.58 % (percentage ranking the projects into a group of implemented projects at a lower quality level - 3 degree in scaling by Tokila and Haapanen, 2012). The most numerous groups are micro-enterprises. Despite the higher number of applications, only part of the funds is approved (for example, in the two applications only 70% of the funds was approved). The lowest deadweight effect is justified by the lower percentage of the funds of approved applications and the high number of unapproved applications. Small and medium-sized enterprises have fewer applications but 100% approved funding. Furthermore, we can say that as the size of the firms grows according to its number of employees, the deadweight effect also increases. This means that support is more efficient if the firm has more than 10 employees.

Table 3. Distribution of the size of firms in the districts of the self-governing region of Banská Bystrica by deadweight effect.

Size of firms in districts of the self-governing region of Banská Bystrica	Approved application	Unapproved application	Deadweight effect
Micro-enterprises	5 (100 %), 2 (70 %), 1 (95 %), 2 (90 %)	25	26.14 %
Small enterprises	2 (100 %)	3	40.00 %

Medium-sized enterprises	2 (100 %)	1	66.66 %
Total number	14	29	30.58 %

4.2. Age of the supported firms

The section describes the age of firms in the districts of the self-governing region of Banská Bystrica. The distribution by approved and unapproved applications is shown in Table 4 and their deadweight effect in Table 5. As we can see, the most common length of existence of firms is a longer-term existing enterprise, with an average age of 11 years. Banská Bystrica is the only district that covers start-up, and the application was unsuccessful. This indicates that firms that have been on the market for less than 3 years pose a greater risk of receiving aid and their applications are not supported and therefore there is low interest in support from businesses. Start-ups achieve a 0 % deadweight effect, which means that projects could not be implemented. Enterprise that exist more than 3 years have a 31.31 % deadweight effect, which indicates low support efficiency and these projects would be implemented to a limited extent. Since the analysis does not allow us to take a closer look at the constraints (in the case of a questionnaire this would be possible), we can only guess what would happen. It is possible that the company would either apply for funding from another institution and thus ensure the smooth fulfilment of its objectives or the implementation of its project intent would not be met or it would only be met to a smaller scope and this shortcoming would have some consequences.

Table 4. Distribution of the age of firms in the districts of the self-governing region of Banská Bystrica by applications.

Age of firms in districts of the self-governing region of Banská Bystrica	Approved application	Unapproved application	Total number
Banská Bystrica	8	6	14
Start-up	0	1	1
Longer-term existing enterprise	8	5	13
Lučenec	1	2	3
Longer-term existing enterprise	1	2	3
Rimavská Sobota	3	18	21
Longer-term existing enterprise	3	18	21
Detva	0	1	1
Longer-term existing enterprise	0	1	1
Zvolen	1	2	3
Longer-term existing enterprise	1	2	3
Žiar nad Hronom	1	0	1
Longer-term existing enterprise	1	0	1
Total number	14	29	43

As we can see in Table 5, the total deadweight effect in the monitored subjects is 30.58 %. We can say that as the age of the firms grows, the deadweight effect also increases. Firms older than 3 years evoke greater confidence and stability in getting support from EU funds. This means that support is more efficient if the firm is more than 3 years old. Most projects are recorded in the call OPLZ-PO1/2016/DOP/1.4.1-01.

Table 5. Distribution of the age of firms in the districts of the self-governing region of Banská Bystrica by deadweight effect.

Age of firms in districts of the self-governing region of Banská Bystrica	Approved application	Unapproved application	Deadweight effect
Start-up	0	1	0.00 %
Longer-term existing enterprise	9 (100 %), 2 (70 %), 1 (95 %), 2 (90 %)	28	31.31 %

Total number	14	29	30.58 %

4.3. Location of the supported firms

The section describes the location of the firms in the self-governing region of Banská Bystrica. The distribution by approved and unapproved applications and their deadweight effect is shown in Table 6. As we can see support is captured in 6 out of 13 districts.

According to Table 1, the highest support is needed in the district of Revúca, which has not yet received funds from the Human Resources Operational Program and is not registered in the database. The lowest recorded deadweight effect is 0 % in the Detva district. Although this district requires a high level of support (75 % support), the project has not been implemented. The second district with the lowest deadweight effect (12.86 %) is also a district that requires a 75 % share of support. Despite the high need, 18 projects are rejected in the district. Results of the expert evaluation were not presented, and therefore we cannot tell for certain where the problems occurred. We ranked Lučenec among the districts that need 1/2 support. The deadweight effect in this district is 30 %. The district may have difficulty gaining additional resources to support projects as projects would be implemented to a limited extent and need to be supplemented. The district of Žiar nad Hronom is the only one that has not unapproved applications and approved 70 % of one project. The project will be implemented in full but later. Districts capable of development without direct support (Banská Bystrica and Zvolen Districts) account for approximately 40 % of the total number of projects. This is contradictory, since the districts should carry out projects even in the absence of the EU support (possible waste of funds). Nevertheless, districts implement projects at a lower quality level.

Table 6. Distribution of the location of firms in districts of the self-governing region of Banská Bystrica by the deadweight effect.

Location of firms in districts of the self-governing region of Banská Bystrica	Approved application	Unapproved application	Deadweight effect
Banská Bystrica	6 (100%), 1 (90%), 1 (95%)	6	56.07%
Lučenec	1 (90%)	2	30.00%
Rimavská Sobota	2 (100%), 1 (70%)	18	12.86%
Detva	0	1	0.00%
Zvolen	1 (100%)	2	33.33%
Žiar nad Hronom	1 (70%)	0	70.00%
Total number	14	29	30.58%

Globally, for the Human Resources Operational Program in the 2014-2020 programming period, we can assess that the deadweight effect reaches 30.58 %. This value indicates that all the projects examined will be implemented, but to a limited extent. This fact has a relatively negative character and confirms the established hypothesis. Not only for businesses that do not really need support, but the reverse is also true.

5. Conclusions

A more in-depth analysis and measurement of the EU spending could be an important step towards improving Slovakia's regional development. Based on theory and previous empirical research, we assume that businesses in the selected self-governing region tend to receive employment support, even if they do not really need it. In our research we have identified characteristics of such businesses with a potential impact on the efficiency of drawing funds based on ITMS2014 + data for businesses in the self-governing region of Banská Bystrica. Our results clearly indicate that support is more effective if the company has more than 10 employees and/or has been on the market for more than 3 years. The company's location and its need for support also play an important role.

Globally, for the Human Resources Operational Program in the 2014-2020 programming period, we can assess that the deadweight effect reaches 30.58 %. This value indicates that all the projects examined will be implemented, but to a limited extent. This fact has a relatively negative character and confirms the established hypothesis. Not only for businesses that do not really need support, but the reverse is also true. The highest number of approved applications is registered in the district of Banská Bystrica, which is capable of development without direct support. On the other hand, the Revúca district, which requires the most support, has no project in the period under review.

Our results could have several important implications for Slovakia's regional policy and public support for employment at national and transnational levels. Promoting employment at regional level seems important to further increase labor productivity and sustain regional economic growth. For this reason, measuring efficiency is one of the most important subjects. The potential for deeper analysis of aid efficiency to improve regional development is very high. This is one of the main challenges for regional development policy at national and EU level.

We consider these results to be beneficial, but we see some limitations, e.g. that the results cannot be applied to the whole country only to a self-governing region. Therefore, we do not consider the results to be representative, but merely indicative. The established method also has its pros and cons, and in the future, it would be more interesting to look at the EU support using counterfactual evaluation methods that are more accurate but also more difficult and tim demanding. A further questionnaire survey could be added to answer supplementary questions, especially for unapproved applications. The survey could provide answers on satisfaction, awareness or lack of support. Furthermore, it would be interesting to examine which subjects fail on the market. Enterprises, aid approvers or aid providers?

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