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Spatial Dimension of Czech Enterprise Support Policy: Where Are Public Expenditures Allocated?

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Abstract: The purpose of the present paper is to find whether the spatial distribution of enterprise support policy funds meet the spatial objectives stated in Czech strategic documents related to enterprise support policy. Are more funds allocated in lagging regions, and does enterprise support policy contribute more to the convergence objective, or are more funds allocated in core regions, and does enterprise support policy contribute more to the competitiveness objective? These questions are answered by evaluating the Structural (and Cohesion) Fund (SF) expenditures that were allocated on operations categorised as part of enterprise support policy (2007-2013). The dependent variable relates to 206 regions, and SF expenditures are calculated for every inhabitant of a region. Moreover, two types of SF operation are distinguished: (a) innovation-oriented operations; and (b) other enterprise support operations. Three explanatory variables are defined using Principal Components Analysis (PCA), and these components are understood as: (1) the social disadvantage of regions; (2) the innovation environment of regions; and (3) the quality of regional entrepreneurial environments. The associations between the dependent and explanatory variables are subsequently evaluated by methods of correlation and regression analysis. The findings provide some evidence for both the convergence and competitiveness objectives. Nevertheless, this evidence is rather limited due to a low spatial concentration of SF allocation, and the compensatory effect between the two thematic types of SF operations. Hence, while the quality of their innovation environment has a positive influence on regional SF allocation regardless of the thematic focus of SF operations, socially disadvantaged regions received more funds for SF operations which are not innovation-oriented. The capacity of potential beneficiaries to prepare and submit many project proposals for SF co-financing is the main reason for high or low SF allocation.

Key words: enterprise support policy, cohesion policy, the Czech Republic, regional disparities

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Introduction

Enterprise support policies are quite high on political agendas of many states. The main motivation of these policies is to influence economic growth, competitiveness and employment through enterprise development (see, e.g., Arshed, Carter and Mason, 2014; Vega and Chiasson, 2015). Generally, two types of enterprise support policies may be distinguished: (a) entrepreneurship policies focusing on new enterprise formation; and (b) SME policies focusing on the competitiveness of existing firms (see, e.g., Storey, 2008). In this regard, Storey (2008), Henry, Hill and Leitch (2003), and also Acs et al. (2016) explain the demand for these policies within the imperfect market framework. Enterprise support policies serve to compensate for information and knowledge imperfections, as compensation for asymmetries in access to finance, and also as compensation for the divergence in private and societal benefits. Acs and Szerb (2007), Huggins and Williams (2009) add the importance of entrepreneurial climate as another argument for enterprise support policies.

Enterprise support policies also have a spatial dimension that relates to specific regional conditions. Smallbone, Baldock and North (2003) expound on spatial market imperfections that cause disadvantages in peripheral regions. Acs et al. (2016) additionally point out the importance of spatial externalities, such as tacit knowledge or information spillovers, typically concentrated in core regions. Accordingly, spatial objectives of enterprise support policies may follow either economic or social goals (see, e.g., Dennis, 2011). While economic goals favour more competitive core regions, social goals call for the support of lagging regions.

These ideas also constitute the rationale of EU cohesion policy in the programming period 2007-2013. Hence the Treaty establishing the European Community provides that: "in order to strengthen its economic and social cohesion, the Community is to aim at reducing disparities between the levels of development of the various regions (…) – article 158 of the Treaty". However, "cohesion policy should also contribute to increasing growth, competitiveness and employment, (…) and actions for convergence, competitiveness and employment should therefore be increased throughout the Community" (EC, 2006a). This is also reflected in the first two objectives of cohesion policy (EC, 2006a):

- The Convergence objective, which is aimed at speeding up the convergence of the least-developed Member States and regions (…),
- The Regional competitiveness and employment objective, which shall, outside the least-developed regions, be aimed at strengthening regions' competitiveness and attractiveness as well as employment (…).

Moreover, the Community's strategic guidelines on cohesion attach particular importance to entrepreneurship and SME development (EC, 2006b). Consequently, a link forms between spatial objectives of cohesion policy and enterprise support policy. It is worth noting that these spatial objectives were also mentioned in relevant Czech strategic documents for the period 2007-2013. Hence, MIT CR (2006), MRD CR (2006), MRD CR (2007), and MoE CR (2010) emphasise the role of SMEs in alleviating regional disparities – this is the convergence objective. Concurrently, MRD CR (2006), and MRD CR (2007) uphold the importance of innovative enterprises in core regions –

the competitiveness objective. Additionally, the cohesion policy was the main source for financing Czech public policies in the period 2007-2013, including enterprise support policy (see, e.g., Wokoun, 2007).

The present article deals with the spatial dimension of enterprise support policy, specifically in regard to the question of where enterprise support policy funds are allocated. In answering the question, the aim of this paper is to find whether the spatial distribution of enterprise support policy funds meets the spatial objectives stated in Czech strategic documents related to enterprise support policy – the convergence and competitiveness objectives. In this regard, we evaluate the Structural (and Cohesion) Fund (hereafter referred to as SF) expenditures from the Convergence objective and from the Regional competitiveness and employment objective, categorised as part of enterprise support policy. The article is structured as follows: the first section provides a literature review. The second section presents data and research methods. The third section summarises empirical results that are subsequently discussed in the following section. The last section presents conclusions.

Literature review

Socioeconomic development is a spatially uneven process (see, e.g., Stillwell et al., 2010). Some regions are quite successful in their socioeconomic development while other regions lag behind. Such regional disparities motivate the interest of many states to conduct regional policies. Two spatially-oriented objectives are typically defined: (a) the convergence objective (or the objective of equity); and (b) the competitiveness objective (or the objective of efficiency). The relationship between these two objectives has been constantly changing.

The spatially-oriented objectives of convergence and competitiveness were primarily perceived as complementary to each other (see, e.g., Fratesi, 2008). The neoclassical growth model and the principle of decreasing returns to scale explain this relationship (see, e.g., Solow, 1956; Henley, 2005). It is suggested that spatial concentration of resources in lagging regions can achieve both regional convergence and competitiveness (see, e.g., Boldrin and Canova, 2001; Wu and Gopinath, 2008, Ezcurra, Pascual and Rapún, 2007). However, the theoretical rationale of this relationship has been questioned by several more recent theoretical concepts based on increasing returns to scale. Examples of this are endogenous growth theories (see, e.g., Romer, 1986) and new economic geography (see, e.g., Krugman, 1991). In this case, the objective of competitiveness may be violated when allocating resources in lagging regions (see, e.g., Nijkamp, 2009; De Propris, 2007).

There have been changes in the theoretical background of regional policies, and these changes have been reflected in practical implementation. The traditional mechanism of redistribution of financial resources to lagging regions has been complemented by the ideas of endogenous growth theories, new economic geography and also by the ideas of institutional theories of regional development. It is argued that the support of core regions may increase the coherence between the convergence and competitiveness objectives of regional policies (see, e.g., Bentley and Pugalis, 2014). Additionally, all regions have developmental potential and it is also desirable to consider the presence of spatial market imperfections and spatial externalities (see, e.g., Garretsen et al., 2013; Barca, McCann and Rodríguez-Pose, 2012; Audretsch, 2015). Finally, the thematic focus of regional policy is of importance. Thus, Kaufmann and Wagner (2005), Crescenzi (2009), Novosák et al. (2017a) point out the low absorption capacity of lagging regions, particularly in the case of innovations and more progressive thematic areas.

The above mentioned discussion is also relevant for enterprise support policies. Huggins and Williams (2011) claim that enterprises crucially influence regional development and that they form the basis for regional competitiveness. Similarly, Armington and Acs (2002), and also Tamásy and Le Heron (2008) point out the positive relationship between high entrepreneurship rates and regional concentration of resources. Therefore, enterprise support policies may be understood as an appropriate strategy to achieve both the convergence and competitiveness objectives of regional policies. It is worth noting that these objectives were included in several strategic documents of the Czech Republic in the period 2007-2013, particularly:

- new firm formation and growth, SME development and new job creation in lagging regions included in MIT CR (2006), MRD CR (2006), MRD CR (2007), and MoE CR (2010),
- support of innovation-oriented enterprises in core regions included in MRD CR (2006), and MRD CR (2007),
- the coherence between regional and thematic policies included in MIT CR (2006), and MRD CR (2007).

Various policy instruments were used to achieve these objectives. The means also included financial instruments, especially SF expenditures for enterprise development. The question is whether the spatial distribution of these expenditures meets the spatial objectives stated above. Novosák et al. (2017b) discussed this question for different clusters of regions and they identified evidence for the competitiveness objective, but little support was found for the convergence objective. In this article, a different methodology, suggested by Crescenzi (2009) and Crescenzi, De Fillipis and Pierangeli (2015), is applied. The main ideas of this approach rest on the assumption that financial allocation of enterprise support policies ought to compensate for socioeconomic disadvantages of regions in order to achieve the convergence objective of regional policies. Also, that innovation-oriented intervention is expected to be of crucial importance in core regions. The coherence of spatial objectives of enterprise support policy is achieved in this way. Empirically, these ideas are verified on the basis of regression modelling that explains relative financial allocation in regions (see, e.g., Crescenzi, 2009; Crescenzi, De Fillipis and Pierangeli, 2015; Dellmuth and Stoffel, 2012; Schraff, 2014; Camaioni et al., 2013 for this approach).

A number of studies using this evaluating approach of various public policies have provided mixed results, depending on the spatial level of evaluation, on the ex-ante or ex-post nature of evaluation, on the eligibility of regions for financing, and also on other factors. Typically, ex-ante evaluation of SF allocation at the NUTS1 and NUTS2 levels indicates higher SF allocation in disadvantaged regions (see, e.g., Crescenzi, 2009; Crescenzi, De Fillipis and Pierangeli, 2015; Bouvet and Dall'Erba, 2010; Kemmerling and Bodenstein, 2006). However, these findings are not surprising because the more developed regions are not eligible for SF financing under the most generous Convergence Objective. Results are quite ambiguous for ex-post evaluations at a lower spatial level that are based on competition among regions (see, e.g., Novosák et al., 2015; Camaioni, et al., 2013; Blažek and Macešková, 2010). Moreover, thematic focus of policy interventions is of crucial importance as shown e.g. by Novosák et al. (2017a). The idea of the so called "innovation paradox" should be particularly mentioned. It claims that innovation-oriented interventions do not target lagging regions due to their low absorption capacity (see, e.g., Kaufmann and Wagner, 2005; Klímová and Žítek, 2015).

There are also other factors that may influence the spatial pattern of enterprise support policy expenditures. The concept of absorption capacity is of particular importance. Jurevičienė and Pileckaitė (2013), Milio (2007), understand this concept as being the capacity of states to spend earmarked funds effectively and efficiently. The demand and supply sides of the concept are clearly distinguished (see, e.g., Popescu, 2015; Tosun, 2014; Cace et al., 2009). While the demand side relates to institutional aspects of public policy, the supply side relates to the capacity of actors to prepare and submit projects acceptable for funding. Concerning the spatial dimension of the absorption capacity concept; Jaliu and Radulescu (2013), Tosun (2014) point out a potentially disadvantageous position of lagging regions due to their lack of human capital, lack of co-financing funds, due to their relatively weak lobbying power and also due to problems with searching for project partners. Hájek et al. (2017) explain that this disadvantage may be reflected in three areas: (a) in a lower number of project proposals; (b) in a smaller project size; and (c) in a lower rate of project approval.

There are two other factors that may influence spatial patterns of enterprise support policy expenditures. Firstly, political interests may be a strong predictor of the spatial pattern of enterprise support policy expenditures. Hence, politicians, i.e. decision-makers, may favour certain regions over others, for various reasons. These include the strategy to "reward loyalty" (see, e.g., Bouvet and Dall'erba, 2010; Dellmuth and Stoffel, 2012; Schraff, 2014), and the strategy to "win elections in marginal districts" (see, e.g., Schraff, 2014; Dellmuth and Stoffel, 2012). Secondly, spatial interactions influence the spatial pattern of enterprise support policy expenditures (see, e.g., Camaioni et al., 2013; Schraff, 2014). These involve cooperation between neighbouring regions which results in positive associations, and also involves competition between neighbouring regions which results in negative associations.

Methodology

The methodology of the present paper is based on evaluating associations between the regional pattern of enterprise support policy expenditures and the variables related to socioeconomic disadvantages of regions. We evaluate SF expenditures from the Convergence objective and from the Regional competitiveness and employment objective (2007-2013) that were allocated on operations that were categorised as part of enterprise support policies. Table 1 gives operational programmes (hereafter referred to as OPs) and their priority axes from which operations were included in subsequent analyses. All the variables relate to 206 regions which correspond to the so-called administrative districts of municipalities with extended powers, and also the capital city of Prague.

Table 1. OPs and priority axes from which operations were included in analyses

Operational Programme	Priority axes	Type
OP Enterprise and Innovation	(1) Establishment of Firms; (2) Development of Firms; (3) Effective Energy; (4) Environment for Enterprise and Innovation; (5) Business Development Services	Other
	(1) Innovation; (2)Environment for Enterprise and Innovation	Innovation-oriented
Human Resources and Employment OP*	(1) Adaptability	Other
OP Research and Development for Innovations*	(1) European Centres of Excellence; (2) Regional R&D Centres; (3) Commercialisation and Popularisation of R&D	Innovation-oriented
OP Environment*	(1) The Limiting of Industrial Pollution and Environmental Risks	Other
ROP Prague-Competitiveness*	(1) Innovations and Enterprise	Innovation-oriented
ROP Prague-Adaptability*	(1) Support to Development of Knowledge-Based Economy	Other
Regional OPs* (7 OPs)	Priority axes related to tourism and enterprise development	Other

* *Only SF operations carried out by private-sector beneficiaries were included in this analysis*
Source: own elaboration

Dependent variables

The dependent variable was defined as SF expenditures (in June 2016) per inhabitant of a region and the variable was log-transformed to improve presentation and statistical validity. The official data published by the Ministry of Regional Development of the Czech Republic (hereafter referred to as the MRD CR), the Ministry of Industry and Trade of the Czech Republic (hereafter referred to as the MIT CR) and the Ministry of Labour and Social Affairs of the Czech Republic (hereafter referred to as the MLSA CR) were the sources of information. Apart from the SF expenditures, two other types of dependent variables were used to reflect the thematic focus of SF operations: (a) innovation-oriented operations; and (b) other enterprise support operations (hereafter referred to as other operations). The OPs and priority axes of SF operations determined them being categorised into the defined types (see table 1 for details).

Explanatory variables

The explanatory variables relate to socioeconomic disadvantages of regions and are dated at the beginning of the period 2007-2013 in order to minimize the problem of endogeneity. In this regard, three variables were defined using Principal Components Analysis (PCA). The first variable, understood as social disadvantages of regions (SOCIAL_DIS), was constructed as the principal component derived from two indicators: (a) unemployment rate, i.e. the annual proportion of unemployed people for the population aged 15-64 in the years 2005-2007; and (b) annual migration change per 1,000 inhabitants in the years 2000-2007. Data was taken from the Czech Statistical Office (hereafter referred to as the CSO) and the PCA scores were used in subsequent analyses.

The remaining two variables were constructed from six indicators related to entrepreneurial and innovation environment, which included:

- population density (POPULATION_DENSITY), i.e. the number of inhabitants per area (2007; the CSO as the source of information; log-transformed to improve normality);
- the nature of the industrial structure (INDUSTRIAL_STRUCTURE) measured as the distance of employment shares in 11 industries in each region from the corresponding employment shares of the capital city of Prague (the mean from the years 2001 and 2011; the CSO as the source of information);
- patent activity (PATENT) defined as the number of patents and utility models per 100,000 inhabitants with a double-weight value for patents (2002-2007; the Industrial Patent Office – hereafter referred to as the IPO – as the source of information; log-transformed to improve normality);
- the stock of human capital (HUMAN_CAPITAL) measured as the share of tertiary educated people in the population, more than 15 years of age (the mean from the years 2001 and 2011; the CSO as the source of information);
- the stock of entrepreneurs (ENTREPRENEUR), i.e. the share of employers and self-employed people in the economically active population (the mean from the years 2001 and 2011; the CSO as the source of information);
- entrepreneurial dynamics (ENTREP_DYNAMICS) defined as a composite index composed of three variables: (a) the number of newly created businesses as a percentage of the population aged 15-64 (2002-2007; the CSO as the source of information); (b) the number of newly created businesses registered to VAT in the first three years after their establishment, for the population aged 15-64 (2002-2007; the CSO and the Ministry of Finance of the Czech Republic – hereafter referred to as MF CR – as the source of information); and (c) the number of fast-growing newly created businesses, i.e. businesses with at least 20 employees in the first three years of their establishment, for the population aged 15-64 (2002-2007; the CSO as the source of information; log-transformed to improve normality).

Principal component analysis was used as the method for data treatment to establish general relationships among the six indicators, and also as a data reduction tool, so that a more meaningful regression may be carried out. Therefore, only two components with an eigenvalue larger than one (Kaiser’s criterion) were retained for further analyses. Table 2 reproduces the rotated component matrix of the PCA, providing information about the factor loadings of each indicator on the two constructed components and thus enabling interpretation of both of these components.

The first component is loaded positively and highly on the indicators related to population density, human capital, and also industrial structure and patents; while the second component is loaded positively and highly on the indicators related to the stock of entrepreneurs and entrepreneurial dynamics. The former group of indicators consists of the factors characteristic of innovation environments (INNOV_ENVIRON) – e.g., patenting, stock of knowledge, innovation spillovers, and agglomeration externalities (see, e.g., Fotopoulos, 2014; Qian, Acs and Stough, 2013; Bishop, 2012), while the latter group of indicators relate to the quality of entrepreneurial environments (ENTREP_ENVIRON; see, e.g., Foreman-Peck and Zhou, 2013). Note that when defining the two components, the two defined types of SF operations were taken into account, and that the PCA scores for both components were used in subsequent analyses.

Table 2. PCA – rotated component matrix (Varimax rotation with Kaiser Normalization)

Indicator	Component	
	Innovation environment	Entrepreneurial environment
POPULATION_DENSITY	0.909	-0.163
INDUSTRIAL_STRUCTURE	0.653	0.455
PATENT	0.595	0.236
HUMAN_CAPITAL	0.740	0.508
ENTREPRENEUR	-0.017	0.931
ENTREP_DYNAMICS	0.408	0.761
Eigenvalue	*3.132*	*1.183*
Total variance explained (cumulative)	*52.2 %*	*71.9 %*

Source: own elaboration based on the CSO, the IPO, and the MF CR

Control variables

Control variables relate to the absorption capacity concept, they relate also to political interests and also to spatial interactions. Firstly, absorption capacity was operationalized using three variables: (a) the number of project applications submitted for SF co-financing per 10,000 inhabitants (PROJECT_NUMBER); (b) the average size of a project submitted for SF co-financing which was measured by the amount of SF required in project applications (PROJECT_SIZE); and (c) the rate of project acceptance (PROJECT_ACCEPT). This defines the capacity of actors to prepare and submit projects acceptable for SF (see, e.g., Hájek et al., 2017).

Political interests were grasped in terms of the "reward loyalty" strategy. Hence, a dummy variable was defined that takes the value of '1' if government parties won more than 50% of votes in the two Parliamentary elections in 2006 and 2010 and the value of '0' otherwise (GOVERNMENT). Spatial interactions were included in subsequent analyses through a variable related to the administrative division of the Czech Republic into eight cohesion regions (NUTS 2). Therefore, seven dummy variables were defined, using the Moravia-Silesia cohesion region as a reference category. The choice of this cohesion region was because its regions were, on average, close to the mean value of all Czech regions. Note also the Prague dummy variable controls for all specific features of Prague (e.g., ineligibility for the Convergence objective, capital-city status).

Methods

The associations between the regional pattern of enterprise support policy expenditures and the variables related to socioeconomic disadvantages of regions were evaluated, using the following methods. Moran's I, the most common measure of spatial autocorrelation, was first calculated. We followed the notion that low Moran's I values indicate high spatial dispersion of both SF allocation and socioeconomic disadvantages of regions (see, e.g., Crescenzi, 2009). Secondly, correlation coefficients between the dependent variables and explanatory variables were computed and analysed. Finally, multivariate regression models were estimated in the form:

$$SF_i = \beta_0 + \sum_{l=1}^{L} \beta_l EXPL_{li} + \sum_{m=1}^{M} \gamma_m CONTROL_{mi} + u_i,$$

where SF_i is SF allocation in a region i; $EXPL_{li}$ is an explanatory variable l in a region i; $CONTROL_{mi}$ is a control variable m in a region i; and u_i is the error term. In addition, heteroskedasticity-robust standard errors were calculated and special attention was dedicated to the absorption capacity concept in explaining the spatial pattern of SF allocation. Note that the assumptions of normality and multicollinearity were examined and that no violation of these assumptions was detected.

Empirical results

Table 3 provides descriptive statistics and Moran's I for the variables related to SF allocation and socioeconomic disadvantages of regions. Concerning SF allocation, innovation-oriented operations are spatially more concentrated than other operations. This finding is also supported by descriptive statistics because innovation-oriented operations indicate higher differences in SF allocation than other operations. Moreover, positive Moran's I values show that neighbouring regions tend to have similar values of SF allocation. Concerning the variables related to socioeconomic disadvantages of regions, Moran's I values are markedly higher than those reported for the three variables related to SF allocation. Hence, it should not be expected that SF allocation compensates for socioeconomic disadvantages of regions.

Table 3. Descriptive statistics and Moran's I

Variable	Mean	St. Deviation	Moran's I
SF allocation – total	9.13	0.56	2.23*
SF allocation – innovation-oriented operations	8.14	0.98	3.81**
SF allocation – other operations	8.79	0.57	1.42
SOCIAL_DIS	0.00	1.00	13.80**
INNOV_ENVIRON	0.00	1.00	8.80**
ENTREP_ENVIRON	0.00	1.00	11.37**

*** Statistically significant at the 0.01 significance level; * statistically significant at the 0.05 significance level*

Source: own elaboration based on the CSO, the IPO, the MF CR, the MRD CR, the MIT CR, and the MLSA CR

Table 4 extends our analysis. Here, we examine the correlations between the variables related to SF allocation and regional socioeconomic disadvantages. In this regard, rather weak correlations are found, further supporting the idea that SF allocation provides only limited compensation for socioeconomic disadvantages. Nevertheless, the statistical significance of some correlations, although weak, adds some insight into the correlation between the variables related to SF allocation and regional socioeconomic disadvantages. Therefore, the quality of innovation environment positively and significantly correlates with SF allocation regardless of the thematic focus of SF operations. SF allocation for innovation-oriented operations also significantly correlates with the other two variables of socioeconomic disadvantages – positively with the variable related to the quality of entrepreneurial environment and negatively correlating with the variable related to social disadvantages. On the other hand, the variable related to social disadvantages positively and significantly correlates with SF allocation for other operations.

Table 4. Pearson correlation coefficient

SF allocation	SOCIAL_DIS	INNOV_ENVIRON	ENTREP_ENVIRON
Total	0.076	0.277**	0.024
Innovation-oriented operations	-0.152*	0.297**	0.146*
Other operations	0.216**	0.222**	-0.031

*** Statistically significant at the 0.01 significance level; * statistically significant at the 0.05 significance level*
Source: own elaboration based on the CSO, the IPO, the MF CR, the MRD CR, the MIT CR, and the MLSA CR

Table 5. Regression model estimates – basic model

Variable	SF allocation		
	Total	Innovation-oriented operations	Other operations
SOCIAL_DIS	0.047 (0.336)	-0.109 (0.093)	0.142** (0.048)
INNOV_ENVIRON	0.159** (0.043)	0.335** (0.076)	0.118** (0.042)
ENTREP_ENVIRON	0.097 (0.054)	0.162 (0.105)	0.110* (0.048)
Control variables			
GOVERNMENT	-0.049 (0.133)	-0.368 (0.217)	0.069 (0.125)
PRAGUE	-1.464** (0.223)	-1.919** (0.391)	-1.361** (0.218)
CENTRAL_BOHEMIA	-0.060 (0.203)	0.249 (0.344)	-0.124 (0.197)
SOUTHWEST	-0.249 (0.163)	-0.174 (0.339)	-0.289 (0.158)
NORTHWEST	-0.054 (0.148)	0.062 (0.329)	-0.088 (0.135)
NORTHEAST	0.123 (0.152)	0.687* (0.291)	-0.052 (-0.146)
SOUTHEAST	0.090 (0.152)	0.282 (0.306)	0.028 (0.155)
CENTRAL_MORAVIA	0.422** (0.142)	0.742** (0.275)	0.378** (0.139)
N	*206*	*206*	*206*
Adjusted R^2	*0.194*	*0.202*	*0.194*

Note: Heteroskedasticity robust standard errors in parentheses
*** Statistically significant at the 0.01 significance level; * statistically significant at the 0.05 significance level*
Source: own elaboration based on the CSO, the IPO, the MF CR, the MRD CR, the MIT CR, and the MLSA CR

Overall, the above-mentioned results provide the following picture. It seems that more SF for innovation-oriented operations is allocated in regions characterised by an environment with higher quality innovation, also in an environment with higher quality entrepreneurship, and also in an environment with less social disadvantages. On the other hand, socially disadvantaged regions tend to have higher SF allocation for other operations. Hence, a compensatory effect between the two types of SF operations can be identified.

The robustness of the described picture was verified by regression analysis. Table 5 illustrates the estimates of a basic model that does not include the variables related to the absorption capacity concept. In this regard, the estimates support the described picture with one exception – the quality of the entrepreneurial environment is positively and significantly associated with SF allocation for other operations, not for innovation-oriented operations. The other associations are the same. Hence, the innovation environment quality has a positive and statistically significant influence on SF allocation regardless of the type of SF operations, and the variable related to social disadvantages is positively associated with SF allocation for other operations.

Discussion

Concerning the two spatially-oriented objectives of enterprise support policies, i.e. the convergence and competitiveness objectives, the empirical results of the present paper provide mixed conclusions. Firstly, limited evidence was found for the convergence objective. The only exception is the greater importance of ‘other SF operations’ in socially disadvantaged regions. However, SF allocation is lower in lagging regions, particularly in the case of innovation-oriented operations.

Secondly, the innovation environment quality, and to a lesser degree also the entrepreneurial environment quality, positively influence SF allocation regardless of the thematic focus of SF operations. The strongest association was detected between the innovation environment quality and SF allocation for innovation-oriented operations. This is in accordance with the idea of the competitiveness objective – to support innovation-oriented enterprises in core regions (see, e.g., MRD CR 2006; MRD CR 2007). Overall, the empirical results provide some validation for both the spatial objectives of enterprise support policy as formulated in the context of relevant strategic documents of the Czech Republic in the period 2007-2013. However, low spatial concentration of SF allocation does not allow a more convincing conclusion.

In terms of socioeconomic theory, the empirical results contribute to the wider debate of the interplay between the convergence and competitiveness objectives of enterprise support policies. It seems that financial allocation of enterprise support policies naturally reflect the recent theoretical ideas on the coherence between both objectives by also supporting core regions (see, e.g., Bentley and Pugalis, 2014). The thematic focus of operations is of particular importance in this regard. Nevertheless, the following question remains to be answered: “Why do some types of regions have higher SF allocation than other types of regions?” To answer this, several authors point out the influence of the absorption capacity concept – the capacity to prepare and submit project proposals for SF co-financing (see, e.g., Kaufmann and Wagner, 2005; Popescu, 2015; Klímová and Žítek, 2015; Jaliu and Radulescu, 2013). Therefore, three additional regression models were estimated, corresponding to the basic model (see table 5), which is extended by the variables related to the absorption capacity concept: (a) PROJECT_NUMBER; (b) PROJECT_SIZE; and (c) PROJECT_ACCEPT. Tables 6, 7 and 8 provide the estimates of the regression models, suggesting that:

- The crucial determinant of SF allocation is the number of project applications submitted for SF co-financing, as indicated by the values of regression coefficients and adjusted R^2.
- The influence of the two other variables related to the absorption capacity concept on SF allocation is much lower than the influence of the number of project applications submitted for SF co-financing.

Hence, the capacity to prepare and submit project proposals for SF co-financing is the main factor of high SF allocation. Moreover, the sign and statistical significance of the INNOV_ENVIRON variable indicates that regions with a poor innovation environment suffer from low capacity to prepare and submit innovation-oriented projects, supporting the “innovation-paradox” thesis (see, e.g., Klímová and Žítek, 2015).

Table 6. Regression model estimates – basic model and the PROJECT_NUMBER variable

Variable	SF allocation		
	Total	Innovation-oriented operations	Other operations
SOCIAL_DIS	0.055 (0.035)	0.000 (0.066)	0.012 (0.036)
INNOV_ENVIRON	0.061* (0.029)	0.174** (0.051)	0.030 (0.030)
ENTREP_ENVIRON	-0.074* (0.036)	-0.040 (0.068)	-0.065 (0.036)
PROJECT_NUMBER	1.088** (0.071)	1.258** (0.064)	1.069** (0.075)
N	*206*	*206*	*206*
Adjusted R^2	*0.638*	*0.618*	*0.622*

Note: Estimates of the other control variables not reported here; heteroskedasticity robust standard errors in parentheses
*** Statistically significant at the 0.01 significance level; * statistically significant at the 0.05 significance level*
Source: own elaboration based on the CSO, the IPO, the MF CR, the MRD CR, the MIT CR, and the MLSA CR

It is of great interest to discuss the research results in relation to the framework of the European Structural and Investment (ESI) Funds for the programming period 2014-2020. Firstly, the research design is still relevant because ESI Funds are expected to also support two thematic objectives: (a) strengthening research, technological development and innovation; and (b) enhancing the competitiveness of SMEs (see, e.g., EU, 2013), which correspond to the two types of SF operations defined in the present paper. However, there is a greater emphasis on the competitiveness objective in the ESI Funds framework for 2014-2020, as also indicated by the link with the growth oriented Europe 2020 strategy and by the importance of the smart specialization concept. Moreover, it is claimed that “since cohesion policy as a whole is geared towards the Europe 2020 strategy, the scope of intervention of the Funds is no longer differentiated between categories of regions, making the same types of investments available in all regions" (see, e.g., EU, 2013). It is noteworthy that Czech strategic documents related to enterprise support policy for 2014-2020 also emphasize the competitiveness objective, while entrepreneurship and SME development in lagging regions are hardly mentioned (see, e.g., MIT CR, 2012; MRD CR, 2014).

Table 7. Regression model estimates – basic model and the PROJECT_SIZE variable

Variable	SF allocation		
	Total	Innovation-oriented operations	Other operations
SOCIAL_DIS	0.078 (0.050)	-0.097 (0.095)	0.148** (0.046)
INNOV_ENVIRON	0.152** (0.043)	0.320** (0.080)	0.116** (0.041)
ENTREP_ENVIRON	0.115* (0.054)	0.164 (0.108)	0.115* (0.049)
PROJECT_SIZE	0.437** (0.147)	0.404 (0.229)	0.434** (0.145)
N	*206*	*206*	*206*
Adjusted R^2	*0.252*	*0.231*	*0.262*

Note: Estimates of the other control variables not reported here; heteroskedasticity robust standard errors in parentheses
*** Statistically significant at the 0.01 significance level; * statistically significant at the 0.05 significance level*
Source: own elaboration based on the CSO, the IPO, the MF CR, the MRD CR, the MIT CR, and the MLSA CR

Table 8. Regression model estimates – basic model and the PROJECT_ACCEPT variable

Variable	SF allocation		
	Total	Innovation-oriented operations	Other operations
SOCIAL_DIS	0.037 (0.045)	-0.089 (0.075)	0.131** (0.045)
INNOV_ENVIRON	0.180** (0.041)	0.290** (0.059)	0.145** (0.040)
ENTREP_ENVIRON	0.100 (0.053)	0.182* (0.090)	0.111* (0.048)
PROJECT_ACCEPT	0.016** (0.005)	0.027 (0.003)	0.015** (0.005)
N	*206*	*206*	*206*
Adjusted R^2	*0.257*	*0.395*	*0.250*

Note: Estimates of the other control variables not reported here; heteroskedasticity robust standard errors in parentheses
*** Statistically significant at the 0.01 significance level; * statistically significant at the 0.05 significance level*
Source: own elaboration based on the CSO, the IPO, the MF CR, the MRD CR, the MIT CR, and the MLSA CR

Reflecting on these tendencies and research results, one may assume that SF allocation will be strengthened in the Czech core regions that are characterised by a strong innovation environment, while SF distribution to lagging regions can be expected to become less pronounced in 2014-2020. Furthermore, the use of the integrated approach to territorial development will further reinforce the position of core regions. This is because the urban based integrated territorial investment (ITI) instrument is of greater importance for SF operations related to enterprise support policy than the rural based community-led local development (CLLD) instrument. Entrepreneurship and SME development are not even supported by CLLD at all. Hence, all these aspects ought to be considered to find coherence between the objectives of Czech enterprise support policy and regional policy.

Conclusion

The aim of the present paper is to assess whether two spatial objectives of Czech strategic documents related to enterprise support policy have been fulfilled – the convergence (or equity) objective and the competitiveness (or efficiency) objective. This assessment has been done by evaluating the determinants of regional distribution of enterprise support policy expenditures in the Czech Republic in the period 2007-2013. While the former objective relates to the support of lagging regions, the latter objective emphasises the importance of innovative enterprises in core regions.

The findings provide some evidence in favour of the both objectives. The level of social disadvantages of regions positively influences SF allocation for operations not categorised as innovation-oriented. Also, the quality of the innovation environment is positively associated with SF allocation for innovation-oriented operations. Therefore, a compensatory effect of the two types of operations was identified, suggesting thematic decomposition of SF allocation is crucially important in the evaluation of the two spatial objectives. Moreover, the low spatial concentration of SF allocation is worth noting, which limits the compensatory effect of SF expenditures. Finally, the capacity of regions to prepare and submit project proposals for SF co-financing was revealed as the main reason for their high or low SF allocation.

The findings provide several considerations for the programming period 2014-2020. These considerations are closely related to the strengthening links between the ESI Funds and the competitiveness objective. It can be assumed that SF allocation will reflect these changes. Hence, SF allocation in lagging regions will be lower in the programming period 2014-2020 than in the programming period 2007-2013, and this aligns with the political shift towards a “smart growth paradigm” (see, e.g., EU, 2013). However, it can also be assumed that there will be increasing disparities among core and lagging regions. Politicians should pay attention to this issue. Overall, further research concerning the period 2014-2020 is desirable from both the scientific and the political perspective and there are opportunities to extend the research by other methodological approaches; e.g., by local indicators of spatial association (LISA) or by structural equation modelling (SEM).

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