Administrative Capacity, Structural Funds Absorption and Development. Evidence from Central and Eastern European Countries

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Abstract: *Literature acknowledges the importance of the administrative capacity for experiencing high levels of Structural Funds (SF) absorption. By defining the administrative capacity in terms of institutional quality and political management performance, the main purpose of this article is to analyse the impact of administrative capacity on the European Funds absorption level in Central and Eastern European Countries (CEEC), given that they were facing common transformations during the transition period, as well as the impact of SF on development, controlling for the absorption level. Multiple regression analysis was used for testing the impact of administrative capacity on the absorption level during the 2007-2015 period, on the one hand, but also for estimating the impact of SF on development, on the other. The results showed that institutional quality and management performance have positively influenced absorption rates and that SF have managed to support economic development. Given that despite the learning process and the reforms carried out during the previous programming periods the CEEC are still lagging behind in terms of absorption under the current programming period, increasing efforts for improving their administrative capacity is required in order to ease cohesion policy implementation and boost their development.*

Keywords: *administrative capacity, institutional quality, management performance, structural funds, European funds absorption, development, Central and Eastern Europe*

1. Introduction

Before joining the European Union (EU), the Central and Eastern European countries (CEEC) have used pre-accession instruments that facilitated the transition to a market economy by institutional modernization, support of the business environment, infrastructure and economic development; they have passed through a necessary "learning" process of the implementation mechanism specific to structural instruments. As EU members, the CEEC' attention mainly focused on ensuring favourable conditions for a high absorption level and an efficient management meant to foster social-economic cohesion by using European funds. Public institutions were facing the major challenge, considering the administrative

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burden relating the implementation of all the 7 programmes (competitiveness, transport, environment, human resources, regional development, technical assistance and administrative capacity), which were summing up to 347 billion Euros. The amounts were considerably larger as compared to the pre-accession instruments or to the funds given access to under the last part of the 2000-2006 programming period for the CEEC which joined the EU in 2004.

At EU-27 level, the aim of the 2007-2013 financial programme was to meet three objectives: convergence, regional competitiveness and employment, and European territorial cooperation; the average percentage allocated for the three key investments was 81.8% for the "Convergence" objective, 15.8% for the "Regional competitiveness and employment" and 2.3% for territorial cooperation. Central and Eastern European countries were allocated for the three objectives (mostly on "Convergence" objective (98.3%), given that most of the regions in CEEC were displaying a GDP per capita below 75% of EU average) an amount of 174.6 billion Euro, accounting for 50.6% of the total European budget for Structural and Cohesion Funds (SF). In order to ensure the conditions for a more efficient use of the SF, a complex system of specific measures was adopted in the new EU Member States at all stages of the implementation of cohesion policy (CP) (preparation, programming, implementation, monitoring and evaluation). Considering the major transformations they had gone through, various concerns regarding their absorption capacity emerged, as previous studies were drawing attention to the decisive roles played by the administrative capacity of the Member States in the absorption process of SF (Dimitrova, 2002; Meyer-Sahling, 2004). Such concerns were reinforced by other more recent studies evidencing the role of administrative capacity for CP implementation (Dornean, 2013; McCormick and Olsen, 2013; Bachtler *et al*., 2014; Tosun, 2014;).

Beyond the many approaches in the literature on the assessment of administrative capacity, two major dimensions can be distinguished as being relevant, particularly in relation to the implementation of CP in the new Member States: *institutional quality* (IQ) and *management performance* (MP). While the institutional quality refers to the quality of formal and informal institutions through which authority is exercised in a country, management performance refers to political management performance, to what determines decision-makers steer political processes. The new Central and Eastern European states have encountered various difficulties during their first complete programming period 2007-2013, despite the process of administrative reform achieved through the adoption of the acquis communautaire and their pre-accession experience. They displayed a sluggish absorption process, lagging behind the older EU15 member states especially in the first years of implementation. For example, in 2011 the CEEC were reaching an average absorption rate of 33.1%, 4% behind the EU15 group (with the lowest absorption displayed in Romania and Bulgaria – 16.9% and 23.8%). Moreover, even after the additional 2 years for implementation (by the n + 2 rule), some of the CEEC were still displaying lower absorption rates compared to the EU15 group (91.2%), with the lowest rates registered by Romania (70.9%), the Czech Republic (84.7%), Bulgaria (85.2%) and Slovakia (85.3%). Exceptions were made by Estonia, Latvia, Lithuania, Slovenia and Poland, which carried out harsh administrative reforms that triggered absorption rates around 95%. However, taking into account that by the end

of the implementation period, in 2016[2], the absorption rate exceeded 90% in all CEEC, we would have expected they had a better start in the new programming period (2014-2020). Despite the institutional and administrative changes that were generated during the previous financial year, at the beginning of 2018, the average absorption rate in the CEEC was still lower as compared to the EU15 level (12.5% compared to 18.2% in EU15), emphasising that further research is needed in order to better understand the role of administrative capacity in driving SF absorption. Therefore, taking advantage of the recent data regarding the previous programming period, our study focuses on CEEC, aiming to find out the role of institutional quality and management performance in fostering SF absorption during 2007-2015 period. Furthermore, giving that a high SF absorption is not a sufficient condition for boosting economic growth, as these may distort priorities in relation to the market generated situation (Pita-Barros, 2002; Ederveen et al., 2006; Bussoleti and Esposti, 2008), this paper also aims to capture their impact on growth during the last programming period.

The remainder of the paper is structured as follows. Section 2 argues for the importance of the administrative capacity in the European funds absorption process and provides a brief literature review regarding the impact of European funds and their capacity to reduce development gaps. Section 3 presents the methodology and data used for estimating the interdependence between institutional quality and management performance and absorption performance of CEEC, but also the capacity of these amounts to support development. Section 4 points out the regression results and discusses the main findings according to our hypothesis, while section 5 presents conclusions and policy recommendations.

2. Theoretical framework and empirical evidence

Literature generally shows that the states' capacity to absorb European funds depends on the following main factors (NEI, 2002; Sumpikova, Pavel, and Klazar, 2003; Osterloh, 2010; Constantin, Goschin, and Dragan, 2011): administrative absorption capacity (related to the performance of public administrations at a central, regional and local level, programme design, project evaluation, coordination assurance between main partners and financing and implementation supervising, which means the management of a large amount of administrative activities), macroeconomic absorption capacity (the capacity to generate sufficient investment opportunities to use Structural Funds (SF) in an efficient way) and financial absorption capacity (the capacity to co-finance these programmes by the initial guarantee with funds from the national budget; moreover, it implies the collection of contributions from private or public partners interested in working on joint projects).

The administrative capacity may be one of the most important factors in the CEEC, for these have shared a common communist history after the WWII, with fundamental implications on their administrative capacity and running of resources. The EU accession of these states involved the adoption of an important set of rules according to the EU's *acquis*

[2]During the last years of Cohesion Policy implementation, both the EU and the Member States made additional efforts to urge absorption where this was lagging behind, extending the implementation period by 1 additional year (n+3) (e.g. Commission, 2010; Marzinotto, 2011). The economic crisis emphasised even more some of the issues the EU was already facing, including difficulties relating CP implementation (Drăgan and Pascariu, 2011)

communautaire. But their functionality greatly depends on the conditions of manifestation in formal institutions (rule of law, property rights, contract, free market etc.) (Morgan and Den Butter, 2000). Thus, the compliance with the EU legal framework during the pre-accession period and the programmes they had access to led to major changes in CEEC, supporting them in overcoming communist traditions and introducing new work rules and methods (as new organisational structures, human resources management process, administrative procedures and instruments). The institutionalisation scenario, namely when the adopted EU rules align to the informal ones, mainly depends on the actors' influence at the national level (political figures, state members, interest groups) or on the ones connected by informal networks of political power. Dimitrova (2010, p. 146) defines three possible results considering the effects induced by the rules adopted by the new member states in the post-accession period: reversal of new rules, institutionalisation and the so-called "empty shells" (meaningless forms which imply that decision makers have different preferences regarding existing laws, thus favouring informal rules compliance). These scenarios assume that the legislation adopted before accession will have to be later revised (after accession) as all candidate states had been required to adopt many laws, which did leave room for a consistent debate so as to proper adjust them to serve the candidate country. Moreover, the conditionality imposed during the negotiation period does not allow the veto actors to exert a strong influence based on their preference before accession, but they can play an important role afterwards. Thus, the formal rules which are part of the *acquis communautaire* cannot be changed afterwards, so the scenario would be either institutionalisation or 'empty shells', when the veto players have different preferences to the laws adopted and thus they support the conformation to informal rules. When referring to laws that are not part of the acquis and that can be changed after accession, the scenario mainly depends on the preferences of veto players. It can lead to reversal to the laws before accession or to institutionalisation if the new rules are aligning to the informal ones, being preferred to the current situation (Bartlett *et al.*, 2013; Hooghe and Marks, 2013; Quick *et al.*, 2007).

The extent to which CEEC manage not only to comply with the EU legal framework, but also to assure its functionality, when the adopted EU rules align to the informal ones, is crucial for their absorption performance. Their way towards a clear and coherent spending of the amounts allocated by the EU largely depends on the administrative capacity, referring to the quality of the public management system (Verheijen, 2007). Different studies are pointing out that absorption rates are positively correlated with the quality of institutions and governing and negatively correlated with the level of incomes (Bradley *et al.*, 1995; Bjorvatn and Coniglio, 2006; Mohl and Hagen, 2010; Molle, 2007; Tosun, 2014). The negative correlation between absorption and income levels proves that there are even higher chances for a higher absorption for the new Member States, as compared to the old ones, but this would only be possible on the background of a stable macroeconomic climate, efficient governance and a solid institutional system (Tosun, 2014). Nevertheless, their administrative capacity also draws on the experience gained by CEEC in attracting funds before accession, based on the method of "learning by doing" (Bachtler *et al.*, 2014; Dimitrov *et al.*, 2006; Jaliu and Radulescu, 2013; Panara and Varney, 2013).Thus, between 2000 and 2006, not only that CEEC managed to avoid infringements, but they also equalled the performances of EU-15 countries overcoming fears related to their administrative capacity.

Unlike states showing a good administrative capacity, caution is required where the institutional quality is poor, as in these cases, European funds can generate diversions that make the situation even worse as compared to the absence of European funds (Katsaitis and Doulos, 2009). Hence, institutional quality, as a determinant of administrative capacity, can affect the absorption and therefore the impact of funds by avoiding the distortions exerted by the influence of interest groups. Magazzino (2011) pointed out that municipalities with criminal hubs manage to absorb more funds than the rest. Moreover, the huge gap between allocated and paid amounts from these regions owes to the unfinished projects, as beneficiaries are minimising their contribution required for co-financing by leaving projects unfinished. Also, the competition between rent-seeking groups may jeopardise the implementation of projects with a high impact on society, thus forcing authorities to split the available funds into smaller amounts which leads to a deviation from their proper aim. Nevertheless, the political factor can also influence the way funds are being allocated, thus generating distortions in their impact, by inducing political pressure, instability in decision making, frequent changes at management level and incoherence in the implementation of macroeconomic measures. It is widely acknowledged that, for instance, national governments make use of EU funds to obtain votes in regions where they are less popular (Bouvet and Dall'erba, 2010).

Also, the 2007-2013 programming period brought up a series of barriers in the implementation system of SF at CEEC level, proving that there is still much left to do in order to increase administrative capacity and facilitate absorption. First, there were obstacles caused by the unstable institutional framework, which increased on the background of the economic crisis, but also by the existence of a less efficient coordination of the management authorities. This is the reason for creating the separate structures for European funds management (European affairs departments or ministries) (Benedetto and Milio, 2012; Staab, 2013; Stefanescu, 2012). In many CEEC, there were also deficiencies caused by the absence of a buffer fund at the beginning of the programming period (2007) to make payments to beneficiaries in due time. Consequently, cutting payment for certain operational programmes drew beneficiaries to incapacity of payment as they could not afford the costs occurred during project implementation and management (e.g. Hungary – SOP for Increasing Economic Competitiveness, 3 months; Romania – SOP for Human Resources Development, 6 months; SOP for Increasing Economic Competitiveness, 3 months etc.). The limits of the current institutional framework within most CEEC, the incapacity of the institutions involved in the system to work together, corruption cases, conflicts of interests, and the low capacity to coordinate the management system of structural instruments showed in the difficulty to promote measures that would have a major impact on absorption (Alegre, 2012; Drăgan *et al.*, 2013). Not last, the administrative burden associated with accessing these funds, due to complicated rules and excessive controls is often generating skepticism towards the EU Cohesion Policy, causing applicants to seek other financing options (Davies *et al.*, 2008).

At the same time, even if a high absorption level is reached, the SF impact depends on many other factors, which may benefit the more efficient economies/regions, increasing development gaps even more. For example, in developed countries, with a high institutional quality where the rule of law is operational, along with political stability, SF are associated to an increase in foreign direct investment inflows, job creation, income growth etc., to the detriment of the member states with less performing economies and weaker institutions

(Ambroziak, 2014; Katsaidis and Doulos, 2009; Pike *et al.*, 2006). Also, the economic effects are more consistent in the developed regions, with a higher reactivity (Cappelen *et al.*, 2003). By carrying out a study at NUTS 3 level (counties), Becker *et al.* (2012) showed that the efficiency of projects depends on the GDP level, concluding that if the share in GDP of the allocated funds is too high, their impact risks to be lower. Thus, although finding a positive effect induced by allocated funds, they estimated that the maximum effect is recorded when funds reach between 0.4 to 1.3% of the county's GDP, and therefore recommended the increase of allocation efficiency by lowering sums for regions that overcame this threshold. A relatively low convergence process at EU NUTS 2 regions was found by Maza and Villaverde (2011) during the 1995-2006 period. They argue that the European CP should focus on reducing interregional gaps, by allocating a more significant amount to metropolitan regions as they are more dynamic, have a diversified economic base, combining creativity, innovation and expertise, which would considerably increase the efficiency of fund allocation. Therefore, through diffusion processes, scale economies and multiplication effects would be generated throughout the entire region. Cappelen *et al.* (2003) showed that reforming the funding system can also increase efficiency. They proved that the reforms at the end of the 80s within Member States led to increased efficiency of the CP in the 90s, as compared to the previous period, thus contributing to economic growth. As a result, for example, Spain managed to diminish the development gaps as compared to the other EU member states due to the Cohesion Fund; thus, during the 1995-2007 period, the GDP per capita overreached EU average, increasing from 90% to 103%. The impact of the financial support provided by the CP also depends on the extent to which they succeed in implementing certain additional policies. Marchis (2009) argues that the impact of EU funds should always be correlated to the economic development strategy of a state since, no matter how high the absorption is, if the economy is already in deficit, attracting EU money will no longer be successful.

Nevertheless, some studies found no significant, or even a negative influence of SF on growth. According to Basile *et al.*, (2001), between the end of the '80s and the end of the '90s, the relative movements in the regional distribution of per capita incomes, productivity levels and employment rates registered no positive relation with the allocation of SF. Dall'erba and Le Gallo (2008) showed that, although, between 1989 and 1999, a convergence process occurred, it was not caused by SF. They argue that CP should consider region placement when allocating funds due to the different level of spill over effects induced by central regions, as compared to peripheral ones. Unlike central regions that are fewer and better interconnected, peripheral ones induce lower spill over effects, and increasing allocated funds would not contribute to the diffusion process. Moreover, the way in which the amounts required for co-financing are obtained and allocated influences the overall impact of funds as they may embezzle a series of amounts intended for public investment, thus undermining economic growth. If European funds are distributed according to the regions' level of development, the state co-financing share could overturn this allocation criterion and undermine convergence. For instance, in Italy, if the state contribution is included, the North overall benefited from higher amounts than the South. Not last, Davies et al. (2008) draw attention to the fact that the management and control system's complexity may lead authorities to assess projects rather in terms of financial security (seen as "safe") than in terms of how they contribute to the achievement of programme objectives which may cause further distortions leading to

less efficiency.

In conclusion, literature shows that the absorption level depends on the administrative capacity of beneficiary states, namely on the extent to which they manage to comply with the EU legal framework and design not only high-quality institutions, but also a functional management system in order to achieve a good management performance. Also, a high absorption level is not a sufficient condition for development, and their impact depends on many factors affecting their effectiveness, which emphasises the existing need of studies which are correlating absorption rates with administrative capacity and impact on growth within the Member States.

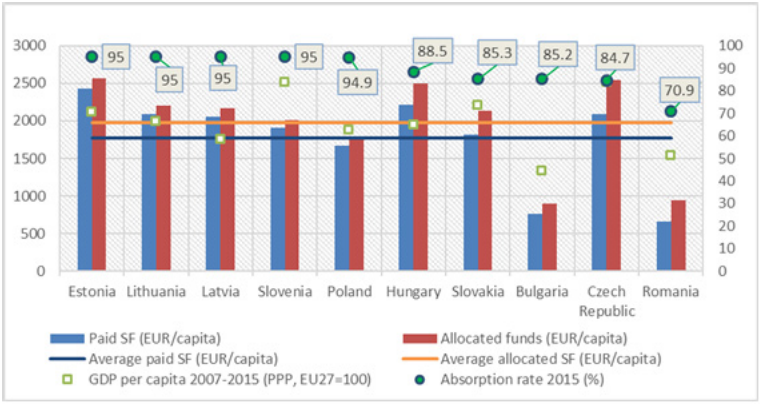
3. Administrative capacity and SF absorption in CEE countries - methodology and data description

Our analysis captures the interdependence between administrative capacity, SF absorption and development, during the 2007-2015[3] programming period, in the CEEC considering that the institutional foundations of these countries were relatively similar in the '90s, after the fall of communism, both formal and informal institutions decisively determining the paths of development. Therefore, some states succeeding to implement coherent strategies to facilitate their trail to performance in attracting European funds, others, on the contrary, blocking themselves in obstacles related to quality of governance, stability laws, macroeconomic climate etc. As it is well known, from the 10 countries analysed (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia), 8 entered the European structures earlier, in 2004, which certainly influenced the values of indicators which have been chosen for analysis. Because the former group had roughly three years more to better accommodate with the procedures of submission, evaluation, implementation and monitoring of projects, these showed a better performance during the 2007-2013 programming period (see figure 1).

In terms of allocation, the largest amounts per capita have been assigned to Estonia, Czech Republic and Hungary, while the lowest to Bulgaria and Romania (Figure 1), which also display the lowest development level, and thus a lower absorption capacity. Looking at the SF absorption levels, the CEEC absorption performance was shown to be quite different. While Estonia, Latvia, Lithuania, Slovenia and Poland were displaying the highest absorption rates reaching around 95%, the other countries were displaying absorption levels below 90%. Despite being allocated the second lowest amounts, Romania showed real difficulties in attracting SF funds, being far behind the other CEEC with only 71%. Nevertheless, we need to remind that the payments could have further go up after 2015, as the European Commission allowed some of the countries to extend the initial implementation period, from n+2 to n+3 (European Commission, 2013).

[3] Including the additional two years for implementation allowed by the n+2 rule.

Figure 1: Paid and allocated Structural Funds per capita during 2007-2015 period and the absorption rate (% total allocated funds) in CEEC

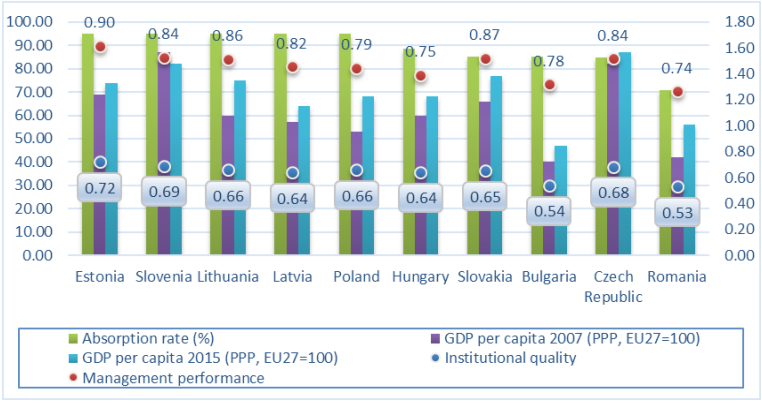


Note: Absorption rate (2015, %) and GDP per capita are displayed according to the right axis.

Source: own representation using data from DG Regional Policy, European Commission and Eurostat, 2007-2015;

Note: During the 2007-2013 programming period, the Structural Funds included the following sub programmes: European Regional Development Fund, Cohesion Fund and European Social Fund.

Figure 2: Absorption rates, institutional quality (IQ), management performance (MP) and GDP per capita (PPS, EU28=100) in CEEC during 2007-2013 period



Note: GDP per capita (2007) and (2015) and Absorption rates (2015, %) are displayed according to the right axis. IQ and MP index is ranging between 0 and 1, where 1 designates the maximum level of the indicator (maximum efficiency).

Source: own representation using data from DG Regional Policy, European Commission and Eurostat, 2007-2015; The Worldwide Governance Indicators for IQ and Bertelsmann Foundation for MP.

Further on, looking at the differences in terms of institutional quality[4], management performance[5] and absorption rates (calculated as percentage of funds paid compared to total available budget), Figure 2 shows that these are closely related. Overall, the countries with a higher score in terms of institutional quality and management performance also display the highest absorption rates. While Estonia, Latvia, Lithuania, Slovenia and Poland display the highest index values both in terms of institutional quality and management performance which helped it reach the highest absorption level at the end of 2007-2013 programming period, Bulgaria and Romania are placed at the other end of this ranking in terms of absorption, proving a poor administrative capacity. But administrative capacity does not guarantee high absorption, as Slovakia and Czech Republic experienced a low absorption level despite the good scores in terms of both institutional quality and management performance. Also, the high absorption is not a sufficient condition for development. Among the best absorption performers, Latvia, Estonia and Slovenia displayed the lowest economic growth rates. In Slovenia, the European funds could not offset the negative impact of the recent economic crisis and showed a negative growth (Slovenia – form 87% in 2007 to 82% in 2015). On the contrary, Romania, despite the really poor performance in terms of absorption, showed the most rapid catching-up during this period from 42% in 2007 to 56% in 2015. Beside the SF support, such evolution has also been triggered by the higher growth potential of the poorer states, as argued by the neoclassical theory (Barro and Sala-i-Martin, 2004), following β-convergence process.

Methodology and data

Our paper captures the importance of the administrative capacity (measured by institutional quality and management performance) and the performance in terms of absorption, but also the effects generated by these amounts absorbed by the CEEC economies, by estimating if they really managed to accomplish their aim of supporting development.

According to the literature presented in section 2, we anticipate that, in order to have a good absorption rate, it is very important for a country to assure a good quality of public services, of policy formulation and implementation, and to exert a credibility of the government to promote economic development through respecting the rules of society, the contract enforcement, property rights etc. Therefore, we expect that institutional quality and management performance to be positively associated with absorption level: *The quality of institutions facilitates the absorption of SF* (H1); *The management performance eases SF absorption* (H2).

The following model was used in order to test the first two hypotheses:

$$SF\ absorption_i = c + \beta_0 IQ_i/MP_i + \beta_1 X_i + \varepsilon_i ,$$

(1)

[4]Institutional quality index was computed as an unweighted average of the 6 components provided by the World Bank Worldwide Governance Indicators, measuring the quality of governance.

[5] Provided by the Bertelsmann Foundation, the Management performance index is a component of the wider Transformation index and refers to the leadership's political management performance.

where $SF\ absorption_i$ is the SF absorption rate in the county *i* at the end of 2007-2013 programming period (in 2015, which is the last year for implementation), IQ_i refers to the average institutional quality index during the 2007-2015 period, MP_i refers to the average management performance index during the 2007-2015 period, X_i includes a set of control variables and ε_i is a stochastic error term.

The model specification relates to the three SF absorption capacity drivers, namely administrative, financial and macroeconomic absorption capacity (NEI, 2002; Sumpikova, Pavel, and Klazar, 2003; Osterloh, 2010; Constantin, Goschin, and Dragan, 2011). If institutional quality and management performance indices were used as proxies for administrative capacity, the share of domestic credit to private sector by banks was used as a proxy for financial capacity. Similar proxies for administrative capacity were also used by Tosun (2014) and by Cojocaru *et al.* (2016). In order to control for macroeconomic capacity, indicators measuring the share of gross fixed capital formation in GDP, as well as the share of trade in GDP were also included.

For the two indexes measuring institutional quality and management performance, the normalization of data was performed in order to uniform the database and aggregate the components of the index. The scale used for evaluation is ranging between 0 and 1, where 1 designates the maximum level of the indicator (maximum efficiency). Also, equal weights were given for each of the components included in the index (please check Table A1 in Appendix A for more information regarding the aggregation of the institutional quality and management performance indexes).

Considering that the very aim of SF was to support development and help newer member states to catch-up the older ones, our third hypothesis assumes that: *SF support economic development as they were intended to* (H3).

The following model was used for the third hypothesis:

$$GDP\ per\ capita_i = c + SF\ absorption_i + \beta_1 Y_i + \delta_i ,$$

(2)

where $GDP\ per\ capita_i$ is the average value of GDP per capita in PPS during the 2007-2015 period in country *i*, $SF\ absorption_i$ is the absorption rate in county *i* in 2015, Y_i includes a set of control variables and δ_i is a stochastic error term. More details about the variables used are displayed in Appendix A, the data being collected from official sources, reports and statistics.

While the GDP per capita is generally accepted as a relevant proxy for measuring the development level, other control variables were included, generally accepted as being important for development by the economic theory: human capital (Romer 1990; Barro and Sala-i-Martin 2004; Fratesi and Riggi 2007), trade openness (Frankel and Romer, 1999; Mercan *et al.*, 2013), and macrostability (Arezki, Hamilton and Kazimov, 2011; Sirimaneetham and Temple, 2009). More details about the variables and sources used are displayed in Table A1 in Appendix A.

An OLS cross sectional estimation was performed using the average values during the 2007-2015 period, an order to level any possible time shocks. Moreover, a multivariate

statistical analysis was used to assess the existing disparities and group these countries into clusters sharing similar characteristics.

4. Results and Discussions

Table 1 displays the results of the three multiple regression models for testing the three hypotheses. The first two equations display the estimations results for the three factors influencing the states' capacity to absorb funds, namely administrative absorption capacity, macroeconomic absorption capacity (in order for these transfers not to be excessively high in relation to the national economic performance and loose efficiency) and financial absorption capacity (the capacity to co-finance these programmes). The third column (Table 1) shows the estimation results on the SF absorption on GDP per capita, while controlling for human capital, trade openness and macroeconomic stability.

Table 1. Cross-section OLS estimation results of SF absorption drivers and its impact on GDP per capita

Variable	**Hypothesis 1** Dependent variable: *SF absorption*	**Hypothesis 2** Dependent variable: *SF absorption*	**Hypothesis 3** Dependent variable: *GDP per capita*
IQ	0.659***		
	(0.0743)		
	[8.87]		
MP		0.636*	
		(0.310)	
		[2.05]	
SF absorption			2.121*
			(0.967)
			[2.19]
Investments	-1.552***	-1.863***	
	(0.275)	(0.365)	
	[-5.65]	[-5.11]	
Credit	0.286**	0.305**	
	(0.0710)	(0.107)	
	[4.03]	[2.85]	

Openness	-0.0602*	-0.0587	0.289*
	(0.0237)	(0.0477)	(0.125)
	[-2.54]	[-1.23]	[-1.80]
Human capital			-2.898
			(1.613)
			[2.19]
Macrostability			0.951*
			(0.435)
			[2.32]
_cons	0.756***	0.719**	1.668
	(0.0595)	(0.224)	(0.898)
	[12.71]	[3.21]	[1.86]
R^2	0.923	0.865	0.590
adj. R^2	0.862	0.757	0.261
Obs.	10	10	10

Notes: Significance levels * p < 0.1, ** p < 0.05, *** p < 0.01. Robust standard errors are displayed in round brackets, while t-statistics in squared brackets.

Estimations were computed using Stata 13 software package. Averages for 2007-2015 period were used for the cross-section regression in order to capture the impact during the 2007-2013 programming period, as well as during the 2 additional implementation years following the n+2 rule.

For testing H1, we have first relied on institutional quality index (IQ) which was calculated as weighted average between more indicators measuring the institutional quality (IQ) (see Appendix A for more details): political stability, control of corruption, government effectiveness, regulatory quality, rule of law and voice and accountability.

H1: *SF Absorption rate* = 0.756+ 0.659**IQ* -1.552**Investments* + 0.286**Credit* -0.0602**Openness*

According to estimation results, a positive relation between the absorption rate, IQ and credit was identified, showing that an IQ increase by one percent, given that the other variables remain constant, will cause an increase of European funds absorption by 0.659 percent. The domestic credit has also a positive influence on absorption (0.286 for H1), as European projects require co-financing by the beneficiary. So, the easier access to credit is, the higher the probability of attracting funds becomes (growing credit to GDP by one leads to an average growth of 0.29 % in the absorption rate). On the contrary, the level of investments are negatively associated with absorption, as the less developed regions are eligible for larger amounts in order to lower development gaps. Also, the negative relation between absorption

and investment (-1.552 for H1 and -1.863 for H2) may be caused by the fact that SF are a substitute for investments, but also by the fact that SF are causing a diversion of investment funds from independent investments to co-finance European funded projects.

H2: *SF Absorption rate* = 0.719 + 0.636**MP* – 1.863**Investments* + 0.305**Credit* – 0.0587 * *Openness*

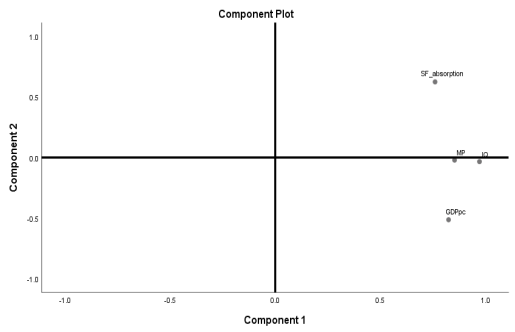
For H2, we took into account about the same indicators as in the equation for H1, except for IQ which was replaced with management performance (MP), calculated as a weighted average of steering capability, resource efficiency, consensus-building and international cooperation. Unlike the institutional quality index, the management performance index reflects the acumen with which decision-makers steer political processes while taking into account the level of difficulty. In this way, difficult conditions and scarcity of resources in a given country are factored into the equation for political management performance. The results indicated that the impact of management performance is also positive and statistically significant, while the coefficient is close to the one estimated for the IO impact (0.636). The other explanatory variables showed similar results as in the first model. Both the positive impact of domestic credit to private sector offered by banks and the negative impact of investments were reconfirmed. As regarding economic openness, the results indicated that this has negatively influenced absorption, although it is not statistically significant. A possible explanation for the negative relation between economic openness and absorption rate (– 0.0602 for H1 and – 0.0587 for H2) can be the fact that many CEEC generally have a negative trade balance, money heading mainly towards imports, rather than towards financing projects. The negative influence may be related to the large imports of CEEC, leaving less money for co-financing projects, as most of these countries encounter negative trade balances.

H3: *GDP per capita* = 1.668 + 2.121**SF Absorption rate* + 0.289**Openness* - 2.898**Human capital* + 0.951**Macrostability*

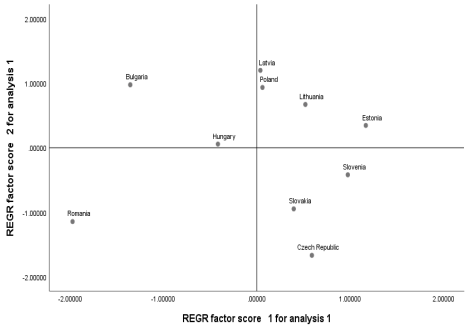
The third model estimates the impact of the absorption level, as a measure for the infusion of capital in the economy, on the GDP per capita. The positive impact of the absorption level on the GDP per capita was confirmed by the results displayed when estimating the third model. An increase by one percent in absorption rate, given that the other variables of the equation remain constant, causes a change of GDP per capita by 2.121 percent. As for the control variables, the results confirmed the general assumptions of economic theory. While trade openness and economic macrostability have a positive impact on economic development, human development did not prove to be a statistically significant predictor of economic development. Nevertheless, we need to have in mind the limits of our analysis which derive from a small sample size and a heterogeneous group of countries. More advanced estimation techniques, controlling for unobserved country effects, as well as for the possible simultaneity between SF absorption and GDP per capita, need to be employed in order to reinforce our results. Furthermore, carrying out a similar analysis at regional level, while also including new member Croatia, would improve the relevance of such a study.

Further on, a multivariate statistical analysis was carried out to assess the existing disparities and similarities between CEEC. Thus, we have identified the countries that are efficient in terms of attracting European funds, implicitly, those which displayed good administrative capacity worthy to serve as a good practice model for the other countries in Central and Eastern Europe. The *Kaiser-Meyer-Olkin Measure of Sampling Adequacy* has been estimated at 0.588, showing that there is a significant value between the selected variables. The first two factorial axes explain over 82.8% of the variance (the first factorial axis explains 67.9% of variance, while the second explains 14.8%).

Figure 3: Component plot and the distribution of CEEC according to SF absorption rate, IQ, MP and human development and economic growth



a) variable representation according to the factorial axis



b) statistical units representation according to the factorial axis

Source: own representation using SPSS.20

Figure 3 displays the distribution of CEEC according to SF absorption performance, administrative capacity (IQ & MP), GDP per capita, as a proxy for development level and the overall economic growth during 2007-2015 period. The factorial analysis confirm that IQ and MP are overall good predictors or SF absorption. Estonia, Slovenia, Lithuania, Latvia and Poland are the best performers in terms of CP implementation, as their quality of institutions and their management performance triggered high SF absorption levels. Slovakia and Czech Republic are the exceptions, as despite a high institutional quality (Czech Republic) and good management performance (Slovakia), their absorption levels was lower. The two countries were outperformed by Hungary, despite its lower administrative capacity. By contrast, on the other side of the axis, the countries which joined the EU in 2007, have experienced greater institutional fragility, being forced to accommodate to the specific rules of the *acquis communautaire*, experimenting the lowest rates of absorption until the end of 2013: Romania (70.9%) and Bulgaria (84.7%).

It therefore follows that absorption of SF essentially depends on the administrative capacity, which plays a fundamental role in increasing the contribution of SF to growth. Both institutional quality and management performance have shown a positive impact on SF absorption, with a slightly higher impact of institutional quality (0.659), as compared

to management performance (0.636). Consequently, the differences between the CEEC in terms of administrative capacity and absorption are undermining the convergence process within the EU economy even more. The benefits of economic integration (either by market or by policy) are not evenly spread across the EU (Țigănașu, Pascariu and Baciu, 2013), as the evolution of the European economy is rather confirming a process of convergence by clusters countries. Also, despite that an inter-country convergence process may be sizeable at EU level, this may come along with an intra-country divergence process (e.g. see for example Romanian example – Goschin, 2017). Therefore, focusing on institutional transformation and public management improvement in peripheral/low developed regions may foster the convergence process by easing CP implementation (Vasilev, 2015). Even more, good institutions and a performed management not only that facilitates SF absorption, but it also increases their efficiency (Rodríguez-Pose and Garcilazo, 2015) by increasing their impact on development.

5. Conclusions

This paper provides new empirical evidences on the role of the administrative capacity in effectively implementing EU cohesion policy in the new CEE Member States, using multiple regression models. The subject is particularly important, given the recent debates on the budget reform, leading to major pressures on cohesion policy. First, further research is needed to deepen knowledge on the SF impact in Member States' and their potential to reduce disparities, as there is still no general agreement on the actual role of SF. The existing literature evidenced that SF may even amplify disparities (Pita-Barros, 2002; Ederveen et al., 2006; Bussoleti and Esposti, 2008). Second, once agreed on SF contribution in speeding up intra-EU convergence, more studies on the SF absorption drivers in order to find out how absorption can be increased. This is particularly the case of CEEC, as complying with the EU legal framework required substantial transformations. They had to overcome communist legacies in economic and political terms and accommodate with the *acquis communautaire*. Also, they were provided access to some pre-accession instruments which facilitated their institutional stabilisation and administrative reforms in order to guarantee democracy and rule of law, but also the transition to a market economy and developing the capacity of public administration to implement the *acquis communautaire*. Thus, CEEC have been provided a favourable context for designing a highly performing administration in order to facilitate the implementation of European policies after accession. However, the gaps in the quality of institutions and the governance system within the new Member States and the EU15 remain high, which affects the ability of governments to adopt and implement appropriate structural reforms and policies in order to make the most from SF and thus preserve long-term growth.

Our paper showed that the institutional quality and management performance as main dimensions of administrative capacity have positively influenced absorption rates, as main indicator of the effectiveness of the implementation of CP. Therefore, countries with the most effective management and the highest institutional quality, namely Estonia, Latvia, Lithuania, Slovenia and Poland have also shown the highest SF absorption level. By contrast, the countries that joined the EU in 2007, namely Bulgaria and Romania, have experienced greater institutional fragility and lower management performances, as they

were experimenting the lowest absorption rates. Thus, the longer period that the countries which joined the EU in 2004 had for adaptation proved to be decisive, confirming the importance of the "learning by doing" process. Also, the analysis confirmed that there is not only a direct connection between the administrative capacity and the absorption level, but also between the absorption level and the GDP per capita. Improving institutions and management performance would amplify the impact of the Cohesion Policy and accelerate the intra-EU convergence processes. Our analysis thus supports one of the most important conclusions of the last two Cohesion Reports of the European Commission (2014, 2017) on the need to enclose the improvement of institutions and of quality of governance as strategic objectives of CP.

Additionally, our paper shows that some countries with a relatively high administrative capacity (Slovakia and Czech Republic) also faced difficulties in absorbing SF. At the same time, despite a high absorption level, some of the CEEC displayed lower economic growth rates during the analysed period (Latvia, Estonia Slovenia) and vice versa; moreover countries with delays in absorbing experienced faster catching-up processes (Romania). It follows that although SF can contribute to development and their impact can be strengthened by improving administrative capacity, it is not sufficient for growth. Our results confirm the importance of financial and macroeconomic capacity in triggering absorption, indicating they should not be neglected. Other factors may also play a key role in stimulating economic growth (competitiveness, business environment, innovation, human capital development, others) and should be targeted by economic policies in the CEEC, so as they can embark on a long-term economic growth path and thus narrow intra-EU gaps.

Consequently, improving institutions quality and management performance needs to be the central pillars of development strategies in the CEEC, as otherwise they may impede countries to fully benefit from EU membership (Hunya, 2017). The CP needs to have a stronger *ex-ante* dimension in supporting institutional transformations required in order to improve the governance system and to develop the ability of public administration to design, develop and implement better policies. Improving institutions and management performance can also increase the performance of economic systems and markets, generating spill-over effects that amplify the impact of CP and strengthen its contribution to the EU's strategic goals.

Appendix A

Table A1. Data description

Indicator name (abbreviation)	Description	Source of data
SF absorption	Absorption rate of Structural Funds (Structural Funds = European Regional Development Fund + Cohesion Fund + European Social Fund)	European Commission -DG Regional Policy, 2017
Institutional quality (IQ)	*Institutional quality* = (Voice and Accountability + Political stability + Government effectiveness + Regulatory quality + Rule of law+ Control of Corruption)/6. This index is rescaled and takes values between 0 and 1, being computed as an average for 2007-2015 period	The Worldwide Governance Indicators (WGI), World Bank
Management performance (MP)	*Management performance:* (Steering capability + Resource efficiency+ Consensus-building + International cooperation*)/4* This index is rescaled and takes values between 0 and 1, being computed as an average for 2006-2014 period	Bertelsmann Foundation
GDP per capita	GDP per capita in PPS (EU28=100, average 2007-2015)	Eurostat database
Credit	Domestic credit to private sector by banks (% of GDP, average 2007-2015)	World Bank Database
Openness	Economy openness (share of imports and exports in GDP, average 2007-2015)	Own compilation using Eurostat data
Human capital	Share of population with tertiary education attainment (% population aged 15-64 years) (average 2007-2015)	Eurostat database
Investments	Average gross fixed capital formation (%GDP, average 2007-2015)	Own compilation using Eurostat data
Macrostability	Macrostability: reflects to what extent do the government's fiscal and debt policies support macroeconomic stability (average 2006-2014 - two years interval)	Bertelsmann Foundation

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