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Editors

EUROPEAN UNION'S STRUCTURAL CHALLENGES: THE WAY FORWARD

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CONFERENCE PROCEEDINGS



EDITURA UNIVERSITĂȚII „ALEXANDRU IOAN CUZA” IAȘI

Ramona ȚIGĂNAȘU | Loredana SIMIONOV | Ciprian ALUPULUI | Anatolie CĂRBUNE
(editors)

**European Union's structural challenges:
the way forward**

EURINT 2019

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FOREWORD

The EURINT conference series was launched by the Centre for European Studies in 2013 in the frame of the Jean Monnet Life Long Learning Programme. Since 2013 the EURINT conference has established itself as one of the most visible academic events in field of European Studies from Central and Eastern Europe and in this regard we are pleased to have managed to develop it into a traditional conference series. The EURINT conference package addresses those who show a genuine interest in enhancing their research skills in European Studies and in contributing to developing a transnational network of contacts and cooperation focusing on Central and Eastern Europe. The EURINT Conference series usually comprise keynote lectures and panel debates involving international academic experts, followed by intensive Q&A sessions. The audience is strongly encouraged to take the floor and challenge speakers with their own views and reflections of the topic and, thus, add to the debate.

Today's global context brings about various insidious effects that weight heavily on EU's security and stability. As such, over the last decade EU has been confronted with multiple challenges (e.g economic crisis, migrants' crisis, Ukraine crisis, etc) that have become a key driver of uncertainty and have determined the European decision-makers to take very seriously the means and ways to boost EU's resilience when designing policies and strategies. Additionally, should we consider the neorealists' warnings about the shaking liberal world order, it becomes more imperative than ever for Europe to be prepared to face the future and find a way forward on its own. Within this context, the EURINT Conferences Series aims to foster and provide a proper framework for mutual dialogue, joint knowledge and a better understanding of the issues the EU faces.

Under the auspices of Romania's Presidency of the European Union's Council, the Centre for European Studies in cooperation with European Institute of Romania organized this academic event, addressed to those who show a genuine interest in enhancing their research skills in European studies and in contributing to developing a transnational network of contacts and cooperation. The two-day event transmitted knowledge about EU's opportunities and risks in today's increasingly volatile global context.

The 2019 EURINT international conference brought together relevant scholars, researchers, experts and civil society activists into a constructive exchange of views on scenarios laid out ahead for the European Union. The international cooperation between the specialists from universities or research institutes as well as policy makers and regional actors from European Union and its neighbourhood is one of the key methods of promoting connections between public institutions and private environment, and therefore create adapted, suitable solutions for the abovementioned challenges.

Editorial team

THE IMPACT OF LOCAL BUDGETARY SPENDING ON COMMUNITIES DEVELOPMENT

Florin OPREA^{*}, Bogdan FIRTESCU^{}, Lenuta COJOCARIU^{***},
Paula TERINTE^{****}**

Abstract

Economic development within different countries has been seen in general as a task of central governments, especially in the case of unitary or more centralized states. According to a kind of “musgravian view” of public budget functions, central authorities were in many cases responsible for creation and implementation of comprehensive programs and policies, oriented to economic growth. However, despite this general approach, nowadays can be noticed that values as decentralization or subsidiarity are widely recognized, sustaining a trend of “glocalization”, within which local authorities are gaining and play a key role for regional development. Moreover, the move and the spirit of “Europe of Regions” are granting now to local authorities more means and importance in the field of economic development, considering them plenary actors of policy-making and its implementation. On this background, our paper aims to emphasize the impact of local budgetary spending on regional development, with a special accent on country differences. Based on data collected from Organization for Economic Co-operation and Development (OECD) Statistics and Eurostat databases, our findings suggest that strengthening the role of local authorities and improving the framework of their actions could lead to enhanced economic development at this level. Our findings and recommendations could be useful both for national and European authorities, in their efforts to improve regional policies in order to alleviate economic discrepancies.

Keywords: local authorities, budgetary expenditures, economic growth, regional development

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Introduction

In the last decades, public sector has expanded his area, assuming more functions. In his expansion, local budgets gained a more important role, supporting the implementation of decentralized tasks from central level in almost all domains of local communities' life. Beyond the expenditures for general public services necessary for every public body, local budgets are nowadays spending in education, health, culture, social protection, public order and safety, economic affairs, environment, housing and community amenities, and even (some of them) in defense. Therefore, we may argue that local spending could exert a (positive) influence on local development, if their redistributive and productive efficiency are properly ensured. Within this study, we will take into consideration the regional level, considering that regions and their development became recently core elements of the European policies. Nonetheless, this approach is in line with the use of regions as territorial unit of statistical reports in European Union (NUTS).

Our analysis is placed in the above described context, representing an original research through the approach itself. This is occurring on the background of a poor exploration of the influence of local spending in determining the regional development, although extant literature mostly endeavored in shaping the contribution of government expenditures on the economic growth of a nation as a whole. Therefore, the main proposal is to analyze the impact of local budgetary spending on regional development, assuming that local expenditures are not used at their full potential in performing the regional development and increasing for real the state of well-being among citizens.

We employed in our analysis nine independent variables representing the components of local budgetary spending determined by functional classification, for 21 countries and sixteen years (2001-2016), emphasizing their impact on regional GDP growth rate.

The paper is organized as follows: Section 1 delivers the literature in the field; Section 2 presents methodology and data used; Section 3 delivers the results of our analysis and Section 4 provides conclusions.

1. Literature review

The impact of public spending on economic growth was the research subject beginning decades ago for many authors, endeavoring in shaping the contribution of government expenditures on the economic growth of a nation. For instance, Devarajan *et al.* (1996) conducted a research based on model using the Cobb-Douglas function for 43 developing countries and a timescale of 20 years (1970-1990). Through the estimated model, the authors considered productive and unproductive expenditures, attempting to answer how economic growth was affected by the composition of the government expenditures. The results show that all the expenditures considered being productive (e.g. capital expenditures,

transport and communication, education and health) had a negative or insignificant impact on economic growth. Instead, current expenditures as a broad category was the only one linked with a higher degree of economic growth. Similar views have been made previously; Prichet (1996) argued that public investment in developing countries is unproductive and inappropriate for the present. The result of his research shows that the proportion of current public investment can have too little influence on current economic growth.

At a smaller scale (21 OECD countries and for 20 years), Roller and Waverman (2001) analyzed the link between telecommunication infrastructure expenditure as one of the main category of public investment spending and economic growth. They found that the impact of these public spending categories and their effect on economic growth is low and insignificant from a statistical point of view. Others authors, Kormendi and Meguire (1985), Summers and Heston (1988) found evidence that defense and education expenditures represent government consumption and consequently are unproductive.

Alexiou (2009) found a positive and significant correlation between capital expenditure and growth, his research including some countries of the South Eastern Europe for the period 1995-2005, based on a casual coefficient (RC) regression estimator. The author points out that regardless of the destination, public spending is associated with a mechanism to stimulate economic growth and a mechanism to address social and economic disadvantages such as social cohesion, poverty, social conflicts, disparities between groups and regions. By addressing these issues, government spending may be an option for creating a stable environment which may favorite the economic development. Results of Alexiou (2009) are consisting with Easterly and Rebelo (1993), the authors revealing in a research built on multi cross-country regressions that the investment expenditures for transport and communication in developing countries contribute to economic growth.

Kelly (1997) conducted a cross-sectional study for the 1970-1998 period about the economic performances of 73 countries and using the method of Ordinary Least Squares for estimating economic growth as capacity of different categories of public expenditures. Contrary to other research studies, the Kelly's results confirm also a major contribution of public investment expenditures to economic growth. A beneficial impact of the government expenditures for the economic affairs was confirmed also by Burton (1991), Aschauer (1990), Birdsall, *et al.* (1995), Afonso and Auby (2019).

Along with Barro (1990), Easterly and Rebelo (1993) argued through their researches that public spending leads to economic growth up to a certain level of them, considered as an *optimum threshold*. Beyond this level, public spending can create distortions in the private sector. Consistently, another recent study (Aydin and Esen, 2019) show that the intervention state in economy through public spending to promote growth may be useful at a certain level, while beyond that point, they cannot have the expected effects. Using the Armey curve, empirical results show a non-linear relationship between the two variables, public spending



having a statistically significant positive effect on the economy when it is below a certain threshold.

Ghosh and Gregoriou (2006) conducted a similar study for 15 countries and a long interval of time (1972-1999). Using the GMM (General Method of Moments) techniques, their results indicated a negative correlation between the public capital expenditures and the economic growth, in line with Devarajan *et al.* (1996). The explanation refers in some cases to the corruption at the political level, the inefficient bureaucratic structures, and the poor quality of the public services. A negative correlation between some capital expenditures and economic growth is revealed also by Landau (1986), Scully (1989), Aschauer (1989), Munnell (1990). In the same sense, Forte and Magazzino (2011) showed that for EU member countries, on average with a 10% increase in public spending, GDP declined by 2.1%, claiming in this way the necessity of a reduction in public spending in order to record economic growth.

Concerning the role of local authorities in economic development, fiscal decentralization may not have the successful results as expected in all cases. For Peru's case, Loayza *et al.* (2011) stated that fiscal decentralization had little performance in providing public local services and particularly conceiving public investment projects. Furthermore, there are researches conducted at local level, indicating a negative correlation between some local expenditures and economic growth for undeveloped and developing countries, whereas in developed countries they are positively correlated (Jin and Zhang, 2011). Although it seems that the development level of a country have a substantial role in effectiveness of public spending, for contrary, in the same study is shown that productive expenditures exerts positive influence on economic growth nevertheless the economic stage of a country. A positive relationship between both state and local spending and economic growth was also found by Yamarik and Ojede (2013), but Meloche *et al.* (2004) revealed contrary results for European transition country where local spending has uncertain effects on economic growth.

Studying the Romanian case, Bilan *et al.* (2016), revealed that the local spending produces „no positive effect on territorial economic growth”. Similar results were confirmed before by the same authors (Bilan and Oprea, 2015). Others researchers (Miller and Russek, 1997) found a negative correlation between expenditures on education, transportation and public safety and economic growth for U.S. jurisdiction. They argued that devoting less of total spending to education or to transportation and public safety is associated with higher state economic growth. A negative relationship between local spending and economic growth was also confirmed by Zhang and Zou (1998) and Gemmell *et al.* (2013).

On the other side, Channa and Faguet (2016) showed that decentralized education expenditures produce great qualitative effects in schools. On the other hand, decentralization of education in Poland case was appreciated as damaging the coordination of preschool education among local communities, increasing the inequalities of preschool education (Ahmad and Brosio, 2009). According to

Eskeland and Filmer (2007), decentralized education could have relevant result, but in condition of schools autonomy and participation. Finally, concerning decentralization of education, it could be agreed that it has not clear effect or necessary positive effect in delivering the service itself. As Di Gropello (2002) appreciates, this is depending on the form of decentralization (institutional and functional), the institutional conditions and the socioeconomic environment for each local community. In our opinion, these considerations are valid for all decentralized public tasks.

As a concluding remark, the extent literature comprises few researches approaching the relationship between local spending and economic growth, although from an overall perspective, the economic growth is influenced from local governance. By and large, the link between local public spending and economic growth remains a controversial topic, with various approaches and research methodologies, still maintaining attention of many researchers.

2. Data and methodology

The aim of this paper is to analyze the impact of local budgetary spending on regional development. We employed in our analysis nine independent variables representing the components of local budgetary spending determined by functional classification. As dependent variable, we employed the growth rate of the regional Gross Domestic Product (coded *GRGDP*) similar with other studies as Kelly (1997), Devarajan *et al.* (1996), Forte and Magazzino (2011), Bilan *et al.* (2016). Description of the variables employed in our analysis is presented in Table 1.

Table 1. Variable description

Variable	Description	Data Source
<i>grgdp</i>	Represents the annual growth rate of the mean European regional gross domestic product.	Eurostat
<i>gredu</i>	The annual growth rate of local expenditures on education. It characterizes the evolution of financial resources spent by local authorities supporting the education in their jurisdiction.	OECD Statistics
<i>grrcar</i>	The annual growth rate of local expenditures for recreation, culture and religion. It shows the evolution of the financial resources spent by local authorities in this domain in their community.	OECD Statistics
<i>grhaca</i>	The annual growth rate of local expenditures on housing and community amenities. It shows the evolution of the resources spent by local authorities in planning their territory.	OECD Statistics
<i>greca</i>	The annual growth rate of local expenditure for economic affairs, characterizing the evolution of the financial resources spent by local authorities in stimulating and developing their economy (capital expenditures).	OECD Statistics



Variable	Description	Data Source
<i>grsp</i>	The annual growth rate of local expenditure on social protection, showing the evolution of financial resources spent by local authorities for supporting citizens being in impossibility to work or those impoverished.	OECD Statistics
<i>grhealth</i>	The annual growth rate of local expenditure on health, characterizing the evolution of financial resources spent by local authorities for maintaining the general state of health for citizens in their collectivities.	OECD Statistics
<i>grenvp</i>	The annual growth rate of expenditures on local environment protection, describing the evolution of financial resources spent by local authorities for maintaining the environment (very often as investment expenditures).	OECD Statistics
<i>grpoas</i>	The annual growth rate of local expenditures on public order and safety, characterizing the evolution of financial resources spent by local authorities for maintain the general order and safety in their collectivities.	OECD Statistics
<i>grgps</i>	The annual growth rate of local expenditure on general public services, showing the evolution of the financial resources spent by local authorities for current needs (as goods, services, wages of employees).	OECD Statistics

Source: authors calculation

The selected independent variables are in line with other studies: Miller and Russek, 1997 – used local expenditures of education, transportation and public safety; Roller and Waverman, 2001 – used telecommunication infrastructure expenditure at national level; Eskeland and Filmer, 2007, – used decentralized education expenditure; Devarajan *et al.*, 1996 - used education and health, transport and communication expenditures at national level; Mays and Smith, 2011 – used local health expenditures for US; Bilan *et al.*, 2016 – used all categories of local functional expenditures for Romania). However, the independent variables are represented by the nine of ten components of Classification of the Function of Government (COFOG). The one which is not included in our analyses is referring to local defense, the reason being that this component has values equal to zero for the most countries of model's sample. According to the traditional theory, this function belongs to central government, given the national area of public needs referring to and its coverage. The other components of COFOG are well subject of fiscal and administrative decentralization, as they could better refer to local area of needs to successfully attempt. Decentralization of these expenditures is related to the context of fiscal federalism based on principles as optimization the budgetary system by layering the public administration and meeting the public needs at a closer level of citizens in order to fully accomplish them (Oates, 1999). So will be created premises for socio-economic development of communities and, thus for the all respective country.

In order to analyze the impact of local budgetary spending on regional development, this study looks for below premises to solve:

The local expenditures on general public services have negative impact on regional development as they are referring to current administration expenses (e.g. salaries), as unproductive destinations.

The local expenditures on public order and safety have positive impact on regional development, being targeted to ensure a proper environment for social and economic activities.

The local expenditures on economic affairs have significant impact on regional development, as capital expenditures are usually considered. Similar impact should be recorded in the case of the expenditures on environment protection and on housing and community amenities.

The local expenditures on health have a positive impact on regional development, mostly on long term. Similar results are expected also from local expenditures on education.

The local expenditures on recreation, culture and religion have positive impact on regional development.

The local expenditures on social protection have a negative impact on regional development.

The data we used in our model is of 21 countries from Europe (Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden), for a sixteen years period (2001-2016) as reported by Eurostat and OECD statistics databases. In Table 2 we present the descriptive statistics of our variables:

Table 2. Descriptive Statistics

<i>Variable</i>	<i>Obs</i>	<i>Mean</i>	<i>Std. Dev.</i>	<i>Min</i>	<i>Max</i>
<i>grgdp</i>	349	3.745244	5.534529	-21.38853	25.75972
<i>gredu</i>	368	3.187304	11.97312	-110.086	69.84848
<i>grrcar</i>	368	3.545327	10.93848	-56.61947	46.34366
<i>grhaca</i>	368	-6.083335	63.55627	-903.0304	95.63451
<i>greca</i>	368	2.451564	16.88184	-156.4518	53.01173
<i>grsp</i>	368	4.190559	15.43604	-169.0744	65.53531
<i>grhealth</i>	329	.0985294	36.11892	-338.8601	89.40719
<i>grenvp</i>	368	1.129444	34.88088	-573.1209	77.42047
<i>grpoas</i>	363	-.1069378	48.87308	-680	77.35849
<i>grgps</i>	368	-1.318625	88.42626	-1677.293	85.95037

Source: authors calculation

Our panel data sample contains variables that vary from 329 to 368 observations. Regarding our dependent variable, the growth of GDP has a mean of



3.745244 and standard deviation of 5.534529 and variation between -21.38853 and 25.75972. The correlation matrix (Appendix no. 1.) does not suggest any possible multicollinearity problems, as the largest correlation is 0.4357.

The panel data model is described through some restrictions such as parameter homogeneity (Croissant and Millo, 2008), for all i, t , applied to the general model (equation 1), resulting a linear model pooling all the data across i and t (equation 2). To model individual heterogeneity, the error term has two separate components μ_i and ε_{it} , μ_i being specific to the individual and not changing over time (equation 3). In the case of *fixed* or *random* effects models: the estimation depends on the properties of the error component, which may be either uncorrelated with the regressors (*random effects* model) or correlated (*fixed effects*, *within* or *least squares dummy variables* model).

$$y_{it} = \alpha_{it} + \beta_{it}^T x_{it} + u_{it} \quad (1)$$

$$y_{it} = \alpha + \beta^T x_{it} + u_{it} \quad (2)$$

$$y_{it} = \alpha + \beta^T x_{it} + u_i + \varepsilon_{it} \quad (3)$$

When time specific components are taken into consideration (e.g. Year) the error has three components:

$$u_{it} = u_i + \lambda_t + \varepsilon_{it} \quad (4)$$

The individual component may be either independent of the regressors or correlated. If it is correlated, the ordinary least squares (OLS) estimator would be inconsistent, so it is customary to treat u_i as a further set of n parameters to be estimated, as if in the general model $\alpha_{it} = \alpha_i$ for all t . This is called the fixed effects (a.k.a. within or least squares dummy variables) model, usually estimated by OLS on transformed data, and gives consistent estimates.

Our fixed effects equation becomes:

$$grgdp_{it} = \beta_1 gredu + \beta_2 grrcar + \beta_3 grhaca + \beta_4 greca + \beta_5 grsp + \beta_6 grhealth + \beta_7 grenvp + \beta_8 grpoas + \beta_9 grgps + \alpha + u_i + e_{it} \quad (5)$$

where:

u_i is correlated with the independent variables

e_{it} is the error term (idiosyncratic errors)

α – constant

The results are presented below.

3. Tests, results and discussions

In this section we present the specific tests for panel data and our results. To select the most appropriate model between random and fixed effects models we conducted the Hausman test (results are presented in Appendix no. 2). The results suggest that the fixed effects model is more suitable than the random effects model. Further test is Wald test for group wise heteroscedasticity in fixed effect regression model, which also suggest that fixed effect regression models are the most appropriate ones (see Appendix no. 3). Regarding the multicollinearity, in addition to correlation matrix inspection, we have employed the variance inflation factors (VIFs) and our results show that there are no problems, as correlation matrix already suggested.

Our variables had been tested for stationarity using different panel unit root tests, commonly operated in unbalanced panels. The outputs of the conducted tests imply that all data series included in the panel shows that all variables are stationary at levels (I(0)), so spurious regression problems could not appear.

In order to test the robustness of our results, we conducted both fixed and random effects models, and we have controlled for heteroscedasticity, autocorrelation and possible serial correlation with some lags (Hoechle, D., (2018)), using robust covariance matrix Driscoll-Kraay models (presented in Appendix 4 to 12). For testing the robustness of our results, we also computed different models, adding different independent variables in cascade (Appendix 4-12). In table 3 we present our OLS regression results, controlling for fixed effects (with robust standard errors and Driscoll-Kraay standard errors) on dependent variable (the GDP growth, coded grgdp).

Table 3. Results of fixed effects OLS (robust standard and Driscoll-Kraay errors), dependent variable grgdp (the GDP growth)

Variables	(1) Fixed Effects (robust standard errors) Dependent variable: grgdp	(2) Fixed Effects (robust standard errors) Dependent variable: grgdp	(3) Fixed Effects (Driscoll-Kraay standard errors) Dependent variable: grgdp	(4) Fixed Effects (Driscoll-Kraay standard errors) Dependent variable: grgdp
gredu	0.0507** (0.0201)	0.0318* (0.0187)	0.0507** (0.0173)	0.0318* (0.0159)
grrcar	0.123*** (0.0387)	0.0874** (0.0318)	0.123** (0.0429)	0.0874** (0.0306)
grhaca	0.0120** (0.00499)	0.00834*** (0.00177)	0.0120 (0.00694)	0.00834 (0.00488)
greca	0.0793** (0.0279)	0.0648*** (0.0120)	0.0793*** (0.0220)	0.0648*** (0.0196)



Variables	(1) Fixed Effects (robust standard errors) Dependent variable: grgdp	(2) Fixed Effects (robust standard errors) Dependent variable: grgdp	(3) Fixed Effects (Driscoll-Kraay standard errors) Dependent variable: grgdp	(4) Fixed Effects (Driscoll-Kraay standard errors) Dependent variable: grgdp
grsp	0.0309 (0.0357)	0.0420 (0.0274)	0.0309 (0.0193)	0.0420** (0.0158)
grhealth	0.00518 (0.00819)	0.00187 (0.00474)	0.00518 (0.00880)	0.00187 (0.00635)
grenvp	-0.000818 (0.00293)	-0.00237 (0.00340)	-0.000818 (0.00570)	-0.00237 (0.00407)
grpoas	0.000966 (0.00301)	0.00103 (0.00245)	0.000966 (0.00215)	0.00103 (0.00181)
grgps	0.0582 (0.0393)	0.0699** (0.0270)	0.0582*** (0.0191)	0.0699*** (0.0192)
Constant	2.842*** (0.300)	3.850*** (0.831)	2.842*** (0.676)	2.316*** (0.386)
Observations	308	308	308	308
R-squared	0.356	0.677	-	-
Number of Countries	21	21	21	21
Unit effects (Country)	YES	YES	YES	YES
Time effects (Year)	NO	YES	NO	YES
Robust std. err.	YES	YES	YES	YES

Note: Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

From different models that we have employed, the second one has the largest R squared (0.677), meaning that this offer a better explanation of the evolution of the independent variable, as expected (we have controlled for fixed country and time effects). Our results, on full models (with all independent variables included – Table 3) indicate that the growth rate of local education (*gredu* variable) has a positive and statistical significant effect on the dependent variable, growth rate of regional gross domestic product (*grgdp* variable). If the growth rate of education expenditure grows with 1 unit, the GDP rate is rising with 0.0318 units. This is in line with Di Gropello (2002) and Channa and Faguet (2016), who found that the decentralization of education expenditures can deliver better education services. The growth rate of recreation, culture and religion expenditure (*grrcar* variable) has also a positive and statistical significant effect on the growth rate of regional GDP, (the value is 0.0874), being consistent with theoretical considerations and with other studies alike Helms (1985) or Jin and Zhang (2011). A third category of local public spending which has positive and statistical significant effect on the

dependent variable (value is 0.00834) is the growth rate of local housing and community amenities expenditure (*grhaca* variable), our results being also comparable with the results of other studies such as Helms (1985) and Anderson and Värja (2016). With respect to this expenditure category, the results meet our expectation, as this category of public expenditures is considered one of the most productive. The growth rate of local economic affairs expenditure (*greca* variable) represents the fourth local spending category which has positive and statistically significant impact on the growth rate of regional GDP (value is 0.0648). The bounds between these functions and the growth rate of regional GDP are mostly explained by the nature of these expenditures, representing investment expenditure. From this point of view, our results are similar with other studies, such as Alexiou (2009), who found a positive and significant correlation between capital expenditure and economic growth.

From theoretical perspective, whether the local functions mentioned above (education, recreation, culture and religion, housing and community amenities and economic affairs) are delivered from central or from local administration, these still should contribute to the growth of the economy, as they represent investment in human capital and also in social and economic life development. If these expenditures would represent discretionary transfers from central level to local level (mandatory expenses), the results on GDP growth rate would be similar to the results when these would be spent directly from central level. This is because in the situation of the mandatory expenses, local institutions would be considered only agents of central authorities, with reduced financial and administrative autonomy (as it is proved in practice). For contrary, if the mentioned expenditure would be directly financed and spent from local level, the results on GDP growth would be more fruitfully, the key being the real autonomy of local budgets. From these bases, though our results confirm positive effects on regional GDP growth rate, there are required further researches on the real financing sources for each distinct country. These are necessary in order to raise conclusions about the full potential of local public function, its influence on regional development and about the actual role of local authorities as partners in socio-economic life.

Some of the variables have a positive effect but statistically not significant on growth rate of regional GDP - the growth rates of: local social protection expenditure (*grsp* variable), local health expenditure (*grhealth* variable), local public order and safety expenditure (*grpoas* variable), local general public services expenditure (*grgps* variable).

The growth rates of local social protection and local general public services were expected to have negative impact on economic regional development as they represent rather public consumption expenditures, so unproductive. The results are similar to Devarajan *et al.* (1996), where current expenditures were having positive results on economic growth. In our study, the bound between of the two variables seems to be quit uncertain, anyway different from our expectation (negative effects). These could be explained probably by the fact that these expenditures may



have a sort of importance in daily consumption of the beneficiaries and giving the result it could mean that in our sample countries may be a slight share of recipients. Even though the effect of social protection growth rate on regional GDP growth rate is positive, categorically, this does not imply an expansive policy in matter of public social protection. Local authorities (and state authorities) should draw premises of minimize the number of recipients, meaning establish clear source of financing with clear criteria for eligible beneficiaries (where these are interpretable) and further concentrating on stimulating the economic development.

Similar explanations could be given for the links between the growth rate of local general public services expenditure and growth rate of the regional GDP, a good part of them being represented by salaries of public servants and some other current spending for public administration, with no added economic value.

The effects of local expenditures for public order and safety on the growth rate of the regional GDP (positive, but statistically not significant) may be also explained through the characteristics of service delivered from this level of administration. Even they create premises for a safety development of economic and social life, their results appear to be rather weak on regional GDP growth.

Local expenditures for health also have a positive but statistical not significant effect on regional GDP growth rate (0.00518). In contrast with our assumption, the results may be explained through the relative short timescale used in our calculations.

Lastly, the local expenditures on local environment protection (*grenvp* variable) have a negative but statistically not significant effect on the growth rate of the regional GDP. This result can be explained through the given destination for each country at local level for this category of public spending. If there would not be investment project, it would be more difficult to see the results in the economic growth rate.

Our results should draw attention for policy makers when conceiving and implementing public policy targeted on communities development. One should take into account the particularities of those expenditures, which have significant influence on the regional GDP growth rate - local economic affairs expenditure, local education expenditure, local recreation, culture and religion expenditure and local housing and community amenities expenditure. Having the scientific confirmation of their importance in determining the economic growth, policy makers should pay more attention to this categories when budgeting for future. Thus, referring to local education expenditure, our results confirm their purpose of investment in human capital, according to theoretical considerations. On this background, local authorities should give more interest on increasing spending for infrastructure, for supporting more the disadvantaged pupils and financing more education programs. Regarding economic affairs expenditure, local authorities should invest more, mainly in infrastructure and transport in order to better support the local economic growth. Also, policy makers should consider more about promoting (supporting) talents and take responsibilities of projects in the field of

recreation, culture and religion, considering that the sector could generate 1-5% of GDP (Orosz, 2018).

In order to ensure the financial resources for such activities, public authorities should increase first the efficiency of local public spending, by control mechanisms (especially for public procurements) and real cost-benefit analysis for each of their programs. Also, an increase of their administrative capacity can be supported by municipal associations, which means that regional development project should replace individual (municipal) interventions. Regional scale projects could be easier conceived and implemented thorough municipal associations, by putting together the necessary co-financing and apply for assisted financing.

Conclusions

The results of the study show that four of the nine variables included in regression have positive effect and statistically significant on regional development: the growth rate of local education expenditures, the growth rate of local recreation, culture and religion expenditures, the growth rate of local housing community and amenities expenditures and the growth rate of economic affairs expenditure. Therefore, the results represent a sign from the part of the local authorities in accomplishing their responsibilities successfully and further, a confirmation of their potential of diminishing the regional disparities. As consequence, the values as decentralization or subsidiarity must be strongly and continuously promoted, so local authorities developing their role as plenary actors of policy making and its implementation.

Another four of the nine variables have a positive effect on regional development but statistically insignificant: the growth rate of local social protection expenditures, the growth rate of local health expenditures, the growth rate of local public order and safety expenditures and the growth rate of local public services expenditures. The results of social protection expenditures may be explained by a minimum number of recipients and by the daily consumption financed through this category of expenditure, similar explanations could be found and for general public services expenditure. The results for local public order and safety expenditure are quite natural, their contribution to regional development is rather social than economic. Regarding the unexpected results of local health expenditure, they could be explained through the relative short timescale used in our calculations. However, it is required further research regarding their distribution and allocation, ensuring a non-discretionary and stable financing of them at local level. One of the nine variables, the growth rate of local environment protection expenditure has a negative but statistically not significant effect on regional development, contrary to our expectation.

The fact that local budgets expanded their functions under the central level should retain attention of public decision makers and they must establish some very prospects budgetary policies. Mainly, these have to relate to a rationale distribution



and allocation of public resources on appropriate destination and a stable legal framework, as local budgetary fully accomplish their role as partners in economic and social life of a nation. The main limitation of this study can refer to the data series, available for the 21 Europe countries taken into consideration only for sixteen years. As data will be available, further research will be conducted.

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Appendix 1. Pearson correlation matrix

	grgdp	gredu	grrcar	grhaca	greca	grsp	grhealth	grenvp	grpoas	grgps
grgdp	1.0000									
gredu	0.3499	1.0000								
grrcar	0.5039	0.3937	1.0000							
grhaca	0.1756	0.1021	0.1504	1.0000						
greca	0.4048	0.2106	0.3634	-0.0553	1.0000					
grsp	0.2811	0.2304	0.3729	0.0743	0.1588	1.0000				
grhealth	0.1185	0.1213	0.1132	-0.0106	0.0928	0.1204	1.0000			
grenvp	0.1398	0.0937	0.2160	0.1030	0.1586	0.1048	0.0146	1.0000		
grpoas	0.0544	0.1138	0.0929	-0.0246	0.0234	0.1063	0.1287	0.0118	1.0000	
grgps	0.3816	0.3483	0.4357	0.0982	0.2578	0.3152	0.0932	0.1876	0.1346	1.0000

Appendix 2. Hausman test

---- Coefficients ----				
	(b)	(B)	(b-B)	sqrt(diag(V b-V B))
	fix	rnd	Difference	S.E.

gredu	.0318176	.037882	-.0060644	.
grrcar	.0874381	.1207323	-.0332942	.
grhaca	.0083397	.0054129	.0029267	.
greca	.0647629	.0643681	.0003948	.
grsp	.0419614	.0392629	.0026985	.
grhealth	.0018653	.0017513	.000114	.
grenvp	-.0023727	-.0027704	.0003977	.
grpoas	.0010287	-.0015462	.0025749	.
grgps	.0699368	.0753161	-.0053793	.
year				
2002	-.6677653	-.6396545	-.0281108	.
2003	-1.663875	-1.575741	-.0881338	.
2004	1.311027	1.526183	-.2151557	.
2005	1.137309	.9993497	.1379593	.
2006	1.164964	1.133617	.0313464	.
2007	3.320251	3.362281	-.0420301	.
2008	-1.533972	-1.602935	.0689632	.
2009	-10.4226	-10.26907	-.15353	.
2010	-.1823578	-.1330598	-.049298	.
2011	.7210395	1.059399	-.338359	.
2012	-1.765178	-1.428071	-.3371068	.
2013	-2.276447	-2.054115	-.2223325	.
2014	-1.391037	-.9688021	-.4222351	.
2015	-.3676685	-.033117	-.3345515	.
2016	-1.630627	-1.26008	-.3705472	.

b = consistent under Ho and Ha; obtained from xtreg				



B = inconsistent under Ha, efficient under Ho; obtained from xtreg
Test: Ho: difference in coefficients not systematic
$\chi^2(24) = (b-B)'[(V_b - V_B)^{-1}](b-B)$
= 121.47
Prob>chi2 = 0.0000
(V_b - V_B is not positive definite)

Appendix 3. Modified Wald test for groupwise heteroscedasticity in fixed effect regression model

Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model
H0: $\sigma^2(i) = \sigma^2$ for all i
$\chi^2(21) = 58610.44$
Prob>chi2 = 0.0000

Appendix 4. Results of fixed effects models on dependent variable grgdp

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Model: Fixed Effects Dependent variable: grgdp									
VARIABLES									
gredu	0.136*** (0.0464)	0.0842** (0.0323)	0.0793** (0.0309)	0.0676** (0.0263)	0.0652** (0.0237)	0.0615** (0.0234)	0.0616** (0.0235)	0.0607** (0.0233)	0.0507** (0.0201)
grrcar		0.185*** (0.0427)	0.175*** (0.0420)	0.125*** (0.0390)	0.117*** (0.0364)	0.140*** (0.0390)	0.139*** (0.0398)	0.138*** (0.0398)	0.123*** (0.0387)
grhaca			0.0110*** (0.00382)	0.0134** (0.00494)	0.0130** (0.00486)	0.0119** (0.00491)	0.0118** (0.00490)	0.0120** (0.00491)	0.0120** (0.00499)
greca				0.0976*** (0.0212)	0.0926*** (0.0220)	0.0816*** (0.0285)	0.0814*** (0.0287)	0.0826*** (0.0286)	0.0793** (0.0279)
grsp					0.0414 (0.0268)	0.0382 (0.0360)	0.0382 (0.0361)	0.0383 (0.0365)	0.0309 (0.0357)
grhealth						0.00579 (0.00769)	0.00582 (0.00772)	0.00562 (0.00793)	0.00518 (0.00819)
grenvp							0.000738 (0.00238)	0.000682 (0.00235)	- (0.00293)
grpoas								0.00171 (0.00293)	0.000966 (0.00301)
grgps									0.0582 (0.0393)
Constant	3.336*** (0.140)	2.869*** (0.166)	2.990*** (0.170)	2.973*** (0.157)	2.852*** (0.192)	2.913*** (0.271)	2.914*** (0.272)	2.900*** (0.271)	2.842*** (0.300)
Observations	349	349	349	349	349	310	310	308	308
R-squared	0.088	0.197	0.214	0.295	0.308	0.344	0.344	0.345	0.356
Number of country	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country									
Time effects	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year									
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 5. Results of random effects models on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Random effects Dependent variable: grgdp								
gredu	0.134*** (0.0477)	0.0773** (0.0319)	0.0738** (0.0309)	0.0629** (0.0265)	0.0601** (0.0237)	0.0651*** (0.0237)	0.0650*** (0.0238)	0.0626*** (0.0233)	0.0533** (0.0219)
grrcar		0.193*** (0.0426)	0.185*** (0.0418)	0.135*** (0.0394)	0.127*** (0.0372)	0.151*** (0.0388)	0.150*** (0.0397)	0.150*** (0.0399)	0.142*** (0.0397)
grhaca			0.00938*** (0.00304)	0.0118*** (0.00407)	0.0116*** (0.00407)	0.0107*** (0.00406)	0.0107*** (0.00408)	0.0108*** (0.00408)	0.00980*** (0.00379)
greca				0.0976*** (0.0214)	0.0927*** (0.0213)	0.0810*** (0.0276)	0.0809*** (0.0278)	0.0826*** (0.0276)	0.0785*** (0.0265)
grsp					0.0389 (0.0280)	0.0378 (0.0359)	0.0379 (0.0359)	0.0379 (0.0364)	0.0287 (0.0356)
grhealth						0.00561 (0.00690)	0.00566 (0.00696)	0.00561 (0.00707)	0.00509 (0.00703)
grenvp							0.000515 (0.00259)	0.000369 (0.00257)	-0.00143 (0.00334)
grpoas								0.000568 (0.00304)	-0.00104 (0.00323)
grgps									0.0635* (0.0384)
Constant	3.339*** (0.418)	2.863*** (0.314)	2.961*** (0.336)	2.940*** (0.366)	2.829*** (0.435)	2.903*** (0.427)	2.913*** (0.429)	2.887*** (0.429)	2.757*** (0.435)
Observations	349	349	349	349	349	310	310	308	308
Number of country	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 6. Results of Driscoll-Kraay fixed effects models on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Fixed Effects Dependent variable: grgdp								
gredu	Dependent variable: grgdp	0.0842** (0.0318)	0.0793** (0.0303)	0.0676*** (0.0219)	0.0652*** (0.0188)	0.0615*** (0.0189)	0.0616*** (0.0183)	0.0607*** (0.0183)	0.0507** (0.0173)
grrcar		0.185*** (0.0469)	0.175*** (0.0388)	0.125*** (0.0294)	0.117*** (0.0338)	0.140*** (0.0431)	0.139*** (0.0433)	0.138*** (0.0441)	0.123** (0.0429)
grhaca			0.0110** (0.00500)	0.0134* (0.00687)	0.0130* (0.00707)	0.0119 (0.00711)	0.0118 (0.00729)	0.0120 (0.00723)	0.0120 (0.00694)
greca				0.0976*** (0.0168)	0.0926*** (0.0191)	0.0816*** (0.0214)	0.0814*** (0.0223)	0.0826*** (0.0219)	0.0793*** (0.0220)
grsp					0.0414* (0.0215)	0.0382* (0.0206)	0.0382* (0.0207)	0.0383* (0.0203)	0.0309 (0.0193)
grhealth						0.00579 (0.00812)	0.00582 (0.00806)	0.00562 (0.00818)	0.00518 (0.00880)
grenvp							0.000738 (0.00576)	- (0.00576)	0.000818 (0.00570)



VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Fixed Effects Dependent variable:				grgdp				
grpoas								0.00171 (0.00196)	0.000966 (0.00215)
grgps									0.0582*** (0.0191)
Constant	3.336*** (0.928)	2.869*** (0.865)	2.990*** (0.779)	2.973*** (0.719)	2.852*** (0.734)	2.913*** (0.663)	2.914*** (0.670)	2.900*** (0.679)	2.842*** (0.676)
Observations	349	349	349	349	349	310	310	308	308
Number of groups	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 7. Results of Driscoll-Kraay random effects models on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Random Effects Dependent variable: grgdp								
gredu	0.134* (0.0695)	0.0773** (0.0353)	0.0738* (0.0347)	0.0629** (0.0270)	0.0601** (0.0238)	0.0651** (0.0241)	0.0650** (0.0238)	0.0626** (0.0235)	0.0533** (0.0232)
grrcar		0.193*** (0.0526)	0.185*** (0.0488)	0.135*** (0.0437)	0.127** (0.0471)	0.151*** (0.0487)	0.150*** (0.0476)	0.150*** (0.0486)	0.142** (0.0514)
grhaca			0.00938* (0.00466)	0.0118* (0.00621)	0.0116* (0.00637)	0.0107 (0.00647)	0.0107 (0.00662)	0.0108 (0.00660)	0.00980 (0.00615)
greca				0.0976*** (0.0145)	0.0927*** (0.0149)	0.0810*** (0.0177)	0.0809*** (0.0184)	0.0826*** (0.0180)	0.0785*** (0.0167)
grsp					0.0389 (0.0258)	0.0378* (0.0207)	0.0379* (0.0207)	0.0379* (0.0203)	0.0287 (0.0190)
grhealth						0.00561 (0.00835)	0.00566 (0.00834)	0.00561 (0.00845)	0.00509 (0.00888)
grenvp							0.000515 (0.00576)	0.000369 (0.00572)	-0.00143 (0.00570)
grpoas								0.000568 (0.00239)	-0.00104 (0.00260)
grgps									0.0635** (0.0231)
Constant	3.339** (1.255)	2.863** (1.021)	2.961*** (0.948)	2.940*** (0.922)	2.829** (0.990)	2.903*** (0.907)	2.913*** (0.939)	2.887*** (0.955)	2.757*** (0.753)
Observations	349	349	349	349	349	310	310	308	308
Number of groups	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time effects	NO	NO	NO	NO	NO	NO	NO	NO	NO
Year effects	NO	NO	NO	NO	NO	NO	NO	NO	NO
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 8. Results of fixed effects models by year on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model: Fixed Effects Dependent variable: grgdp								
gredu	0.0921*	0.0653*	0.0607**	0.0530*	0.0522**	0.0450*	0.0449*	0.0441*	0.0318*
	(0.0401)	(0.0297)	(0.0291)	(0.0258)	(0.0230)	(0.0218)	(0.0221)	(0.0218)	(0.0187)
grrcar		0.127***	0.120***	0.0880**	0.0799**	0.107***	0.107***	0.107***	0.0874**
		(0.0409)	(0.0408)	(0.0374)	(0.0325)	(0.0347)	(0.0354)	(0.0353)	(0.0318)
grhaca			0.00796**	0.00991**	0.00916**	0.00786**	0.00787**	0.00798**	0.00834**
			*	*	*	*	*	*	*
			(0.00205)	(0.00202)	(0.00172)	(0.00175)	(0.00173)	(0.00176)	(0.00177)
greca				0.0799***	0.0742***	0.0679***	0.0679***	0.0689***	0.0648***
				(0.0143)	(0.0117)	(0.0136)	(0.0135)	(0.0137)	(0.0120)
grsp					0.0537**	0.0523*	0.0523*	0.0525*	0.0420
					(0.0234)	(0.0279)	(0.0279)	(0.0281)	(0.0274)
grhealth						0.00310	0.00310	0.00275	0.00187
						(0.00421)	(0.00421)	(0.00450)	(0.00474)
grenvp							-0.000165	-0.000141	-0.00237
							(0.00272)	(0.00271)	(0.00340)
grpoas								0.00196	0.00103
								(0.00245)	(0.00245)
grgps									0.0699**
									(0.0270)
2002.year	-0.152	-0.673	-0.865	-0.903	-0.873	-0.754	-0.754	-0.620	-0.668
	(0.798)	(0.746)	(0.772)	(0.803)	(0.762)	(0.741)	(0.742)	(0.768)	(0.723)
2003.year	-2.101*	-2.279*	-2.410**	-2.027*	-1.986*	-1.870*	-1.871*	-1.779	-1.664
	(1.174)	(1.149)	(1.156)	(1.109)	(1.057)	(1.037)	(1.043)	(1.057)	(1.086)
2004.year	0.364	0.462	0.407	0.477	0.557	0.892	0.892	0.971	1.311
	(0.846)	(0.779)	(0.779)	(0.841)	(0.804)	(0.826)	(0.827)	(0.834)	(0.839)
2005.year	0.599	0.166	0.0915	0.139	0.758	0.793	0.794	0.945	1.137
	(0.811)	(0.746)	(0.753)	(0.884)	(0.852)	(0.856)	(0.858)	(0.921)	(0.937)
2006.year	1.319	0.949	0.884	0.595	0.629	0.962	0.962	1.034	1.165
	(1.190)	(1.119)	(1.187)	(1.287)	(1.274)	(1.349)	(1.353)	(1.356)	(1.230)
2007.year	2.728**	2.479**	2.287**	2.471**	2.697**	3.186***	3.185***	3.267***	3.320***
	(1.038)	(0.986)	(1.000)	(1.040)	(1.033)	(1.056)	(1.056)	(1.069)	(1.090)
2008.year	-2.076*	-2.622*	-2.842**	-3.028**	-2.933**	-1.516	-1.517	-1.451	-1.534
	(1.194)	(1.318)	(1.310)	(1.283)	(1.226)	(0.890)	(0.896)	(0.904)	(0.940)
2009.year	-	-	-11.77***	-11.10***	-11.09***	-10.66***	-10.66***	-10.57***	-10.42***
	(1.707)	(1.538)	(1.488)	(1.107)	(1.070)	(1.143)	(1.148)	(1.144)	(1.107)
2010.year	-1.659	-1.387	-1.400	-1.161	-0.990	-0.624	-0.625	-0.544	-0.182
	(1.554)	(1.461)	(1.420)	(1.461)	(1.392)	(1.479)	(1.489)	(1.502)	(1.457)
2011.year	-2.077	-1.471	-1.643	-0.689	-0.294	0.548	0.547	0.635	0.721
	(1.456)	(1.559)	(1.551)	(1.324)	(1.183)	(1.165)	(1.168)	(1.193)	(1.191)
2012.year	-3.952**	-3.095**	-3.375**	-2.913*	-2.268	-1.570	-1.571	-1.445	-1.765
	(1.518)	(1.418)	(1.429)	(1.415)	(1.358)	(1.179)	(1.181)	(1.213)	(1.062)
2013.year	-3.246**	-3.080**	-3.260**	-3.076**	-2.838**	-2.489**	-2.491**	-2.398**	-2.276**
	(1.276)	(1.166)	(1.187)	(1.242)	(1.131)	(1.025)	(1.032)	(1.056)	(1.049)
2014.year	-2.071*	-1.784	-2.022*	-1.866	-1.439	-1.384	-1.385	-1.298	-1.391
	(1.173)	(1.067)	(1.063)	(1.149)	(1.127)	(1.005)	(1.009)	(1.025)	(0.997)
2015.year	-0.764	-0.456	-0.582	-0.496	-0.214	-0.821	-0.821	-0.731	-0.368
	(1.456)	(1.361)	(1.372)	(1.453)	(1.363)	(1.001)	(1.003)	(1.022)	(1.071)
2016.year	-	-2.805**	-2.934***	-2.088**	-1.897**	-1.620*	-1.628	-1.514	-1.631
	(0.954)	(1.036)	(1.028)	(0.945)	(0.862)	(0.926)	(1.004)	(1.020)	(0.977)



VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Fixed Effects Dependent variable: grgdp								
Constant	5.277*** (0.881)	4.839*** (0.829)	5.051*** (0.839)	4.765*** (0.858)	4.372*** (0.798)	4.083*** (0.815)	4.084*** (0.820)	3.983*** (0.843)	3.850*** (0.831)
Observations	349	349	349	349	349	310	310	308	308
R-squared	0.475	0.520	0.528	0.579	0.601	0.662	0.662	0.663	0.677
Number of country	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country									
Time effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year									
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 9. Results of random effects models by year on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Random effects Dependent variable: grgdp								
gredu	0.0922* *	0.0623* *	0.0588**	0.0513**	0.0498**	0.0515**	0.0514**	0.0499**	0.0379*
	(0.0409)	(0.0288)	(0.0284)	(0.0247)	(0.0216)	(0.0225)	(0.0227)	(0.0221)	(0.0209)
grrcar		0.134*** (0.0412)	0.129*** (0.0413)	0.0964** (0.0385)	0.0878*** (0.0337)	0.140*** (0.0347)	0.140*** (0.0355)	0.142*** (0.0357)	0.121*** (0.0334)
grhaca			0.00691** *	0.00895** *	0.00836** *	0.00545** *	0.00548** *	0.00544** *	0.00541** *
			(0.00217)	(0.00180)	(0.00159)	(0.00151)	(0.00154)	(0.00155)	(0.00145)
greca				0.0802*** (0.0152)	0.0744*** (0.0118)	0.0676*** (0.0133)	0.0677*** (0.0133)	0.0691*** (0.0137)	0.0644*** (0.0114)
grsp					0.0523** (0.0242)	0.0502* (0.0271)	0.0502* (0.0272)	0.0506* (0.0274)	0.0393 (0.0270)
grhealth						0.00223 (0.00356)	0.00223 (0.00357)	0.00221 (0.00369)	0.00175 (0.00409)
grenvp							-0.000588 (0.00299)	-0.000632 (0.00301)	-0.00277 (0.00388)
grpoas								-0.000336 (0.00280)	-0.00155 (0.00281)
grgps									0.0753*** (0.0277)
2002. year	-0.152 (0.798)	-0.705 (0.745)	-0.872 (0.769)	-0.911 (0.795)	-0.883 (0.755)	-0.725 (0.723)	-0.728 (0.726)	-0.597 (0.750)	-0.640 (0.690)
2003. year	-2.101* (1.176)	-2.293** (1.153)	-2.406** (1.162)	-2.022* (1.113)	-1.986* (1.062)	-1.858* (1.041)	-1.863* (1.049)	-1.695 (1.054)	-1.576 (1.085)
2004. year	0.365 (0.852)	0.464 (0.792)	0.418 (0.794)	0.488 (0.851)	0.562 (0.813)	0.992 (0.873)	0.991 (0.875)	1.157 (0.877)	1.526* (0.862)
2005. year	0.600 (0.818)	0.136 (0.753)	0.0719 (0.761)	0.120 (0.885)	0.722 (0.842)	0.642 (0.874)	0.643 (0.876)	0.789 (0.943)	0.999 (0.964)
2006. year	1.320 (1.198)	0.921 (1.124)	0.866 (1.183)	0.577 (1.282)	0.609 (1.269)	0.826 (1.348)	0.825 (1.354)	0.977 (1.359)	1.134 (1.221)
2007. year	2.728*** (1.056)	2.453** (1.008)	2.290** (1.026)	2.475** (1.057)	2.687** (1.048)	3.126*** (1.085)	3.124*** (1.089)	3.288*** (1.096)	3.362*** (1.114)
2008. year	-2.076* (1.201)	-2.659** (1.330)	-2.849** (1.322)	-3.038** (1.292)	-2.947** (1.237)	-1.694* (0.865)	-1.698* (0.873)	-1.546* (0.879)	-1.603* (0.898)
2009. year	- 12.55***	- 11.83***	-11.74***	-11.07***	-11.07***	-10.60***	-10.60***	-10.43***	-10.27***

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Random effects Dependent variable: grgdp								
2010. year	(1.711) -1.659 (1.561)	(1.537) -1.380 (1.465)	(1.493) -1.387 (1.427)	(1.110) -1.146 (1.469)	(1.073) -0.987 (1.399)	(1.118) -0.689 (1.523)	(1.123) -0.694 (1.534)	(1.127) -0.532 (1.555)	(1.080) -0.133 (1.498)
2011. year	-2.077 (1.469)	-1.446 (1.588)	-1.590 (1.587)	-0.633 (1.333)	-0.263 (1.194)	0.767 (1.135)	0.764 (1.139)	0.948 (1.159)	1.059 (1.159)
2012. year	- 3.951*** (1.533)	-3.059** (1.440)	-3.295** (1.457)	-2.832** (1.423)	-2.223 (1.363)	-1.283 (1.117)	-1.284 (1.119)	-1.107 (1.159)	-1.428 (1.015)
2013. year	-3.245** 3.093*** (1.291)	- (1.169)	-3.241*** (1.187)	-3.054** (1.225)	-2.839** (1.110)	-2.358** (0.952)	-2.364** (0.958)	-2.217** (0.982)	-2.054** (0.981)
2014. year	-2.057* (1.169)	-1.768* (1.063)	-1.967* (1.064)	-1.813 (1.141)	-1.413 (1.109)	-1.046 (1.067)	-1.048 (1.070)	-0.879 (1.087)	-0.969 (1.039)
2015. year	-0.750 (1.444)	-0.432 (1.335)	-0.536 (1.344)	-0.452 (1.423)	-0.188 (1.326)	-0.590 (1.041)	-0.591 (1.043)	-0.424 (1.065)	-0.0331 (1.099)
2016. year	- 3.316*** (0.958)	- 2.769*** (1.055)	-2.875*** (1.048)	-2.029** (0.952)	-1.857** (0.869)	-1.292 (0.850)	-1.321 (0.916)	-1.146 (0.934)	-1.260 (0.869)
Constant	5.269*** (1.012)	4.819*** (0.883)	4.997*** (0.884)	4.711*** (0.878)	4.342*** (0.865)	3.862*** (0.884)	3.865*** (0.890)	3.694*** (0.911)	3.535*** (0.873)
Observations	349	349	349	349	349	310	310	308	308
Number of country	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country									
Time effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year									
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 10. Results of Driscoll-Kraay fixed effects models by year on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Fixed Effects Dependent variable: grgdp								
gredu	0.0921 (0.0558)	0.0653* (0.0370)	0.0607 (0.0358)	0.0530* (0.0293)	0.0522* (0.0246)	0.0450** (0.0190)	0.0449** (0.0184)	0.0441** (0.0181)	0.0318* (0.0159)
grrcar		0.127*** (0.0278)	0.120*** (0.0229)	0.0880*** (0.0177)	0.0799*** (0.0193)	0.107*** (0.0297)	0.107*** (0.0290)	0.107*** (0.0300)	0.0874** (0.0306)
grhaca			0.00796** (0.00343)	0.00991* (0.00507)	0.00916* (0.00516)	0.00786 (0.00527)	0.00787 (0.00532)	0.00798 (0.00529)	0.00834 (0.00488)
greca				0.0799*** (0.0180)	0.0742*** (0.0180)	0.0679*** (0.0197)	0.0679*** (0.0198)	0.0689*** (0.0194)	0.0648*** (0.0196)
grsp					0.0537** (0.0246)	0.0523** (0.0181)	0.0523** (0.0181)	0.0525** (0.0179)	0.0420** (0.0158)
grhealth						0.00310 (0.00530)	0.00310 (0.00529)	0.00275 (0.00549)	0.00187 (0.00635)
grenvp							- (0.00398)	- (0.00397)	-0.00237 (0.00407)
grpoas							0.000165 (0.00398)	0.000141 (0.00397)	0.00103 (0.00181)
grgps								0.00196 (0.00153)	0.0699*** (0.0192)



VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Fixed Effects Dependent variable: grgdp								
2001.year	3.246*** (0.899)	1.784*** (0.518)	2.022*** (0.477)	2.088*** (0.396)	1.439*** (0.394)	1.570*** (0.490)	1.628*** (0.488)	1.451*** (0.196)	1.534*** (0.178)
2002.year	3.094*** (0.888)	1.110* (0.584)	1.156** (0.528)	1.186** (0.535)	0.566 (0.517)	0.816 (0.574)	0.874 (0.588)	0.831*** (0.0780)	0.866*** (0.0716)
2003.year	1.145 (0.773)	-0.495 (0.456)	-0.389 (0.413)	0.0609 (0.345)	-0.547 (0.337)	-0.300 (0.431)	-0.243 (0.415)	-0.328 (0.240)	-0.130 (0.237)
2004.year	3.610*** (0.735)	2.246*** (0.392)	2.429*** (0.360)	2.565*** (0.316)	1.996*** (0.300)	2.463*** (0.325)	2.521*** (0.342)	2.422*** (0.303)	2.845*** (0.269)
2005.year	3.846*** (0.739)	1.950*** (0.472)	2.113*** (0.419)	2.227*** (0.397)	2.198*** (0.380)	2.364*** (0.456)	2.422*** (0.475)	2.396*** (0.229)	2.671*** (0.274)
2006.year	4.566*** (0.684)	2.733*** (0.426)	2.906*** (0.376)	2.683*** (0.424)	2.068*** (0.401)	2.533*** (0.455)	2.590*** (0.480)	2.485*** (0.157)	2.699*** (0.169)
2007.year	5.974*** (0.482)	4.262*** (0.277)	4.308*** (0.242)	4.559*** (0.306)	4.137*** (0.231)	4.757*** (0.380)	4.814*** (0.401)	4.718*** (0.243)	4.854*** (0.244)
2008.year	1.170 (0.718)	-0.838* (0.477)	-0.820* (0.426)	-0.940* (0.508)	-1.493*** (0.472)	0.0546 (0.566)	0.111 (0.596)	0 (0)	0 (0)
2009.year	- 9.302*** (0.410)	- 10.08*** (0.120)	-9.744*** (0.157)	-9.008*** (0.102)	-9.647*** (0.295)	-9.085*** (0.256)	-9.027*** (0.222)	-9.115*** (0.597)	-8.889*** (0.537)
2010.year	1.587*** (0.537)	0.397 (0.234)	0.622** (0.219)	0.927*** (0.167)	0.449** (0.171)	0.947** (0.324)	1.004*** (0.333)	0.907** (0.319)	1.352*** (0.325)
2011.year	1.169** (0.462)	0.312* (0.154)	0.378** (0.147)	1.399*** (0.0496)	1.145*** (0.182)	2.118*** (0.140)	2.176*** (0.174)	2.086*** (0.506)	2.255*** (0.457)
2012.year	-0.706** (0.308)	- (0.0972)	-1.353*** (0.0963)	-0.824*** (0.181)	-0.829*** (0.112)	0 (0)	0.0578 (0.233)	0.00613 (0.576)	-0.231 (0.518)
2013.year	0 (0)	- (0.154)	-1.238*** (0.150)	-0.988*** (0.281)	-1.399*** (0.163)	-0.919*** (0.246)	-0.863** (0.332)	-0.947** (0.413)	-0.742* (0.368)
2014.year	1.175*** (0.224)	0 (0)	0 (0)	0.222 (0.219)	0 (0)	0.186 (0.215)	0.244 (0.287)	0.153 (0.469)	0.143 (0.432)
2015.year	2.482*** (0.501)	1.328*** (0.195)	1.440*** (0.189)	1.592*** (0.203)	1.225*** (0.136)	0.750** (0.257)	0.807** (0.288)	0.720 (0.439)	1.166** (0.421)
2016.year	-0.0836 (0.442)	- (0.140)	-0.913*** (0.144)	0 (0)	-0.458** (0.200)	-0.0498 (0.220)	0 (0)	-0.0630 (0.588)	-0.0967 (0.553)
Constant	2.031*** (0.383)	3.055*** (0.110)	3.030*** (0.104)	2.677*** (0.195)	2.933*** (0.0678)	2.513*** (0.166)	2.455*** (0.245)	2.532*** (0.422)	2.316*** (0.386)
Observations	349	349	349	349	349	310	310	308	308
Number of groups	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Time effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 11. Results of Driscoll-Kraay random effects models by year on dependent variable grgdp

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Random effects Dependent variable: grgdp								
gredu	0.0922 (0.0643)	0.0623 (0.0418)	0.0588 (0.0415)	0.0513 (0.0352)	0.0498 (0.0299)	0.0515* (0.0272)	0.0514* (0.0273)	0.0499* (0.0268)	0.0379 (0.0233)



VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model: Random effects		Dependent variable: grgdp						
grrcar		0.134*** (0.0360)	0.129*** (0.0349)	0.0964** (0.0331)	0.0878** (0.0330)	0.140*** (0.0466)	0.140*** (0.0459)	0.142*** (0.0467)	0.121** (0.0503)
grhaca			0.00691* (0.00354)	0.00895* (0.00485)	0.00836 (0.00482)	0.00545 (0.00464)	0.00548 (0.00466)	0.00544 (0.00468)	0.00541 (0.00439)
greca				0.0802*** (0.0165)	0.0744*** (0.0149)	0.0676*** (0.0141)	0.0677*** (0.0140)	0.0691*** (0.0138)	0.0644*** (0.0131)
grsp					0.0523* (0.0296)	0.0502** (0.0225)	0.0502** (0.0227)	0.0506** (0.0228)	0.0393* (0.0215)
grhealth						0.00223 (0.00591)	0.00223 (0.00592)	0.00221 (0.00603)	0.00175 (0.00673)
grenvp							-0.000588 (0.00526)	-0.000632 (0.00525)	-0.00277 (0.00538)
grpoas								-0.000336 (0.00186)	-0.00155 (0.00222)
grgps									0.0753*** (0.0227)
2001. year	0	1.768**	1.967***	2.029***	0.883***	1.694***	1.284*	1.107	1.603***
	(0)	(0.605)	(0.617)	(0.444)	(0.153)	(0.152)	(0.674)	(0.713)	(0.127)
2002. year	-0.152***	1.063	1.094	1.118*	0	0.968***	0.556	0.510	0.963***
	(0.0131)	(0.706)	(0.681)	(0.550)	(0)	(0.0979)	(0.703)	(0.719)	(0.0900)
2003 year	-2.101***	-0.525	-0.439	0.00665	-1.103***	-0.165	-0.579	-0.588	0.0272
	(0.145)	(0.539)	(0.531)	(0.377)	(0.203)	(0.208)	(0.633)	(0.642)	(0.231)
2004 year	0.365*	2.232***	2.385***	2.517***	1.445***	2.686***	2.275***	2.265***	3.129***
	(0.189)	(0.452)	(0.461)	(0.320)	(0.250)	(0.256)	(0.430)	(0.450)	(0.201)
2005 year	0.600***	1.904***	2.039***	2.149***	1.605***	2.336***	1.926***	1.896**	2.602***
	(0.184)	(0.569)	(0.568)	(0.425)	(0.385)	(0.209)	(0.649)	(0.655)	(0.299)
2006 year	1.320***	2.690***	2.833***	2.606***	1.492***	2.520***	2.108***	2.085***	2.737***
	(0.248)	(0.510)	(0.514)	(0.410)	(0.150)	(0.124)	(0.600)	(0.626)	(0.140)
2007 year	2.728***	4.221***	4.257***	4.504***	3.570***	4.820***	4.407***	4.395***	4.965***
	(0.481)	(0.326)	(0.314)	(0.250)	(0.331)	(0.215)	(0.531)	(0.545)	(0.224)
2008 year	-2.076***	-0.891	-0.883	-1.009**	-2.064***	0	-0.415	-0.439	0
	(0.208)	(0.578)	(0.552)	(0.472)	(0.0922)	(0)	(0.653)	(0.682)	(0)
2009 year	-12.55***	-10.06***	-9.778***	-9.040***	-10.19***	-8.907***	-9.319***	-9.320***	-8.666***
	(0.563)	(0.121)	(0.160)	(0.0993)	(0.653)	(0.468)	(0.298)	(0.312)	(0.399)
2010 year	-1.659***	0.388	0.580*	0.883***	-0.103	1.005***	0.590	0.576	1.470***
	(0.417)	(0.257)	(0.283)	(0.153)	(0.430)	(0.256)	(0.491)	(0.508)	(0.274)
2011 year	-2.077***	0.322*	0.376**	1.396***	0.620	2.461***	2.048***	2.056***	2.662***
	(0.503)	(0.155)	(0.153)	(0.0399)	(0.618)	(0.530)	(0.210)	(0.217)	(0.496)
2012 year	-3.951***	-1.291***	-1.328***	-0.803***	-1.340*	0.411	0	0	0.175
	(0.681)	(0.132)	(0.137)	(0.234)	(0.691)	(0.661)	(0)	(0)	(0.621)
2013 year	-3.245***	-1.325***	-1.274***	-1.025***	-1.956**	-0.664	-1.081***	-1.110***	-0.451
	(1.036)	(0.172)	(0.168)	(0.292)	(0.697)	(0.515)	(0.278)	(0.309)	(0.416)
2014 year	-2.057**	0	0	0.215	-0.530	0.647	0.235	0.229	0.634
	(0.773)	(0)	(0)	(0.207)	(0.586)	(0.434)	(0.237)	(0.250)	(0.404)
2015 year	-0.750	1.337***	1.431***	1.577***	0.696	1.103***	0.693*	0.684*	1.570***
	(0.453)	(0.225)	(0.234)	(0.179)	(0.428)	(0.327)	(0.377)	(0.387)	(0.319)
2016	-3.316***	-1.001***	-0.909***	0	-0.974	0.402	-0.0379	-0.0382	0.343



VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Model:Random effects Dependent variable: grgdp								
year									
Constant	(0.524) 5.269*** (0.594)	(0.146) 3.051*** (0.108)	(0.153) 3.031*** (0.106)	(0) 2.683*** (0.159)	(0.593) 3.459*** (0.533)	(0.486) 2.168*** (0.438)	(0.331) 2.582*** (0.231)	(0.336) 2.587*** (0.244)	(0.593) 1.932*** (0.392)
Observations	349	349	349	349	349	310	310	308	308
Number of groups	22	22	22	22	22	22	22	21	21
Unit effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country									
Time effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Year									
Robust	YES	YES	YES	YES	YES	YES	YES	YES	YES

Appendix 12. Results of random effects OLS and Driscoll-Kraay standard errors models on dependent variable grgdp

	(1)	(2)	(3)	(4)
	OLS Regression	OLS Regression	Regression with Driscoll-Kraay standard errors	Regression with Driscoll-Kraay standard errors
	Model:Random Effects. Dependent variable: grgdp	Model:Random Effects. Dependent variable: grgdp	Model:Random Effects Dependent variable: grgdp	Model:Random Effects Dependent variable: grgdp
Variables				
gredu	0.0533** (0.0219)	0.0379* (0.0209)	0.0533** (0.0232)	0.0379 (0.0233)
grrcar	0.142*** (0.0397)	0.121*** (0.0334)	0.142** (0.0514)	0.121** (0.0503)
grhaca	0.00980*** (0.00379)	0.00541*** (0.00145)	0.00980 (0.00615)	0.00541 (0.00439)
greca	0.0785*** (0.0265)	0.0644*** (0.0114)	0.0785*** (0.0167)	0.0644*** (0.0131)
grsp	0.0287 (0.0356)	0.0393 (0.0270)	0.0287 (0.0190)	0.0393* (0.0215)
grhealth	0.00509 (0.00703)	0.00175 (0.00409)	0.00509 (0.00888)	0.00175 (0.00673)
grenvp	-0.00143 (0.00334)	-0.00277 (0.00388)	-0.00143 (0.00570)	-0.00277 (0.00538)
grpoas	-0.00104 (0.00323)	-0.00155 (0.00281)	-0.00104 (0.00260)	-0.00155 (0.00222)
grgps	0.0635* (0.0384)	0.0753*** (0.0277)	0.0635** (0.0231)	0.0753*** (0.0227)
2001.year		-		1.603*** (0.127)
2002.year		-0.640 (0.690)		0.963*** (0.0900)
2003.year		-1.576 (1.085)		0.0272 (0.231)
2004.year		1.526*		3.129***

	(1)	(2)	(3)	(4)
	OLS Regression	OLS Regression	Regression with Driscoll-Kraay errors	Regression with Driscoll-Kraay standard errors
	Model:Random Effects. Dependent variable: grgdp	Model:Random Effects. Dependent variable: grgdp	Model:Random Effects Dependent variable: grgdp	Model:Random Effects Dependent variable: grgdp
Variables				
		(0.862)		(0.201)
2005.year		0.999		2.602***
		(0.964)		(0.299)
2006.year		1.134		2.737***
		(1.221)		(0.140)
2007.year		3.362***		4.965***
		(1.114)		(0.224)
2008.year		-1.603*		0
		(0.898)		(0)
2009.year		-10.27***		-8.666***
		(1.080)		(0.399)
2010.year		-0.133		1.470***
		(1.498)		(0.274)
2011.year		1.059		2.662***
		(1.159)		(0.496)
2012.year		-1.428		0.175
		(1.015)		(0.621)
2013.year		-2.054**		-0.451
		(0.981)		(0.416)
2014.year		-0.969		0.634
		(1.039)		(0.404)
2015.year		-0.0331		1.570***
		(1.099)		(0.319)
2016.year		-1.260		0.343
		(0.869)		(0.593)
Constant	2.757*** (0.435)	3.535*** (0.873)	2.757*** (0.753)	1.932*** (0.392)
Observations	308	308	308	308
R-squared		-		-
Number of country	21	21	21	21
Unit effects	YES	YES	YES	YES
Country				
Time effects	YES	YES	NO	YES
Year				
Robust	YES	YES	YES	YES



THE EFFECTIVENESS OF THE REGIONAL OPERATIONAL PROGRAMME IMPLEMENTATION ON THE RESILIENCE OF THE ROMANIAN COUNTIES

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Abstract

In Romania, for 2007-2013 financial exercise, the Regional Operational Programme (ROP) had the biggest financial allocation and an absorption rate of 93.5%. In order to establish if the projects financed from ROP have generated GDP growth and have managed to lower the unemployment rate on the local level, an exploratory study using secondary data analysis has been conducted. The study aims to analyze how ROP has contributed to the resilience of the Romanian counties considering the programme's impact on the social and economic development of the regions and its high absorption rate. The data collection process was based on official reports submitted by the national authorities. With the collected data, the evolution of the most important economic indicators at the local level during 2007- 2015 period has been calculated trying to establish a relation between the financial value of ROP projects implemented in each County and Region and the GDP growth rate and unemployment rate decrease.

Keywords: Regional Operational Programme, GDP rate growth, unemployment rate decrease

Introduction

The European regional policy was created because the European Union identified the necessity of reducing the economic and social disparities between its regions and the need for improving the economic environment of the regions which were in decline. Even if the European Union is continuously developing from economic and social perspectives, the differences between its regions are still significant. The regional policy is an expression of solidarity between member states and with the accession of new states, the policy, and its objectives evolved considering the needs of the new member states. With the multiple enlargements of the EU, the disparities between regions have increased due to the fact that countries

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with a relatively low level of economic development, as Romania and Bulgaria, joined the EU.

1. Romanian regions and their evolution during time

When Romania became a member state, the North-East development region was the most underdeveloped region from EU and Vaslui County was the least developed NUTS 3 in the EU in terms of GDP per capita at the purchasing power parity standard and unemployment rate. After the first financial exercise (2007-2013) since Romania has joined the EU and implemented projects with European funding, the Romanian regions managed to improve their economic indicators. In 2016, the North-East region was not the poorest region from the EU anymore, being surpassed by regions like Severozapaden from Bulgaria with a GDP per capita of 29% of the EU average, and followed by Mayotte from France (33%), Severen Tsentralen and Yuzhen Tsentralen from Bulgaria. The GDP per capita of the North-East region increased to 36% of the European average, still a low level compared with the developed European regions, but higher as it was in 2007. The situation improved in Bucharest-Ilfov, too. The region recovered its disparities and evolved from the transition regions to the more developed regions category (where the GDP per inhabitant is more than 90 % of the EU average according to the NUTS classification) (Eurostat, 2013, 2017). In 2016, Bucharest-Ilfov GDP per capita was 139% of the EU average, surpassing regions as Madrid (125%), Berlin (118%), Rome (110%) or Lisbon (102%) (Eurostat, 2017). Improvements could be observed in the West region, too, where the GDP per capita in 2016 was 60% of the European average. Another progress registered by the Romanian regions was the fact that in 2016, only 3 regions were in the top of the poorest regions of the EU: the North-East, the South-West Oltenia and South-Muntenia Regions (Eurostat, 2017). Even if Vaslui remained the poorest NUTS 3 from the EU (with 3054 euros in terms of purchasing power standards per capita) (Eurostat, 2017) and the development of Bucharest-Ilfov Region increased the disparities between the most developed region and the least developed one, it could be observed that all the Romanian regions registered an evolution.

The statistics showed that the Romanian regions registered a positive evolution in terms of GDP per capita which could lead to the idea that the living standards have improved and Romanian regions have chances to recover their disparities. This situation could be an effect of the implementation of European funding projects. The most important program for regional development as financial allocation is the Regional Operational Programme (ROP) and its effectiveness should be analyzed on both counties and regional levels.



2. The evaluation of the cohesion policy

The regional policy contributes through its measures to achieving two main objectives: higher GDP per capita and lower unemployment rate. This policy embodies the expression of EU solidarity towards less developed regions and countries. It not only helps countries with a lower development level compared to the EU average but also helps developed countries to raise their businesses, stimulate investments and transfer the economic and technological know-how, especially the regions where economic activities are in decline or stagnate. This policy is considered an investment policy and pursues economic growth and competitiveness, better life conditions, job creation and sustainable development objectives of the Europe 2020 strategy, in order to create a prosperous, competitive and sustainable Union. (European Commission, 2019).

Regional development policy as part of the cohesion policy of the European Union is one of the most intensely analyzed and assessed policies of the EU. Starting with the reform of the structural funds, which took place in 1988, followed by successive phases of regulators, it has been created a more rigorous system of monitoring and evaluation, covering all regional development interventions financed by the EU. Evaluation of Structural Funds programmes and cohesion are carried out at certain times of the programming cycle: ex-ante, to check its objectives, at the midpoint, in order to determine the need for corrective actions and ex-post, to evaluate the results. These national and regional evaluations are completed by impact studies, meta-evaluation and thematic evaluations carried out by the Commission, and through extensive research sponsored by the Commission and debates on concepts, methods and assessment practices (Bachtler *et al.*, 2006).

The growing importance given to the assessment of EU cohesion policy is part of a wider international context within the policy and the evaluation of the programs reflect the need to legitimize and justify the interventions of the Governments, which are different in intensity, from state to state (Pollitt, 1998; Furubo, *et al.*, 2002). In the context of the reforms that have taken place at the EU level, two factors help explain this trend.

Firstly, cohesion policy has become, in terms of budget, the most important and costly EU policy. In the mid-1980, the European Regional Development Fund represented only 7.5 percent of the Community budget (EUR 2.3 billion) (Michie *et al.*, 1997). Later in the period 2007-2013, the structural funds and the cohesion funds have had an allocation of 36% of EU planned expenditures (308 billion euros) (European Commission, 2019)

Secondly, the reform of the structural funds from 1988, gave greater influence to the European Commission, over the distribution of funds for regional development, with regard to the designation of eligible areas, approval of plans development of the Member States, management and delivery of programs, and control costs. This influence has been often a source of tension between the Commission and the Governments of the Member States, who had objections

regarding the spatial and thematic allocation of the European funding (Bachtler *et al.*, 1997; Bachtler *et al.*, 2004; 2005).

With greater importance given to evaluation, the methodology for the assessment of EU cohesion policy itself has been the subject of considerable debate. This is not surprising, considering the role of cohesion policy and the fact that there are not uniform approaches and methodologies regarding this policy. The current assessment methodologies vary and are of several types: bottom-up, top-down, based on surveys, impact analysis based on aggregate models, as well as studies on the implementation of the structural funds. In addition, there are differences regarding the process of data collecting, the implementation of the surveys and the types of questions. This is only natural, given the diversity of regional policy instruments and purpose, as well as the various institutional arrangements related to the administration and implementation of this policy. But the evaluation of the policy and the implementation of the operational programmes appear to be uncoordinated and raises concerns regarding comparability and consistency of results (Bachtler *et al.*, 2006).

The results reported on the effects of the implementation of EU cohesion policy showed that the policy had a major contribution to job creation, investments and other outcomes (European Commission, 1996; 2001; 2004). However, the poor quality of the monitoring data, the difficulty of isolating the effects attributed to EU funds, as well as other issues and methodological limitations, showed that some of the reported results have been treated with skepticism, particularly, to the extent on which national or regional convergence can be attributed to the cohesion policy of the EU (Ederveen *et al.*, 2002; Tarschys, 2003; Sapir *et al.*, 2004).

Beside the existing disputes concerning the results and impact of the programmes funded by the structural and Cohesion Funds, there were also debates about other effects of EU cohesion policy, such as the effectiveness for the community. Authors (see Bachtler, 2004) argued that the regulatory obligations, together with the Commission's role in promoting „best practices” with regard to evaluation, has encouraged a greater commitment concerning the use, assessment and effective management monitoring programmes (European Commission, 2002, 2004), although, again, the influence of the structural funds in this field has been questioned (ECOTEC, 2003).

In this context, it is necessary to study the impact of the projects financed by the Regional Operational Programme, as part of cohesion policy, to observe directly if the results are similar to those carried out by the Commission and if the programme had the expected outcome in the counties of Romania.

3. The Regional Development Policy in 2007-2013 financial exercise

The regional development policy and structural funds aim to transform and modernize the economies of less developed EU countries and regions in order to prepare them for the competition from the single market and the Euro area. The



budgetary constraints from the 2007-2013 financial exercise, caused by the international financial crisis and the rigorous and selective process of resources allocation have raised concerns regarding the possibility of not achieving the objectives of economic and social cohesion, a situation that could have affected Romania, too. Moreover, the threat of a global recession in 2009 caused specific negative effects on the Romanian economy. The major risks resulted from the excessive deficit procedure that the EU could have started against Romania due to the budget deficit recorded by our country in 2008 (more than 5% of GDP). The budget deficit caused the limitation of national co-financing and the reduction of the structural funds regarding allocation and absorption (Zaman *et al.*, 2009).

The financial resources allocated for 2007-2013 in order to support cohesion policy have been decided after tough negotiations, to a maximum value of 0.45% of European GDP. In consequence, Spain, Portugal, Greece, and other new Member States have asked for an increased budget, considering it insufficient in order to achieve the objectives of cohesion policy, but they encountered resistance from the net contributors' countries (Germany, UK, Sweden, Austria, and the Netherlands). Also, in the methodology for funds allocation, the concept of absorption capacity has been introduced, which limited the transfer of EU funds to a maximum of 4% of the national GDP of each country. A side effect of the establishment of the absorption capacity was a decreased level of aid per capita for the poorest countries, contrary to the allocation methodology principle, which implied that those countries should be a priority. To partially compensate the negative effect of these measures and to facilitate the absorption of funds by the new Member States, the maximum co-financing rate level from the EU has increased from 80 to 85 percent and the „n + 2” rule became „n + 3” and certain eligibility criteria have been simplified (Zaman *et al.*, 2009).

Even in these circumstances, various impact studies based on econometric models, have revealed conflicting results concerning the possible effects of the structural funds on the Member States' economies. Some studies presented a positive economic impact (see Le Gallo *et al.*, 2011, Moll and Hagen, 2010, Rodriguez-Pose and Novak, 2013) other negative results (see Ederveen *et al.*, 2006, Boldrin and Canova, 2001) while other studies have reported inconclusive results (see, Dall'erna and Le Gallo, 2008; Deardorff, 2004; Rodriguez-Pose and Fratesi, 2004).

4. The regional policy and regional resilience

Resilience represents the ability of a system to return to its initial state after a shock or to find a new equilibrium by replacing a series of parameters with new ones. The most important features of resilience are the absorptive capacity, the adaptability and the capacity of transformation. Resilience is the result of these three capabilities, each leading to different results: persistence, incremental adaptation or transformational responses. These three results can be linked (conceptually) with different intensities of the shock and changes. If the intensity

of the initial shock is lower, is more likely for the household/community/system to withstand and absorb the impact without any consequence on the state/status/functions (Bene *et al.*, 2014).

Authors (Bene *et al.*, 2014) showed that a resilient system promotes and encourages diversity, flexibility, inclusion and participation, recognition of social values, acceptance of change and uncertainty, lifelong learning, community involvement, economic and social justice, the transverse perspective of the events (resilience is built through social networks, political, economic and cultural local to global) and an efficient governance. Observing the characteristics of a resilient system, it should be considered that the regional policy could help in strengthening the resilience of the regions. The purpose of the regional policy is very complex and includes the development of the economic activities, their diversification, the stimulation of the private sector investments, the decrease of the unemployment rate and better living conditions for the population (Ministry of Regional Development and Public Administration, 2018) so through its investments, this policy could have a positive impact over the regional resilience.

Other authors concluded that resilient regions are characterized by industrial diversification, greater export capacity, reduced financial constraints and developed human and social capital (Di Caro, 2015). The results obtained by them have led to the idea that economic resilience could explain the evolution of a region by providing information on issues of regional development (authors presented information about the resilience of Italian regions, dividing them into two categories: very resilient and vulnerable regions).

Other authors (Aiginger, 2009) suggested that resilience is a goal that should be integrated into growth and employment strategies. The contribution of private firms and of an economic policy which is growth and stability orientated, are both indispensable and indeed support each other. In his opinion, “economic resilience should be achieved through five channels (or policy areas), namely (i) more resilient structures (ii) increasing economic growth (iii) more emphasis on longer-term goals (by firms, analysts and economic policy) (iv) avoiding factors which actually cause economic crises (v) institutions and incentive schemes which serve to stabilize the economy”.

Another aspect which affects regional resilience is governance, which is a very important factor which could support economic development and growth. More than that, regional governance is associated with effective and efficient use of public expenditure (including EU funding) and poor regional governance leads to a lack of efficiency and effectiveness in delivering regional policy to foster economic growth. The Quality of Government Institute of Gothenburg University created The European Quality of Government Index (EQI) which measures the institutional quality available at the regional level in the European Union, capturing the citizens’ perceptions and experiences with corruption, and the extent to which they rate their public services as impartial and of good quality in their region of residence. The index measure has a mean of zero for the EU28 average quality of



governance such that countries and regions which have better than average governance achieve values greater than zero whereas values below zero indicate a regional quality of governance below the EU average. The regional quality of governance index for 2013 shows that Romanian regions exhibit poor governance as in all regions the index is below zero. With values between -1.10 in South-Muntenia region and -1.98 in South-East region (The European Quality of Government Index, 2017). Poor governance affects the absorption of European funding concomitant with regional resilience.

5. Methodology of research

The present research studies the effectiveness of the Regional Operational Programme and its impact on the resilience of the Romanian counties because strong economies at the local level will help at strengthening regional resilience, too. An exploratory study using secondary data analysis has been conducted in order to establish if the projects financed from ROP have generated GDP growth and have managed to lower the unemployment rate on counties' level.

The data collection process was based on official reports submitted by the Ministry of Regional Development and Public Administration and by the National Institute of Statistics. With the collected data, the evolution of the most important economic indicators in all 41 Romanian counties in 2007- 2015 financial period has been calculated, trying to establish a relation between the financial value of ROP projects implemented in each county and the GDP growth rate and unemployment rate decrease.

The main objective of the research was to establish if projects financed by ROP had a positive impact on the unemployment rate and over the GDP from the local level. The economic evolution of Romania's counties has been studied because the evolution of the unemployment rate and of the GDP growth from each county influence directly the regional resilience. The research has started from the idea which assumes that the counties which registered the highest GDP growth and the highest decrease in the unemployment rate are the most resilient ones. The counties with low unemployment rates and a GDP which is continually growing could be better prepared for economic shocks and stressors and could have the necessary means in order to recover after a new economic crisis.

The purpose of the research consists of the analysis of the economic evolution of Romanian counties from 2007 until 2015 in order to observe the effectiveness of ROP financed projects on the counties' economies. Hierarchies of the counties from the number of implemented projects and their total financial value perspectives have been made, to observe if the counties with the highest number of implemented projects and with the highest financial value allocations are the ones which registered the highest GDP growth and unemployment rate decrease.

The study has two specific objectives:

O1: To identify if there are significant differences between counties in terms of projects financed from ROP and their values.

O2: To reveal the existence of a direct relationship between the number and value of ROP projects and counties' economic development (measured by GDP growth and unemployment rate decrease perspectives).

The research has been started from the following hypothesis:

H1: The counties which implemented ROP projects with the highest financial values should register the highest GDP rate growth and the largest decrease in the unemployment rate.

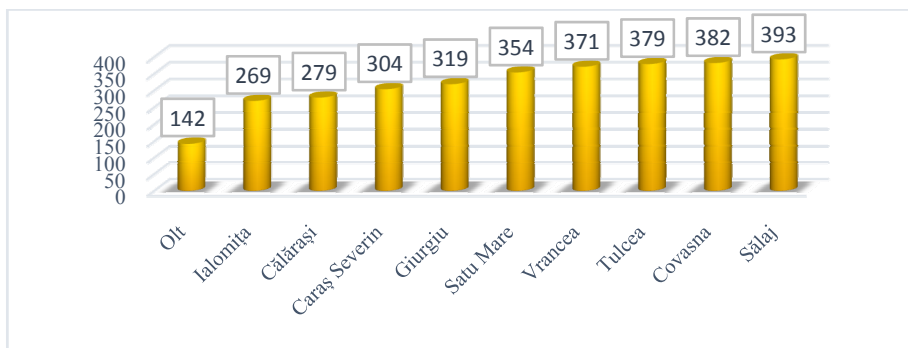
H2: There are significant differences between counties regarding the number of implemented projects and their financial values.

The analysis of the economic evolution of Romanian counties has been studied from 2007 until 2015 because that was the last year of ROP financed projects implementation.

6. Main findings of the study

In order to study the evolution of the Romanian counties from the economic perspective, the main indicators which have been analyzed were the GDP growth, the unemployment rate, the value of the ROP financed projects and the number of projects implemented in each county. The purpose of the analysis was to establish the existence of a relation between the value of the projects and the evolution of the two analyzed indicators. If the counties with the highest value of the implemented projects have registered the highest GDP growth and unemployment rate decrease, it could be affirmed that ROP has a significant role in strengthening the resilience of the local economies.

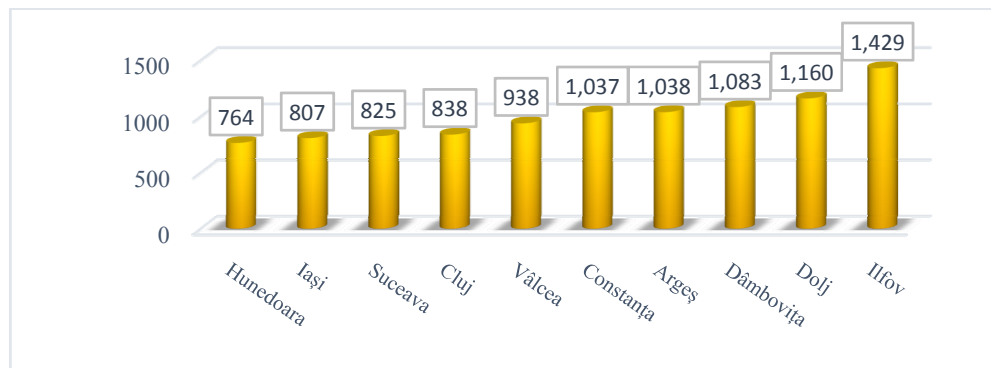
Figure 1. Counties with the lowest projects' values (million LEI) during the 2007-2015 period



Source: own representation, adapted by the Ministry of Regional Development and Public Administration (2019)



Figure 2. Counties with the highest projects' values (millions LEI) during the 2007-2015 period

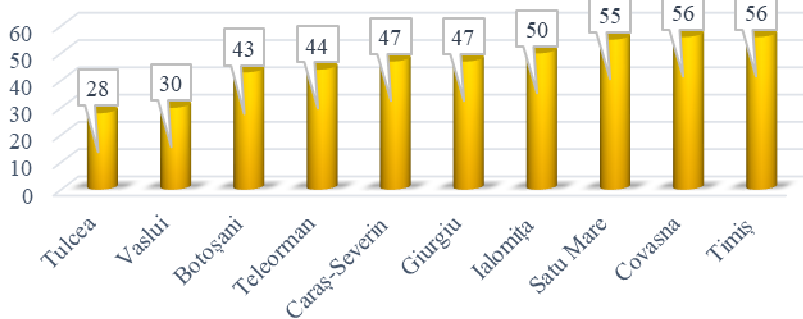


Source: own representation, adapted by the Ministry of Regional Development and Public Administration (2019)

Figure 2 shows the hierarchy of the counties with the highest financial values of the implemented projects. Ilfov County occupied the first place. In Ilfov were implemented projects with a value of more than 1.4 billion Lei. It could be observed that the first ten counties which implemented projects with the highest financial values were from: North East region (Iași and Suceava County), Bucharest-Ilfov region (Ilfov County), West region (Hunedoara County), North West region (Cluj County), South-West Oltenia region (Vâlcea and Dolj Counties), South Muntenia region (Argeș and Dâmbovița Counties) and South East region (Constanța County). These counties implemented projects with total values between 760 million Lei and 1.4 billion Lei. It could be observed that Ilfov County implemented projects with a total financial value of ten times higher than the value of the projects implemented in Olt County.

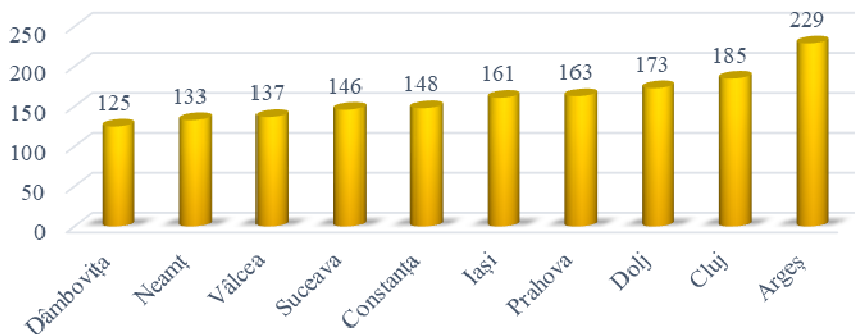
In 2007-2013 financial exercise in Romania, there were implemented 3773 projects financed from the Regional Operational Programme. The smallest number of projects was implemented in Tulcea County (28 projects) representing 0.74% of the total number of projects from the national level. Figure 3 shows the counties which implemented the fewest projects and it could be observed that they are part of all the development regions. The last ten counties implemented between 28 and 56 projects, representing between 0.74% and 1.48% of the total number of projects from the national level.

Figure 3. The last ten counties by the number of implemented projects during the 2007-2015 period



Source: own representation, adapted by the Ministry of Regional Development and Public Administration (2019)

Figure 4. The first ten counties by the number of implemented projects during the 2007-2015 period



Source: own representation, adapted by the Ministry of Regional Development and Public Administration (2019)

Figure 4 shows the first ten counties by the number of implemented projects. It could be observed that Argeș County from South Muntenia region implemented the biggest number of projects: 229, representing 6.07 % of the projects from the national level. The projects from Argeș County had a value of more than one billion Lei. Ilfov County which registered the highest financial value of the projects implemented 101 projects representing 2.68% of the total number. The first ten counties presented implemented between 125 and 229 projects representing between 3.31% and 6.07% of the total number of implemented projects.

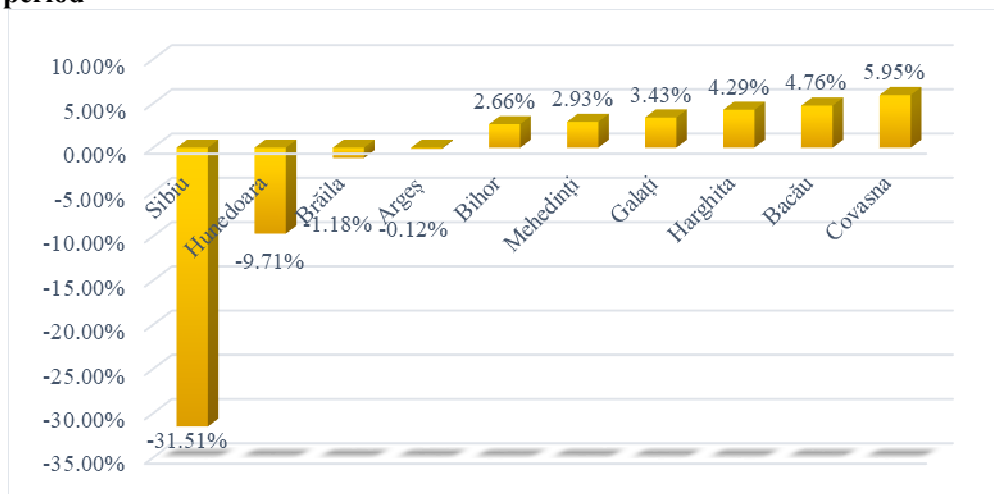
Argeș County implemented 6.07% of the total number of implemented projects, followed by Cluj County (4.9%), Dolj County (4.59%), Prahova County



(4.32%) and Iași County (4.27%). The counties which implemented more than 4% of the total number of projects are from different regions: North-West, South-West Oltenia, South Muntenia, and North-East regions. Regarding the counties which implemented the fewest projects, it could be noticed that Tulcea and Vaslui Counties implemented under 1% of the total number of projects (0.74% and 0.80%) and 17 counties implemented between 1.14% and 1.99% of the total number of implemented projects (see Annex 1).

In order to study the effectiveness of the Regional Operational Programme over the Romanian counties economies, the evolution of the GDP and of the unemployment rate have been analyzed. The data about the three indicators have been collected for 2007 and for 2015, from the National Institute of Statistics. The data have been gathered for the first year from the financial exercise 2007-2013 and for the last year of ROP implementation in order to establish if, at the end of ROP implementation, the economies of the Romanian counties have been influenced by the programme.

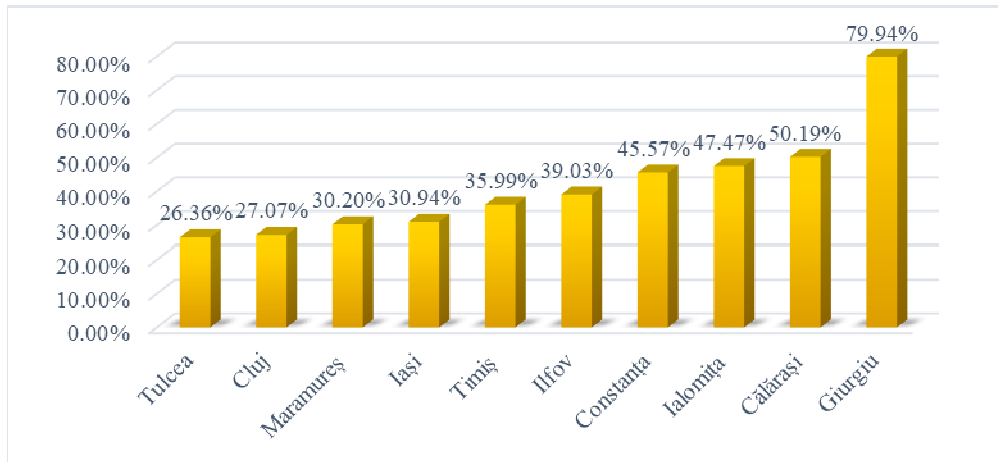
Figure 5. The last ten counties by the GDP growth during the 2007-2015 period



Source: own representation, adapted by the National Institute of Statistics (2019)

The figures presented above show the percent change in the GDP in 2015 compared with 2007. In figure 5, there are presented the last ten counties by the GDP growth. Figure 6 presents the first ten counties by GDP growth. It could be observed that in 2015 compared to 2007, only in four counties, the GDP decreased. In 2015, Sibiu County registered a GDP with almost 32% less than in 2007. Hunedoara County registered a decrease of the GDP with almost 10%, Brăila County with 1.18% and Argeș county with 0.12% 38 of 41 counties registered a positive growth rate of the GDP, the highest growth rate being registered in Giurgiu County (79.94%) and the largest decrease in Sibiu County (-31.51%).

Figure 6. The first ten counties by the GDP growth during the 2007-2015 period



Source: own representation, adapted by the National Institute of Statistics (2019)

It could be observed that in two counties the GDP was with more than 50% higher than in 2007 (Călărași and Giurgiu Counties). It is important to mention that even if these counties registered a GDP with more than 50% higher than in the first studied year, these two counties implemented a small number of projects (47 projects in Giurgiu County and 77 in Călărași County). More than that, both counties were situated in the last places concerning the financial values of the implemented projects (Călărași County was situated on the 39 positions out of 41 with a value of the implemented projects of almost 279 million Lei and Giurgiu County situated on the 37 positions with projects of almost 319 million Lei). The counties situated on the last places regarding the GDP growth were from all the development regions, excepting Bucharest-Ilfov region. The counties which registered the highest GDP growth were situated in six development regions, and none of them were from the Center and South-West Oltenia regions. It could be observed that in 15 counties the GDP was with more than 20% higher in 2015 compared with 2007. It should be mentioned that only four of the ten counties which registered the highest financial values of the implemented projects could be found in the hierarchy of counties which registered the highest growth of the GDP (Constanța, Iași, Ilfov and Cluj Counties). Moreover, four of the counties with the lowest financial values of the implemented projects have been placed on the hierarchy of counties with the highest GDP growth (Ialomița, Călărași, Giurgiu and Tulcea Counties).

Another aspect revealed was the fact that Olt County which situated on the last place regarding the financial values of the implemented projects, registered a GDP growth of 15.54%. The analysis of the percent change in GDP for 2015 compared with 2007 revealed that the majority of the Romanian counties,



regardless of the number of implemented projects and their values, registered a GDP rate growth. It could not be established a pattern regarding the GDP growth and the number of projects and their financial values, due to the fact that counties with low financial values of the projects registered high levels of GDP growth. Even if it could not be demonstrated that the ROP influenced directly the evolution of the GDP, it could be affirmed that ROP had an impact over the counties economies. It should be taken into consideration that the economic situation of the Romanian counties was influenced by the economic crisis from 2008 and that could be a reason of the impossibility of establishing a direct relationship between the GDP growth and ROP implementation. Even if the financial crisis had a negative impact on the economic situation of the counties, the evolution of the GDP showed that Romanian counties became more resilient. Even if it could not be established that ROP influenced directly the economic development of the Romanian counties it could be affirmed that ROP had a positive impact over the counties economies and it helped at strengthening their resilience.

Figure 7: The first eight counties by the unemployment rate evolution during 2007-2015 period

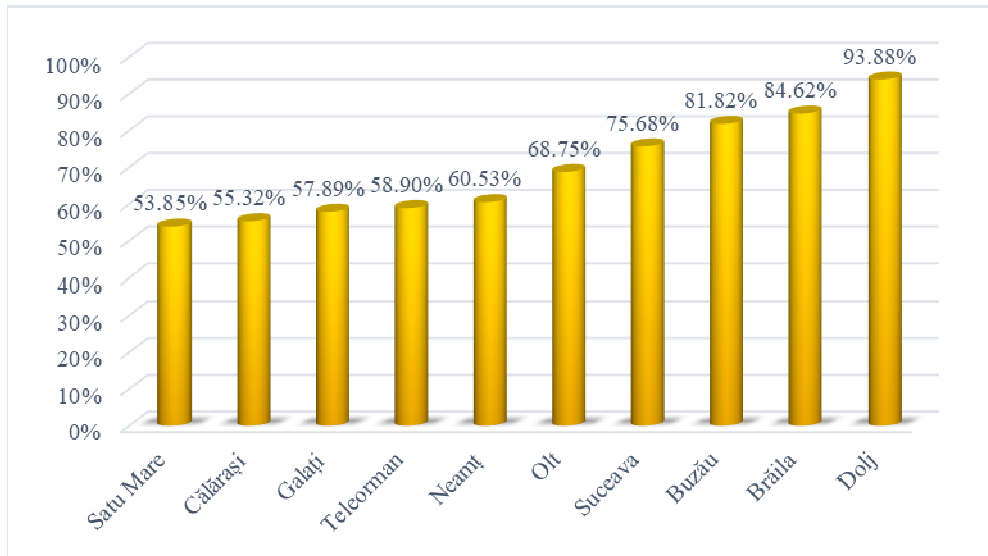


Source: own representation, adapted by the National Institute of Statistics (2019)

Regarding the unemployment rate evolution, the situation was not similar to the GDP evolution. The counties which registered a decrease in the unemployment rate are presented in figure seven. The analysis of the unemployment rate showed that it decreased only in eight counties and in the other 33 counties the indicator increased. The situation could have been influenced by the economic crisis which had a negative impact on the business environment. A large number of small firms closed and the big companies resorted to layoffs due to financial constraints. Even if ROP created 24.582 new workplaces according to the Ministry of Regional

Development and Public Administration, its impact on the unemployment rate has not been significant.

Figure 8: The last ten counties by the unemployment rate evolution during 2007-2015 period



Source: own representation, adapted by the National Institute of Statistics (2019)

The data showed that in 11 counties the unemployment rate increased with more than 50%, the most significant increase being registered in Dolj County from the South-West region. The counties which registered the highest increases in the unemployment rate were from regions with a low level of economic development: the North-East, South-East or South-West regions. It could be observed that four counties from those which registered high GDP growth (Cluj, Iași, Timiș and Ilfov counties), registered a decrease in the unemployment rate, too. It should be mentioned that Caraș-Severin County which ranked 39th in terms of financial values of the implemented projects, managed to rank first regarding the unemployment rate decrease and registered a GDP growth of 47,48%. A different situation could be observed at Dolj County which ranked second concerning the financial value of the implemented projects but ranked first on the unemployment rate increase. As far as Ilfov County was concerned, it ranked first at the value of implemented projects but ranked 7th at the unemployment rate decrease. Another aspect revealed by the analysis was that in 28 counties the unemployment rate increased with more than 10%, which showed that the economic crisis had a strong negative impact. Even if it could not be established a direct relationship between the financial intervention of ROP and the decrease of the unemployment rate, it could be observed that four counties from those which implemented projects with



the highest financial values registered unemployment rate decrease, too, which could lead to the idea that ROP had a positive impact over the evolution of the studied indicator.

Table 1. Correlation between the value of the implemented projects and the GDP growth and unemployment rate's evolution

		The value of the implemented projects	The GDP Growth	The unemployment rate's evolution
The value of the implemented projects	Pearson Correlation	1	-.039	-.094
	Sig. (2-tailed)		.808	.558
	N	41	41	41
The GDP Growth	Pearson Correlation	-.039	1	-.287
	Sig. (2-tailed)	.808		.068
	N	41	41	41
The unemployment rate's evolution	Pearson Correlation	-.094	-.287	1
	Sig. (2-tailed)	.558	.068	
	N	41	41	41

Source: own representation

Table 2. Correlation between the number of the implemented projects and the GDP growth and unemployment rate's evolution

		The number of implemented projects	The GDP Growth	The unemployment rate's evolution
The number of implemented projects	Pearson Correlation	1	-.017	-.070
	Sig. (2-tailed)		.916	.664
	N	41	41	41
The GDP Growth	Pearson Correlation	-.017	1	-.287
	Sig. (2-tailed)	.916		.068
	N	41	41	41
The unemployment rate's evolution	Pearson Correlation	-.070	-.287	1
	Sig. (2-tailed)	.664	.068	
	N	41	41	41

Source: own representation

In order to establish if the ROP financed projects influenced directly the evolution of the GDP as well as the unemployment rate, correlations between these variables have been computed. The results showed that there was not a direct relation between the variables due to the value of Sig. (over 0.05). The data showed that the counties' economic development was not influenced directly either of the value nor of the number of the implemented projects.

Conclusions, research limitations and future trends of research

The study revealed that, for the studied period, 40 of 41 counties registered a GDP rate growth, the highest rate growth being registered in Giurgiu County and the largest decrease in Sibiu County. As the unemployment rate was concerned, it decreased only in 8 counties, a situation that could be influenced by the economic crisis.

Regarding the relation between ROP projects financial value and the GDP rate growth, we could assume that ROP played a significant role in the economic development of the Romanian counties but a direct relationship between the two variables could not be proven. Concerning the unemployment rate, it could be observed that the counties with the highest value of ROP projects registered a slower increase of the unemployment rate but neither in this case, a direct relationship could be established. The data validated partially the first two hypotheses of the study.

The study revealed that there were significant differences between counties in terms of projects financed by ROP and their values. Regarding the counties, the difference between the number of implemented projects was very high. Tulcea County implemented the lowest number of projects (28) and Argeş County implemented eight times more projects (228). Regarding the financial values of the implemented projects, Olt County had the lowest financial value and implemented projects with a value of 142 million Lei and Ilfov county had the highest financial value of the implemented projects of 1.4 billion Lei, which represented ten times more than the financial value of the projects implemented in Olt county,

In conclusion, the ROP played a major role in the development of the Romanian counties and regions and it could be assumed that the programme helped at strengthening the resilience of local and regional economies. Even if the unemployment rate increased in the majority of counties and regions, it could not be affirmed that ROP did not have the expected results. It should be taken into account that 2007-2013 financial exercise was the first period in which Romania had been allocated European funding and in the same period, the local and regional economies were influenced by an economic shock- the economic crisis which affected the normal trajectory of the economy. The study results showed that ROP has an impact on regional and local resilience through its effect on GDP growth.

A limitation of the research is that we presumed that ROP had the most important impact on the economic growth and implicitly, on the resilience of the Romanian counties. Another limitation is that the implementation of the operational programmes and the local resilience are influenced by good or poor governance. As future research, a study regarding the impact of governance on European funds absorption will be made because we would have a better picture of the situation and we could establish if there is a direct relation between European projects implementation and resilience.



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Annex 1. Macroeconomic indicators and data regarding the ROP implementation in Romanian counties in 2007-2015 period

Counties	Projects' value (LEI)	No.of implemented projects.	GDP 2007 (Mil.LEI)	GDP 2015 (Mil.LEI)	Δ%	Unemployment rate 2007 (%)	Unemployment rate 2015 (%)
Alba	570.500.219	73	8066,3	11776,4	46	5,7	5.6
Arad	699.815.705	58	9469	15321,7	62	2,3	2.4
Argeş	1.037.793.839	229	14340,9	19079	33	4.8	5.1
Bacău	744.806.073	108	10033,7	14001	39	4.4	6.6
Bihor	579.962.213	73	11861,1	16218,9	37	2.4	3.5
Bistrița Năsăud	558.506.047	67	5069,6	7483,3	48	2.4	3.5
Botoșani	647.770.135	43	4686,1	6913	47	4	4.9
Braşov	427.999.008	111	13987	23442,6	68	5	3.8
Brăila	657.036.990	67	5859,3	7712,4	32	3.9	7.2
Buzău	449.350.643	85	6408,2	10258,8	60	5.5	10
Caraș-Severin	303.998.916	47	5176,8	7634,7	47	6.8	4.2
Călărași	278.686.912	77	3274,4	6550,5	100	4.7	7.3
Cluj	838.341.736	185	18420,6	31178,2	69	3	2.3
Constanța	1.037.378.750	148	16907,6	32782,9	94	3.5	3.6
Covasna	382.044.339	56	3617,6	5105,5	41	7	5.7
Dâmbovița	1.082.506.018	125	8181,4	12629,6	54	5.3	7.2
Dolj	1.159.967.594	173	10795,2	17230,8	60	4.9	9.5
Galați	442.647.929	87	9157,6	12615,8	38	5.7	9
Giurgiu	318.971.840	47	2769,9	6638,9	140	4.5	6.5
Gorj	463.607.874	75	7244,6	11310,8	56	5.9	7.7
Harghita	428.491.610	84	5303,1	7367,1	39	5.1	5.5
Hunedoara	763.843.982	92	9045,1	10878,5	20	4.8	6.1
Ialomița	269.346.245	50	3367,8	6615,3	96	6.9	7.9
Iași	806.787.267	161	12473,5	21755,5	74	5.6	4.5
Ilfov	1.428.643.976	101	10329,6	19129,4	85	1.4	1.2
Maramureș	532.114.880	108	6972,7	12092,2	73	3.4	3.5
Mehedinți	592.369.363	65	3736,6	5122,8	37	8.1	11
Mureș	650.393.734	103	10312,6	15595,1	51	4.3	4.8
Neamț	618.084.861	133	6653,3	9732,6	46	3.8	6.1
Olt	141.777.971	76	5617,5	8645	54	4.8	8.1
Prahova	616.489.288	163	16741,9	28086,3	68	3.8	4.3
Sălaj	393.418.562	88	3857,9	6087,1	58	4.4	5.4
Satu Mare	354.442.198	55	5448,1	8609,7	58	2.6	4
Sibiu	596.567.376	62	9437,2	8609,7	9	3.1	3.7
Suceava	825.369.696	146	8914,1	12771	43	3.7	6.5
Teleorman	462.277.696	44	4809,8	7047,6	46	7.3	11.6
Timiș	637.379.517	56	18556,1	33611,6	81	1.6	1.3
Tulcea	378.823.654	28	3278,7	5518,3	68	3.8	5.5
Vaslui	478.032.061	30	3830,3	6297,2	64	9.7	11.2
Vâlcea	937.881.678	137	6784,4	9758,3	44	3.4	4.7
Vrancea	370.898.676	57	4683,4	7296,1	56	3.8	5.5

PRICE STABILITY - A MAIN OBJECTIVE OF EUROPEAN MONETARY POLICY

Tudor Mugurel AURSULESEI^{*}, Liviu-George MAHA^{}**

Abstract

According to Article 127 of the Treaty on the Functioning of the European Union, the main objective of the European System of Central Banks is to maintain price stability. Through a monetary policy strategy, the Governing Council aims to stabilize inflation to the lowest level, below 2% in the medium term. The EU Member States have assumed the transposition of monetary policy into national policy and compliance with the inflation threshold. However, the implementation of European policies lies with the political decision-makers of each state, who most often place their interests above the interests of the Union. The research aims to analyse how the states have implemented European monetary policy. Monetary policy imposed an annual inflation rate of maximum 2%. In 2018, only 12 of the 19 European Monetary Union Member States managed to maintain the inflation rate below 2%.

Keywords: Eurozone, inflation rate, European monetary policy, Maastricht Treaty

Introduction

The inflation rate plays a key role in the development of the European Union and the euro area. This indicator is a criterion of real convergence, also found in the Maastricht Treaty. In order to move towards an optimal monetary area, the European Monetary Union must pay close attention to price stability across the Union. Any disturbance of inflation in a Member State has repercussions on the whole area.

The research aims to analyse the European monetary policy. We consider such an analysis to be appropriate, especially now in a period of impasse for the European Union and the Eurozone. We want to see how the states have succeeded in implementing the monetary policy and whether they manage to stabilize their inflation below 2%. In order to accomplish this goal, we identified three main objectives: describing European monetary policy, identifying methods for

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implementing monetary policy decisions and analysing the degree of compliance with the monetary policy.

The current paper aims to answer the following question: Do Member States follow the decisions of the European System of European Banks imposed through the monetary policy?

The structure of the paper aims to facilitate the research as a whole. In the first part, we observe the main features that define the European monetary policy and how a common monetary policy has been reached. The second part is devoted to identifying the methods for implementing monetary policy decisions through monetary policy instruments. The last part is devoted to analysing the degree of monetary policy implementation of the already member states and those that are about to join the Eurozone.

The research methodology combines both qualitative and quantitative analysis. The theme is topical but also very complex. Therefore, it is necessary to have several study methods to provide both a current analysis of the subject and to define the future perspectives of price stability in the Eurozone. The methods to be used in this research correspond to the purpose and objectives set. In the first two parts we focus on the qualitative analysis. The documentary analysis will help us collect data on the concepts, phenomena and processes analysed in the research. The purpose of the documentation is to create a theoretical framework that allows us to correctly separate the concepts used in the research, as well as the evolution of the European monetary policy. In the last part we will use the quantitative analysis. Through statistics, we outline the main developments and trends of the inflation rate among European countries. The scientific approach will be based in particular on the reports and documents of the European Central Bank.

For a monetary area to work in an optimal way, the Member States' economies need to resemble or move towards a common target. Normally, this adjustment of the economy takes place through the exchange rate. To join a monetary area, states have to decide how the national economy wants to align with the economies of member countries.

Once admitted to the European Union, Member States undertake the implementation of the EU monetary policy. The Euro Area Policy is coordinated by the European System of Central Banks, comprising the European Central Bank and the national central banks of all the Member States of the European Union.

1. European Monetary Policy

The European Monetary System functioned until the euro came into being. The reduction of the inflation rate in the participating states was one of the most important achievements of the European Monetary System (Cernea, 2009, p. 106). Even if the system was abandoned theoretically when the euro was implemented, an improved version of the system is still in place - the European Monetary System II.

In order to better understand the European Monetary System, we need to see what its main features are. First of all, there is the ECU - European Currency Unit, a common currency unit based on a foreign exchange basket, all of which comprise the member countries' currencies. Each Member State's currency was part within a certain percentage of the ECU component. Starting with the following of some pivotal rates between the currencies of the Member States and the ECU, a fixed but adjustable exchange rate was established between the currencies of the participating States. The course changed only with the acceptance of all Member States and, in addition, it had to fluctuate off the pivot rate within a maximum of $\pm 2.25\%$. Another feature was the existence of some divergence indicators for each currency participating in the European Monetary System. The role of these indicators was to show the evolution of that currency against the other currencies of the system. A lasting but extremely important feature was the creation of a pool of shared reserves of the participating States and the possibility of granting mutual credits in the event of imbalances in the balance of payments. This solidarity between states was made possible through the European Monetary Cooperation Fund.

The European Monetary System suggested creating a monetary union in three alternative forms: by carrying out a "shock therapy", by a progressive and cooperative method or by a competitive method (Ignat, 2002, pp. 109-112). The progressive method aimed at developing the European Monetary System from close to near. This is the method that has been chosen in the development of this union. On the other hand, the competitive method pursued the development of the European Monetary System through a competitive relationship between the Member States. This method leads to the dissemination of good practices and the desire to develop the Member States and the entire system. The European Monetary System is a huge leap into the unknown (Eijffinger and de Haan, 2000).

On 1st January 1999, the euro was adopted by 11 European countries: Belgium, Austria, Finland, France, Germany, Ireland, Italy, Luxembourg, Portugal, the Netherlands and Spain. On January the 1st, 2001, Greece, which also met the convergence criteria, joined the monetary union. On 1st January 2002, the euro banknotes and coins were officially launched and the other national currencies of the Member States of the European Monetary Union were withdrawn from use. Following the official appearance of the euro, other states have also joined the single currency: Slovenia (2007), Cyprus and Malta (2008), Slovakia (2009), Estonia (2011), Latvia (2014), Lithuania (2015). In addition to the 19 European Union countries that joined the Euro Area, there are also other countries using the euro as a result of the agreements with other Euro Area countries, under the approval of the Council of the European Union: The Vatican and San Marino (both countries have an agreement with Italy and use customized coins), Monaco (agreement with France, while also using customized coins), Andorra (uses euro coins from France and Spain). Without the agreement of the Council of the European Union, the euro is also used in Montenegro, Kosovo and in the former



French, Portuguese and Spanish colonies that have retained their dependence on European countries.

Even if they met all the criteria for joining the Eurozone, the UK and Denmark received a derogation from not adhering to the single currency. Britain and Denmark have not renounced their monetary sovereignty, but have joined the community (Padoa-Schioppa, 2000, pp. 168-181). Also, although it has not formally received any derogation, Sweden has no intent to join the European single currency either.

The main objective of the optimal monetary policy is reaching the price stability. This objective has its origins in Article 127 (1) of the Maastricht Treaty. At the same time, the Euro system supports the achievement of the general economic objectives in the European Union. Among these general objectives, we can recall employment and balanced economic growth among the Member States. However, considering the order of priorities, price stability is the most important objective. The Maastricht Treaty establishes that monetary stability will materialize in a high rate of employment and a favourable economic environment through price stability. Maintaining stable prices on the basis of coherent policy is the basis of a harmonious economic development. Given the fact that monetary policy can affect real short-term activity, the European Central Bank needs to control excessive fluctuations in output and employment (Tratatul de la Maastricht, 1992)¹. Price stability contributes to a high level of economic development and a high level of employment within the Union.

When the European Central Bank had to choose what monetary strategy it should follow, it had two options: to set a monetary or an inflation target. In both scenarios, the ultimate goal is price stability. In the first case, namely the monetary target, the objective to increase the rate of one or more monetary aggregates is announced, with the ultimate goal being price stability. In the second case, inflation targeting, the government imposes an explicit inflation target on the Central Bank and delegates the bank governor to meet the target (Eijffinger and de Haan, 2000, pp. 55-60).

Nevertheless, the Maastricht Treaty does not describe how the objective of maintaining price stability should be achieved. However, in 1998 the Governing Council of the European Central Bank established that price stability is defined as the year-on-year increase of the Harmonized Index of Consumer Prices (a method of calculating the inflation rate) by a maximum of two percent (Eijffinger and de Haan, 2000, p. 64). The Governing Council has also stated that, in pursuit of price stability, it aims to keep inflation rates lower but close to 2% in the medium term.

A transparent price mechanism contributes to price stability. Changes in relative prices can easily be observed, which gives the population much more

¹ Tratatul de la Maastricht (1992), available at: <http://eur-lex.europa.eu/legal-content/RO/TXT/?uri=LEGISSUM%3Axy0026> [Accessed 8 Decembrie 2017].

relevant information on consumption and investments, thus creating a more efficient distribution of resources.

2. Common monetary policy instruments

The European Central Bank (ECB) is the only issuer of the euro currency. Taking this into account, we can conclude that it is the monopoly supplier of the monetary base. The central bank may influence the conditions by which banks can trade on the money market. At the same time, the ECB can influence the cash-flow situation, as well as interest rates. In its operations, the ECB aims to ensure proper functioning of the money market and to help credit institutions meet their liquidity needs in a smooth manner.

In addition to the functions described in the Maastricht Treaty, the European Central Bank also pursues a number of guiding principles. Firstly, we need to remember operational efficiency. In other words, there is an increased adaptability of the operational framework to allow monetary policy decisions to synchronize as quickly as possible with short-term money market rates. Another principle requires all credit institutions to be treated equally, regardless of the criteria that distinguish them from each other.

The system operates on the principle of decentralization. The European Central Bank is the one that draws the directions of monetary policy, but the Central Banks of the Member States are the ones that carry out the transactions and implement those directions.

The monetary policy instruments are (Eijffinger and de Haan, 2000, p. 66):

- Deposit facility for collecting liquidity from banks at rates lower than market rates. The rate of this facility acts as a lower limit for short-term money market rates;
- The marginal lending facility or the lombard facility that provides banks with liquidity at rates that typically exceed market rates. The rate of this facility thus acts as an upper limit for short-term money market rates;
- Fixed and fixed-term open market operations for targeting and adjusting very short-term money market rates;
- Mandatory minimum reserves with an average monthly averaging facility.

There is no evidence that the first pillar in the formation of the European Central Bank, namely the prominent role of monetary aggregates, has any relevance in the formulation of monetary policy in the Euro Area. ECB policy can be modeled on the inflation targeting behaviour (Mihov, 2001, p. 401).

Decisions on monetary policy are influencing price levels through the transmission mechanism. Unfortunately, it is considered to be deficient, because it is characterized by long delays in implementation, instability and uncertainty (ECB, 2019).

For example, suppose the European Central Bank wants to change the official interest rate. With the monopoly power over the issuance of the euro, the



ECB provides money-system funds and pays interest. This intervention of the ECB will influence banks and interest rates on the money market. Infrequently interest rates on loans and deposits will also be influenced by the rate between customers and banks. These changes can affect the expectations of economic agents towards future developments, which can influence the evolution of prices. Changes in monetary policy decisions influence agents and states' decisions to save or invest, but also the population's decision to consume or invest (Orosz, 2018). At the same time, changes in consumption and investment will influence domestic demand for goods and services relative to domestic supply. When demand exceeds supply, there will be a rise in price pressure.

Even if we are talking about a monetary union, the health of the banking system varies considerably from country to country. As domestic demand is limited, banks should focus on expanding their business in other Member States. However, few banks have started lending outside their country (Kashyap and Stein, 1997).

3. Monetary policy in the Member States of the European Monetary Union

Today, twenty years after the emergence of the European Monetary Union, we consider it appropriate to analyze the degree of monetary policy implementation by member countries. We aim to see how the inflation rate has evolved in the euro area member countries compared to the 2% ceiling imposed by monetary policy. The main question that arises, once they join the European Monetary Union, is whether, the states have tried to keep the inflation rate under control. Accounting for the level of inflation in 2018, we divided the sample into groups: countries with inflation rates between 0% -1%, between 1% -2% and over 2%.

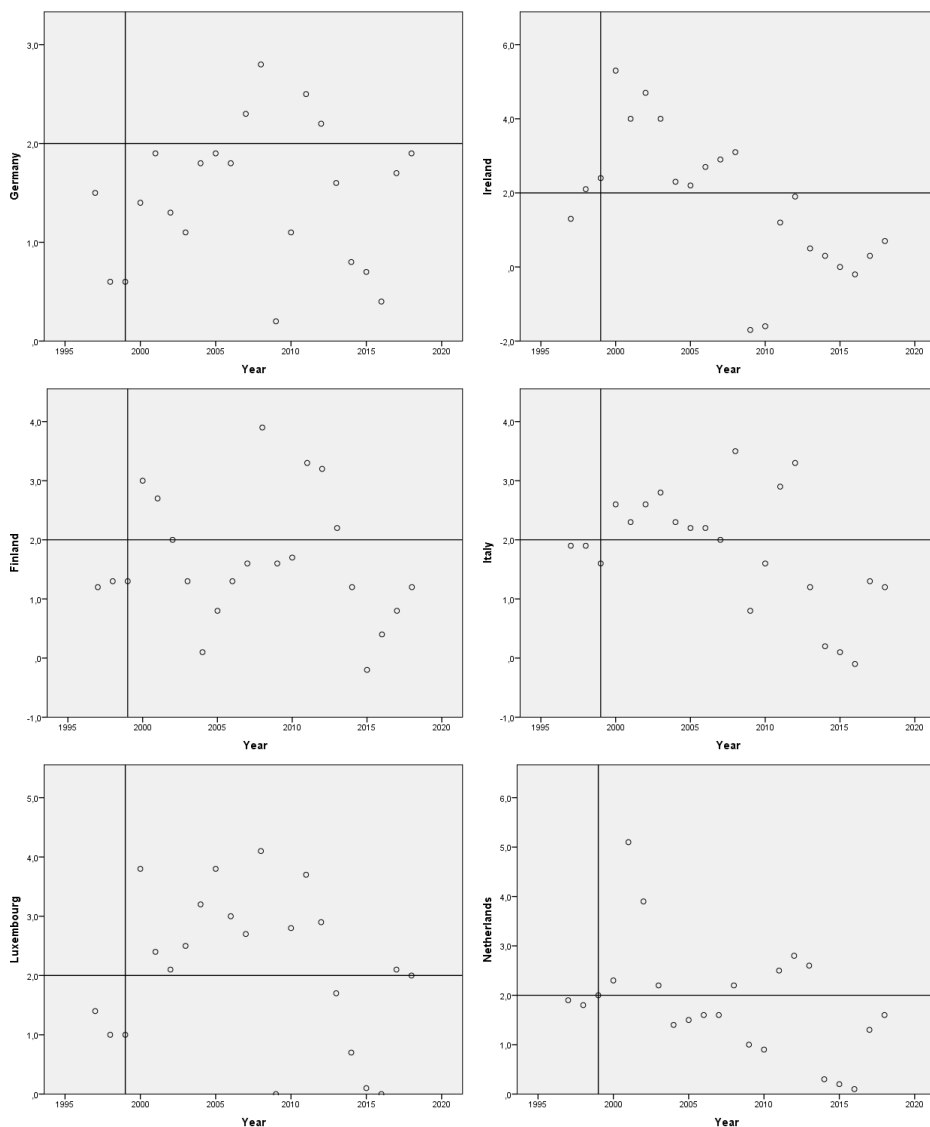
3.1. The founding states of European Monetary Union

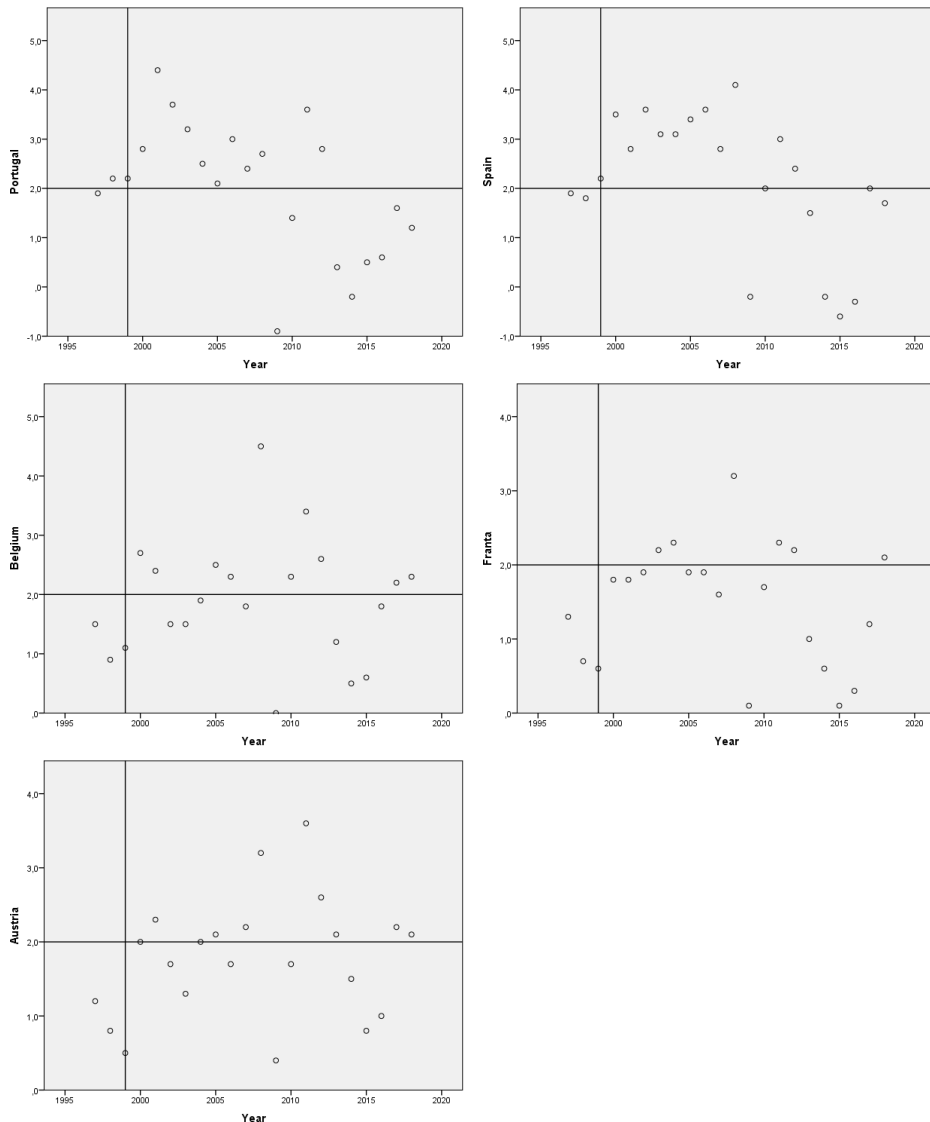
To begin with, we have proposed an analysis of the founding states of European Monetary Union: Ireland, Germany, Finland, Italy, Luxembourg, Netherlands, Portugal, Spain, Belgium, France and Austria.

First of all, we have **Germany**, which can be considered the engine of the whole union. It is the state with the most developed economy and a very well-established banking system. The European Central Bank was established on the basis of the German Central Bank. Since it joined the Eurozone, Germany has managed to keep its inflation rate below 2% almost at all times. As it can be seen in Figure 1, if at the time of the accession the inflation rate was 0.6%, in 2018 Germany the inflation rate is 1.9%. In these 19 years, the inflation rate exceeded the 2% threshold only four times. The highest inflation rate was recorded in 2008, when inflation stood at 2.8%. An inflation rate of over 2% can be explained by simply analyzing the events that took places during that period of time. Between

2007 and 2008, the high inflation was the result of the global financial crisis, which had also affected the German economy. Between 2011-2012 it happened due to Germany's role as a motor of the euro area.

Figure 1. Evolution of the inflation rate between 1997 and 2018 in the founding states of European Monetary Union





Source: own processing based on Eurostat data (Eurostat, 2019)

As we have seen earlier, during the Greek and Cypriot crisis, German authorities tried saving the two states from a possible bankruptcy. The price paid by Germany for aiding the two countries was an increased domestic inflation. Either way, on a whole, the monetary policy seems to be best implemented and respected by the German state.

Ireland, is one of the founding countries of the European Monetary Union. As it can be seen from the Figure 1, in 1999 Ireland's inflation was at 2.4%, the rate on the upward trend. Although Ireland has assumed European monetary

policy, after the accession, the inflation rate has continued to increase, reaching a peak of 5.3% in 2000. Since joining the Eurozone, Ireland was given 10 years to stabilize its inflation rate in the range between (-2%) and 2%. It was only in 2009 that the inflation rate fell to -1.7%. The deflationary tendencies can be explained by the crisis faced by Irish banks. They registered huge losses, the state could no longer support them and turned to foreign aid. The European Central Bank has provided liquidity, thus sacrificing major bank creditors who have had to bear the financial losses. Ireland's recession created the need to implement a rescue plan and trigger early elections. Populist measures and the desire to protect themselves as a result of the increased budget deficit have led Ireland to a collapse (Peet and La Guardia, 2017, p. 77). The intervention of the European Central Bank was a decisive one. One effect of the Irish crisis was the establishment in 2011 of the European Stability Mechanism, which is a permanent fund of financial assistance. In 2018 Ireland had an inflation of 0.7%, the smallest of the member countries of the European Monetary Union.

Finland joined the euro area in 1999 when it recorded an inflation rate of 1.3%. In 2018, the inflation rate was 1.2%. As with Germany, there is an increase in inflation over the 2% ceiling during the economic crisis and during the Greek crisis. In addition, Finland recorded an increase in inflation immediately after joining the euro area. Currently, the inflation trend is an upward one, but within the limits of monetary policy.

Another founding country of the European Monetary Union, **Italy** entered with an 1.6% inflation rate and reached 1.2% in 2018. Even if, in 1999 it respected the monetary policy objective, it grew afterwards. It was only in 2009, when Italy managed to return to an inflation rate below 2%, but it felt the Eurozone crisis in 2011-2012 and the inflation rate started to rise again. Italy has been and is a problematic country, whose economy is extremely sensitive to changes. Another reason is the high level of corruption (Del Monte and Papagni, 2001, p. 14). This is precisely why it is found in the category of PIIGS countries. Although, foreign lending has also managed to save Italy in some instances, since 2016, the country is facing a deflation.

At the time of accession, the inflation rate in **Luxembourg** was 1%. After that, the inflation rate was on an upward trend, reaching a maximum of 4.1% in 2008. Only in 2013, the inflation rate has fallen below 2%, thus respecting the European monetary policy. In 2018, inflation stood at the 2% limit. Even if it is a small state with one of the highest GDP per capita and a high living standard. We can see that Luxembourg fails to maintain price levels at a constant level, the inflation rate often exceeding the level of 2% imposed by the European Central Bank.

In 1999, the inflation rate in the **Netherlands** was 2%, but rose to 5.1% in 2001. In 2018, the inflation rate was 1.6%. In the 19 years since joining the euro area, the Netherlands managed to maintain its inflation below 2%, and when it



exceeded this ceiling, the increase was not a big one, except when in 2008 it felt the financial crisis and in 2011 when the union faced the Greek crisis.

Portugal and Spain resemble in many ways. Firstly, both are founding members of the European Monetary Union. In 1999, both Spain and Portugal had an inflation rate of 2.2%. None of the countries managed to keep their inflation rate below 2% by 2009, when both went directly to deflation. Both countries are part of the PIIGS group. Like the other countries in this group, they represent an increased risk of vulnerability to economic shocks. Both Spain and Portugal have gone through more difficult times, each of whom needed the intervention of the European Central Bank. In 2018, the inflation rate in Spain was 1.7%, while in Portugal it was 1.2%. From Figure 1, we can see that the two countries have hardly managed to lower their inflation rate below 2%. Nowadays, an upward trend in the inflation rate can be observed.

Belgium is one of the founders of the euro area. In 1999, the inflation rate was 1.1%. After the accession, the inflation rate fluctuated a lot. In 10 of the 20 years we analyzed, the inflation rate was over 2%. However, the overrun of the ceiling often fell below one percentage point. The only exceptions being 2008, with a maximum of 4.5% and 2011 with a 3.4% inflation. As with the other analyzed countries, these peak points were reached due to the global financial crisis and the Eurozone crisis. In 2018, the interest rate was 2.3%, but the trend of the last years is an upward one.

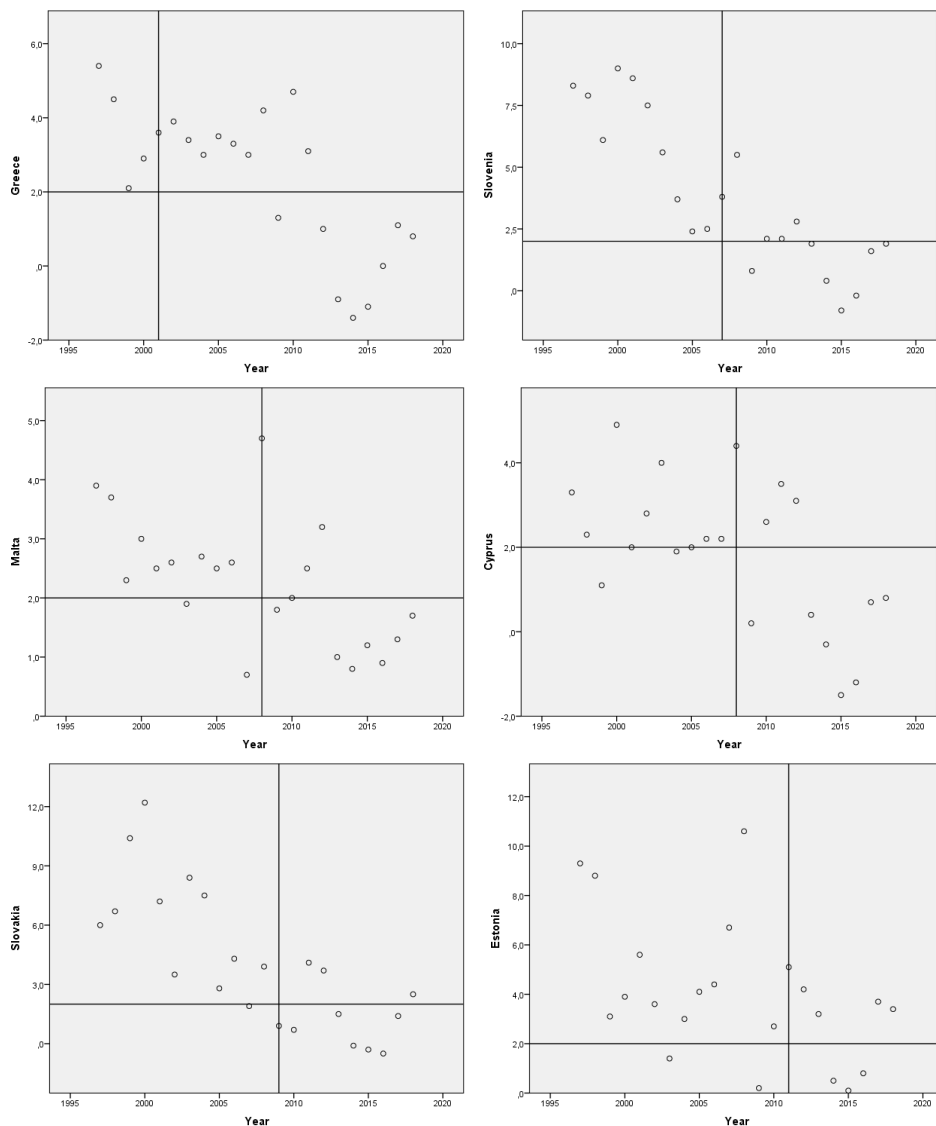
France, the second engine of the Euro Zone, after Germany, had an inflation rate of 0.6% in 1999. During the reviewed period, the inflation rate was below 2%. However, in 2008, in full financial crisis, France reached an inflation rate of 3.2%. In 2018, inflation stood at 2.1%. This growth over the 2% limit was mainly due to national instability. Numerous protests and strikes have influenced the French state to resort to some populist measures that have led to a rising inflation.

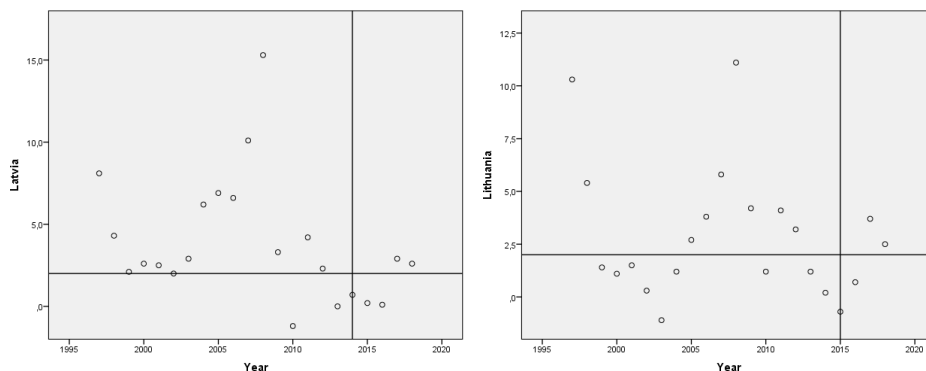
Austria, the last founding member of the euro area to be reviewed, had an inflation rate of 0.5% in 1999. Austria tried to meet the 2% margin but was deeply affected by both the financial crisis of 2008 (3.2%) and the Greek crisis in 2011 (3.6%). In 2018, the inflation rate was 2.1%. The Austrian government has tried to keep inflation below 2%, but has been affected by the inflation fluctuations in other member countries of the European Monetary Union.

3.2. States that joined the European Monetary Union after its formation

The second category, which the member states that joined the European Monetary Union after its formation. Here we find most of the member countries: Greece, Slovenia, Malta, Cyprus, Slovakia, Estonia, Latvia and Lithuania.

Figure 2. Evolution of the inflation rate between 1997 and 2018 in States that joined the European Monetary Union after its formation





Source: own processing based on Eurostat data (Eurostat, 2019)

In Figure 2, we can observe the evolution of the inflation rate in 7 of the 11 founding countries of the European Monetary Union. As we can see, even if all fall within the 2% ceiling, each state has its own specificity.

As we can see in Figure 2, a problematic country within the European Monetary Union was **Greece**. It joined the euro area in 2001. That year, the inflation rate was 3.6%. Greece managed to reduce it below the 2% ceiling only in 2012, when it recorded an inflation rate of 1%. Just like in the case of Ireland, there are three years in which inflation has dropped sharply below 0%. The year 2018 places the inflation rate at 0.8%. The maximum level after the accession (4.7%) was recorded in 2010. This is due to the extremely populist measures of the Greek government during the economic crisis. These two correlated events led Greece to a bankruptcy step. There has been little talk of Greece leaving the Eurozone. Grexit was wanted both by the euro member states and by the Greek government, which was not willing to adopt austerity measures. The only state that came to grips with was Germany, which was scared of a possible spread of instability throughout the union (Peet and La Guardia, 2017, pp. 83-92). At the pressures of Germany, which has taken on the role of a mediator, the European Central Bank has agreed to pump money into the Greek economy. At the same time, Germany also provided loans and assisted the Greek government in implementing austerity policies. These events explain the fall in inflation from 2012 and then the appearance of deflation. The Greek crisis was the biggest crisis the Eurozone so far. However, even if the inflation rate was below 2% in 2018, there is a rapid growth trend in this economic indicator. It feels that like the Greek state has returned to the populist practices of rising public spending.

Slovenia joined the euro area in 2007. At the time of accession, the inflation rate was 3.8%. Slovenia came after a bad period in which the inflation rate was very high. In 2000, the inflation rate was 9%. Following its accession to the European Monetary Union, Slovenia managed to keep its inflation rate under control, dropping below 2% in 2009. In 2018, the inflation rate was 1.9%. But, like in the other countries in this category, the inflation rate is on an upward trend.

Malta joined the euro area in 2008, with an inflation rate of 4.7%, the maximum of the analyzed period. Starting from 2013, the inflation rate remains below 2%. In 2018, the inflation rate was 1.7%.

Cyprus joined the European Monetary Union in 2008 and the inflation rate was 4.4%. Even if the inflation rate stood above 2% before accession, the country assumed monetary policy and managed to lower its inflation rate. From 2013 onward, it was below 2% per year. In 2018, the inflation rate was only 0.8%. Even if it is not part of the PIIGS group, Cyprus was a troubled country after the financial crisis. Since the Cypriot economy is closely linked to Greece's economy, the Greek crisis has also been felt in the Cypriot banking system. This, plus an incident that led to the closure of the largest power plant, has brought Cyprus to a collapse in 2012. Again, the European Central Bank was actively involved in the "rescue" of Cyprus. The control system imposed on banks, the austerity measures and the capital infusion of the European Central Bank led to the appearance of deflation. In Cyprus, capital control was introduced for the first time, which means that the value of one euro in Cyprus was no longer the same as one euro in another country (Peet and La Guardia, 2017, p. 126).

Slovakia joined the euro area in 2009, when it recorded an inflation rate of 0.9%. Figure 2 shows how adherence to the single currency and common monetary policy has positively influenced the Slovak economy. Before the accession, the inflation rate has always exceeded the 2% ceiling (except for 2007). The record inflation was registered in 2000, when Slovakia faced an inflation rate of 12.2%. After accession, it can be noticed how Slovakia tried to fall within the 2% margin, the Eurozone crisis (2011-2012) being the only period in which it deviates from this ceiling. In 2018, the inflation rate was 2.5%. The explanation for this is the upward trend in the inflation rate in all member countries, but also the populist measures implemented before the presidential elections in 2019.

Estonia joined the European Monetary Union in 2011. At the time of accession, the inflation rate was 5.1%. Prior to joining the euro area, Estonia faced high inflation rates. The peak in the period under review was recorded in 2008, when inflation reached 10.6%. This is mainly due to the financial crisis that affected the country in that year. As we can see in Figure 2, Estonia is far from respecting common monetary policy. In 2018, the inflation rate was 3.4%. Only between 2014-2016, Estonia had an inflation lower than 2%.

The second Baltic country joining the euro area was **Latvia** in 2014. Prior to accession, Latvia has consistently held inflation rates above 2%. The maximum value was recorded in 2008 when, due to the economic crisis, inflation reached 15.3%. At the time of accession, Lithuania's inflation went down to 0.7%. Even if we can see Latvia's tendency to keep the inflation rate below 2% in 2018, it reached 2.6%.

The most recent member of the European Monetary Union is **Lithuania**, a country that joined in 2015. In that year, the inflation rate was -0.7%. Unlike the other two Baltic countries, before accession, Lithuania faced fluctuations in the



inflation rate. During the analyzed period, we can see how the inflation rate fluctuated between -1% and 5% on average, but also peaked in 2008 when the inflation rate reached 11.1%. It is difficult to estimate whether Lithuania will or may not comply with the common monetary policy. In the three years after accession, Lithuania managed to keep the inflation rate below 2% only once. In 2018, the inflation rate was 2.5%.

For all analyzed countries, there are two periods when the 2% ceiling imposed under the common monetary policy is abandoned. Firstly, 2008 is the year of the peak of the economic crisis, the only country that kept its inflation rate below 2% was Malta, but in return it saw a much higher value of this indicator this year, compared to the previous year. The second period is that of 2011-2012, where there were a series of crises in the euro area, the most important being the crisis in Greece. We can see how the effects of the Greek crisis spread in all countries, with very high increases in the inflation rate compared to 2010. A last common feature is encountered towards the end of the analyzed period. The inflation rate in all states is on an ascending trend in 2018, being very close to the 2% ceiling.

As we have seen, 7 of the 19 Member States of the European Monetary Union in 2018 did not comply with the ceiling of 2% inflation rate imposed by the common monetary policy. Reasons for non-compliance are varied. First of all, we can see a trend of rising inflation within the union in recent years. Older countries within the union go far beyond monetary policy. Some states are increasing the inflation due to populist measures taken by national governments before various election campaigns. At the same time, the newly adhered to the Eurozone countries did not go through the accession shock. The analysis range being low, we cannot predict the trend of the inflation rate.

4. Common monetary policy of the Member States of the European Union but not part of the European Monetary Union

At the same time, looking forward, are the Member States of the European Union, but not members of the Eurozone, prepared to join in? Have they implemented the European monetary policy?

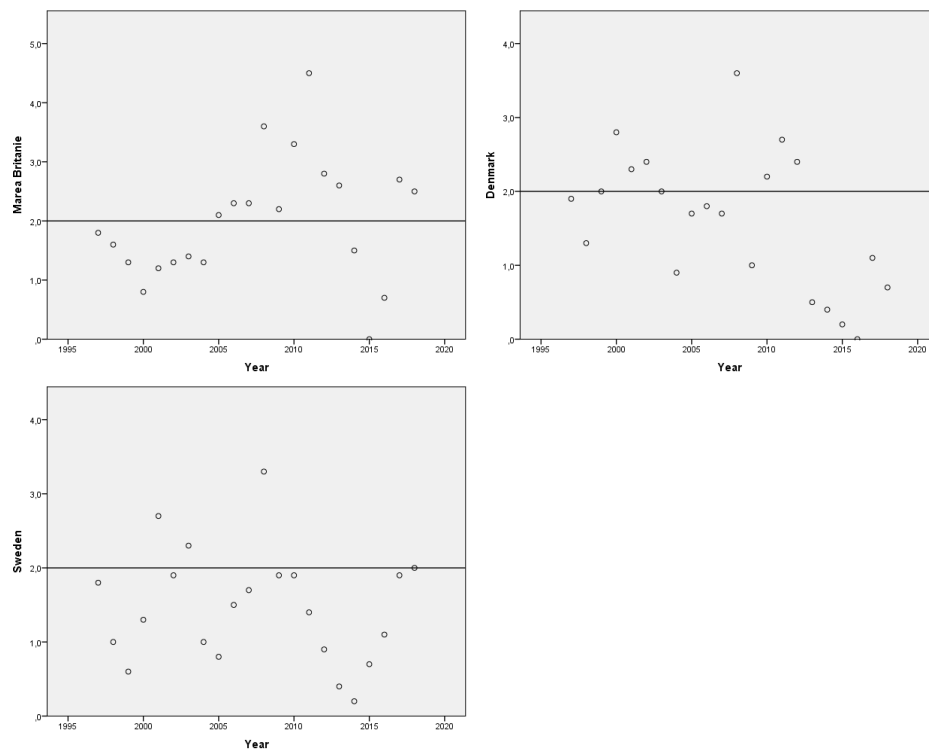
We considered it appropriate to extend the analysis to the EU member countries that have not yet adopted the euro. We see the situation of the countries that have decided not to join the euro area, then of the countries that have announced their desire to join the Eurozone.

4.1 The monetary policy in states that have refused to accede to the European Monetary Union

Even though the European Monetary Union is the next step towards joining the European Union, three states have refused to adopt the common currency. On the one hand, we have the UK and Denmark, which have also received a

derogation from the European Commission in this respect. On the other hand, we have Sweden, which has not received any derogation, but has decided not to join the monetary union. However, we aim to observe whether these three countries meet the main objective of the common monetary policy.

Figure 3. Evolution of the inflation rate between 1997 and 2018 in states that refused to accede to the European Monetary Union



Source: own processing based on Eurostat data (Eurostat, 2019)

According to Figure 3, during the period under review, **Britain** has not made considerable efforts to maintain its inflation rate below 2%. Between 1997 and 2004, the London government maintained the inflation rate below 2%, but after that period the inflation rate rose to even 4.5% in 2011. It is interesting to note that this maximum value overlaps with the moment of the Eurozone crisis. Even if it is not part of the European Monetary Union, Britain's economy has suffered from the crisis by which the single currency has passed. The only years in which inflation fell below 2% was 2014-2016. In 2018, the inflation rate was 2.5%.

Unlike the UK, **Denmark** has largely managed to maintain inflation below 2% over the period under review. Denmark did not feel the crisis inside the



Eurozone, but was hit by the global financial crisis of 2008, when inflation reached 3.6%. In 2018, Denmark respected the common monetary policy, with an inflation rate of 0.7%.

Surprisingly, but among all the countries of the European Union, **Sweden** is the country with the most constant level of inflation. It is the only country that has managed to respect the common monetary policy over this entire time. Exceptions being 2001, 2003 and, of course, 2008, the year when inflation reached the maximum of 3.3% due to the global financial crisis. In 2018, the inflation rate was 2%. Even if they refused to join the European Monetary Union, the three countries managed to maintain a low inflation rate. In 2018, only Britain exceeded the 2% ceiling. Of note is Sweden, which managed to have the most constant inflation rate across the European Union.

4.2 The monetary policy in EMU candidate countries with an inflation rate below 2%

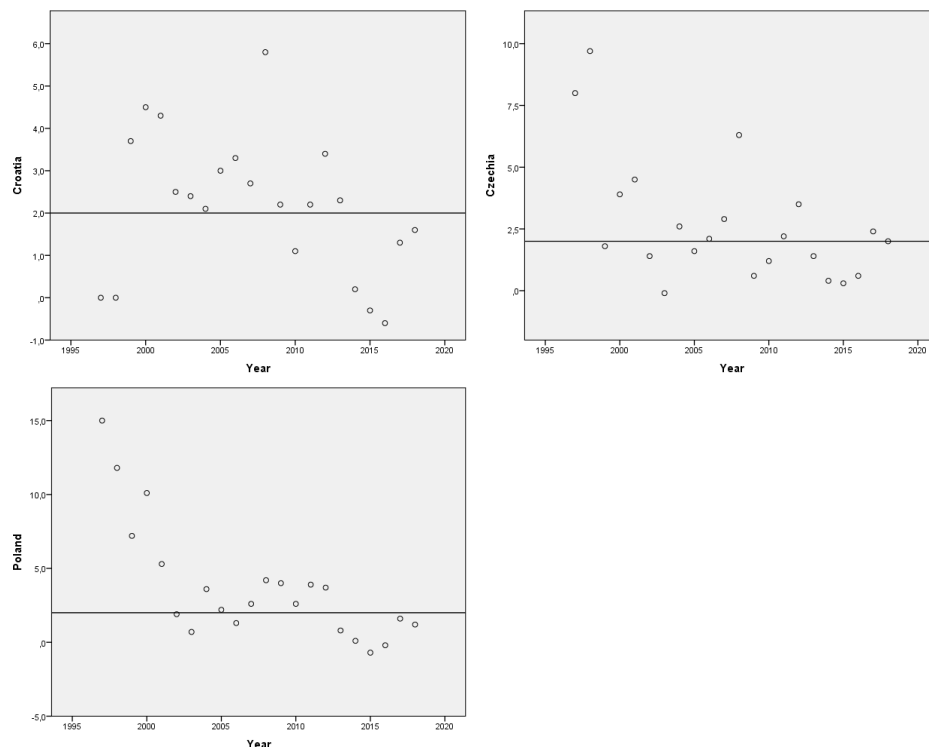
Among the member countries of the European Union but not yet members of the European Monetary Union, we note the three countries which in 2018 had an inflation rate below 2%: Croatia, the Czech Republic and Poland. Croatia and the Czech Republic are the countries that have announced their intention to join the single currency as soon as possible.

Croatia had an inflation rate of 1.6% in 2018. Until 2014, Croatia faced increased inflation, which exceeded the 2% ceiling. During the analyzed period of time, the maximum value was recorded in 2008, when the inflation rate was 5.8%. Between 2014 and 2018, Croatia has managed to meet the common monetary policy objective.

According to Figure 4, the inflation rate in the **Czech Republic** experienced major fluctuations. The country has moved from periods in which it kept inflation below 2% at periods when it has been steadily rising. The peak was recorded in 1998 when the inflation rate was 9.7%. In 2018, the inflation rate was 2%.

Unlike Croatia and the Czech Republic, during the analyzed period, **Poland** managed to record a downward trend in inflation. If in 1997 the inflation rate was 15%, in 2018 it reached 1.2%. From 2013, Poland respects the main objective of the common monetary policy.

Figure 4. Evolution of inflation rate between 1997 and 2018 in candidate countries to join the European Monetary Union, which had inflation below 2% in 2018



Source: own processing based on Eurostat data (Eurostat, 2019)

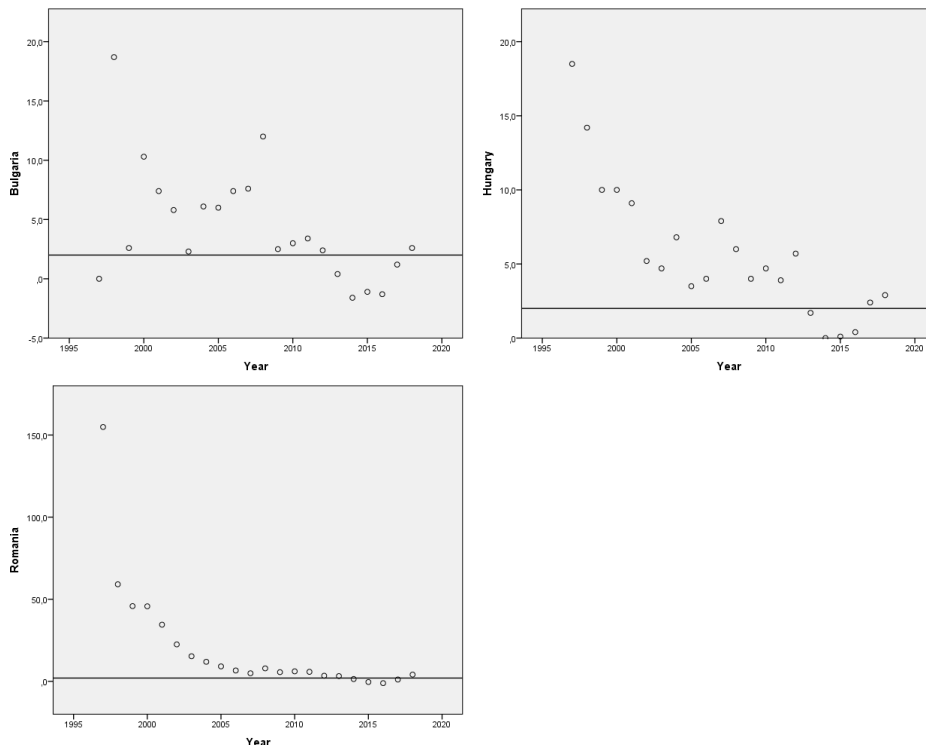
Following this inflationary trend, all three countries have the best chance of moving towards the Eurozone.

4.3 The monetary policy in EMU candidate countries with an inflation rate above 2%

On the other hand, we have three member states of the European Union, but non-members of the European Monetary Union, which in 2018 had the inflation rate above 2%.



Figure 5. The evolution of the inflation rate between 1997 and 2018 in the candidate countries to join the European Monetary Union, which had an inflation above 2% in 2018



Source: own processing based on Eurostat (Eurostat, 2019)

Bulgaria had an inflation rate of 18.7% in 1998. Only in 2013 it managed to lower the inflation rate below 2%. However, in 2018, inflation rose again to 2.6%.

Hungary also started in 1997 with an inflation rate of 18.5%. From figure 5, we can see how Hungary managed to lower its inflation rate, yet by 2012, failed to bring it below 3.5%. In 2018, the inflation rate was 2.9%.

As shown in the figure above, the inflation rate in **Romania** has a very strange path. In 1997, Romania had an inflation of 154.9%. Throughout the analyzed period, this is the highest inflation rate registered by a member country of the European Union. The extremely high inflation rate from 1997-2004 is due mainly to the faulty political system in Romania. The country could not recover from the shock of the transition to the market economy (Ibrahim and Vaughan, 2002). However, Romania managed to maintain the inflation rate below 2% in 2014-2017. The low inflation rate was a signal that Romania was ready to move towards a common monetary policy, namely the European Monetary Union (Akin and Yavuzaslan, 2019, p. 111). Unfortunately, in 2018, the inflation rate reached

4.1%. This rise is explained by the populist politics of the governing party (Aursulesei, 2018). In 2018 wages increased artificially, increasing consumption.

As we can see, the three Eastern European countries have not adapted very well since moving from a closed centralized economy to a market economy. This inability to adapt can be seen in the extremely high inflation rate since 1997. However, all countries have managed to reduce their inflation rate to close to 2%. Unfortunately, the Eastern European mentality and the rise of populist parties led to a slight increase in the inflation rate in the three states over the last years (Siljak and Nagy, 2018, p. 183).

Conclusions

Following the analysis of the common monetary policy and the degree to which it is respected by the Euro Area Member States and the ones which aim at joining the euro area, we have come to a number of conclusions:

Price stability is the main objective of the common monetary policy. It can be achieved by controlling inflation. For this reason, monetary policy imposed an annual inflation rate of maximum 2%.

Following the analysis of the inflation rate, we could see that only 12 of the 19 European Monetary Union Member States managed to maintain the inflation rate below 2% in 2018. Surprisingly, there are also PIIGS countries among these 12 countries. Portugal, Ireland, Italy, Greece and Spain have faced various financial crises that needed external intervention in order to be resolved. However, all five countries managed to stick to the common monetary policy.

In 2018, 7 out of the 19 euro area member states did not follow the inflation rate ceiling imposed by monetary policy. Countries not respecting the 2% ceiling are: Belgium, France, Austria, Slovakia, Estonia, Latvia and Lithuania. As we have seen throughout the analyzed period, these countries have had problems with controlling the inflation rate in the past as well.

We can see that the inflation rate of all EU Member States has been affected by two events: firstly, the global financial crisis, in 2008 and the Eurozone crisis, in 2011. Eurozone crisis has been centered on the economy of Greece. The European Central Bank sacrificed the entire stability of the Eurozone to save the Greek economy.

States that have refused to join the Eurozone have also tried to fall below 2%. Sweden is the state of the European Union that managed to maintain an inflation rate below 2% throughout the whole analyzed period.

In the case of the member states of the European Union that have not joined the Euro Area yet, three of them respected the ceiling of 2% in 2018, while the other three exceeded this ceiling. We can see that all six countries started in 1997 with a very high inflation rate compared to the Western European inflation rate but still managed to bring this indicator down to around 2%.



This article may be the start of much more in-depth research on how price stability has been implemented in the Member States of the European Union.

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THE DYNAMIC RELATIONSHIP BETWEEN THE RESIDENTIAL REAL ESTATE MARKETS, MACRO – ECONOMY AND INSTITUTIONAL DEVELOPMENT: EVIDENCE FROM EU COUNTRIES

Elena IONAȘCU*

Abstract

The peculiar characteristics of the real estate properties and their production process determine the multi dimension research perspectives. This research investigates the dynamic relationships between the residential construction output, construction market, housing market, urbanization and institutional development across European Union (EU) countries. Using a VECM approach, the long-run and short-run patterns of the residential construction activities are analysed. The estimated results suggest that the residential construction output is mostly elastic to the conditions of the construction industry and housing market. The positive effect of the institutional development on construction activity appears to be significant only in some of the EU countries.

Keywords: residential construction, housing market, institutions, equilibrium

Introduction

Housing is a complex system that relies on the interactions of suppliers and consumers of housing (demand) and the economic policies of the government in order to allow the market outcomes (Rhodes, 2012). The intrinsic characteristics of housing (immobility, indivisibility, heterogeneity, complexity etc.) make it significantly different from other goods and determine the function mode of the real estate markets (Arnott, 1987, p. 959).

Within the neoclassical theory, the real estate market is defined by the convergence of supply and demand to the equilibrium state, but from an institutional perspective, it embraces all the institutional arrangements, through which real estate is developed, traded and used by a wide range of actors involved in these processes (Keogh and D'Arcy, 1999). In this context, the real estate is itself an institution, whose purpose and structure reflect the dominant interests of the society (Keogh and D'Arcy, 1999, p. 2408). On the one hand, the real estate market interacts with the political, social, economic and legal environment, and on the other hand, intersects the interests of market participants.

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The institution structures contribute to the reducing information asymmetry, transaction costs and the real estate market uncertainties (D'Arcy and Keogh, 1999). The efficiency of the functioning of real estate markets is determined by the functioning of the market and non-market mechanisms through which the real estate sector operates (Keogh and D'Arcy, 1999). Hence, the real estate markets operate in correlation with multiple equilibriums related to each interfered structure, and not just on a single equilibrium to ensure the economic condition of neoclassical theory (Mooya, 2016).

This paper aims to investigate the dynamic relationships between the housing markets, macro – economy and institutional development across EU countries, over the period of 1995 – 2018. Little research has provided an insight into the trend of the real estate construction output from a cross-disciplinary perspective for European countries. The close linkages between the construction industry, the economy and the social well-being highlight the importance of a deeper assessment of the real estate market equilibrium for the households, practitioners and policymakers.

With reference to the broader economic impact, the research proposes a multi-dimensional equilibrium of the construction and real estate activities in relation to the residential construction output, construction market, housing market, urbanization and institutional development across EU countries. A vector error correction model (VECM) is applied for each country analysed. The results suggest that the residential construction output is mostly elastic to the conditions of the construction industry and housing market.

This paper is structured as follows: section 1 introduces an overall framework of the residential real estate system; section 2 outlines the main features of the empirical strategy and data; section 3 reports the main results, and in the conclusion section, the most important contribution of this paper are summarized.

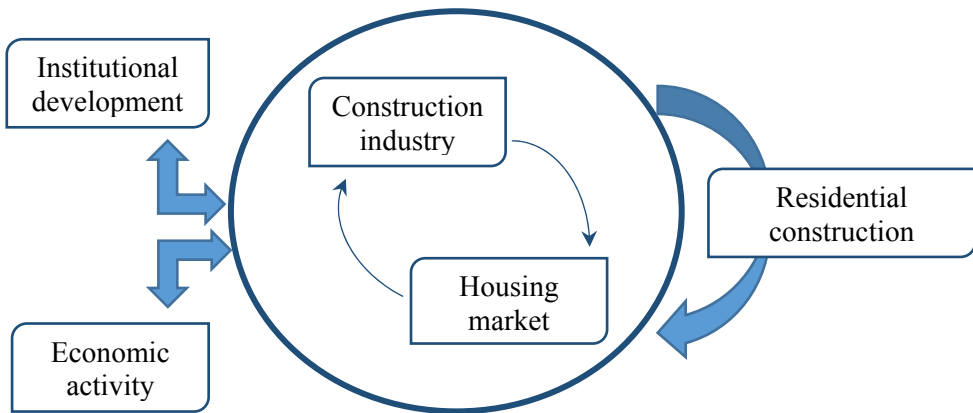
1. Conceptual framework of the residential construction dimensions equilibrium

Referring to the major real estate market structures, housing markets can be illustrated by an interconnection system between the construction industry and real estate markets, on the one hand, and economic and institutional development, on the other (Figure 1). The applicability of the system theory to the residential real estate domain interferes with ample model that prescribe the multitude of links between economic, social, cultural, political variable etc. (Rhodes, 2012). The economy of a country is represented by a macro system that interconnects all economic activities, and the direction and magnitude of links between them indicate the potential of a sectoral capacity to stimulate or to induce activities in other sectors (Cai and Leung, 2004). The literature documents two types of economic links in relation to the direction of interdependencies: an upstream link that reflects the input resources and a downstream link identifying how the sector distributes output to the economy (Cai and Leung, 2004, p. 65).



In the residential real estate system, the construction output assures the direct link between the construction industry and the real estate market, providing the necessary supply on the market to meet housing demand and ensuring the spread of the effects in the economy through the three major channels – investment, banking and consumption (Muellbauer, 2012).

Figure 1. The residential real estate system



Source: own representation

Through all these channels, real estate price fluctuations tend to amplify the economic cycle. In relation to the residential construction output, previous studies identify the following types of equilibrium: the external equilibrium, which adjusts the construction output according to the economic conditions; the individual equilibrium, determined either by the level of the construction costs and the land availability or by the housing prices; the dual market equilibrium, through which the residential construction output is influenced by both the construction industry's inputs and the housing market prices (Ma *et al.*, 2018, p. 23). According to these theoretical considerations and taking into account the institutional implications in the real estate field, the research aims to analyse the multiple dimensions of the residential real estate equilibrium in relation to the construction output.

External equilibrium determined by the institutional development and macro – economic activities

The relevance of the construction industry for economic growth is widely documented in the literature (Hillebrandt, 2000; Ho, 2016; Hung *et al.*, 2019), being demonstrated the positive and significant relationship between construction output and macroeconomic conditions (Bon, 1992; Chiang *et al.*, 2015; Hosein and Lewis, 2005). Most studies validate Bon's (Bon, 1992) theory, according to which construction activity follows the direction of an inverted U curve in relation to the different stages of economic development; as the economy of a country is more



mature, the contribution of the construction industry will be lower (Bon and Pietroforte, 1990; Ilhan and Yaman, 2011; Pietroforte and Gregori, 2003). The housing theory considers that the residential construction function is local (DiPasquale, 1999; Glaeser *et al.*, 2006; Taltavull and Gabrielli, 2015) and strongly depends on the external factors specific to different regions such as economic, political, social, cultural etc. (Adams and Füss, 2010; Hutchison and Disberry, 2015; Muellbauer and Murphy, 2008; Oxley and Haffner, 2010).

The residential real estate markets are strongly influenced by social and economic policies and are among the most regulated sectors¹. The state intervenes with different policies to reduce the risks associated with the real estate market: macroeconomic policies (monetary and fiscal policies), prudential policies (supervisory and regulatory policies), and structural policies (Hilbers *et al.*, 2008). The efficiency of the institutional framework, such as land availability, administrative procedures, zoning regulations, housing policies, influences the speed of propagation of macroeconomic shocks in the real estate domain (Adams and Füss, 2010, p. 39).

Construction industry equilibrium

The supply of new housing comes from the construction sector and “depends on the price of those assets relative to the cost of replacing or constructing them” (DiPasquale and Wheaton, 1992, p. 186). Higher costs of construction, including construction material and labour costs, increase the financing costs of construction, that lead to a decrease in construction, and thus to a lower level of housing stock (Adams and Füss, 2010, p. 41). Also, a crucial factor in the construction industry is the land availability for new residential constructions. Based on the urban spatial theory, “land prices depend on the stock of housing, not the flow or level of building activity” (DiPasquale, 1999, p. 14). The model of DiPasquale and Wheaton (1994) implies that “housing price levels generate new construction only if those prices dictate a level of the stock that is higher than the current level” (DiPasquale, 1999, p. 14). The construction studies suggest that the relating trend of the residential construction output should be determined by the equilibrium of the construction market (Ma *et al.*, 2018, p. 22).

Housing market equilibrium

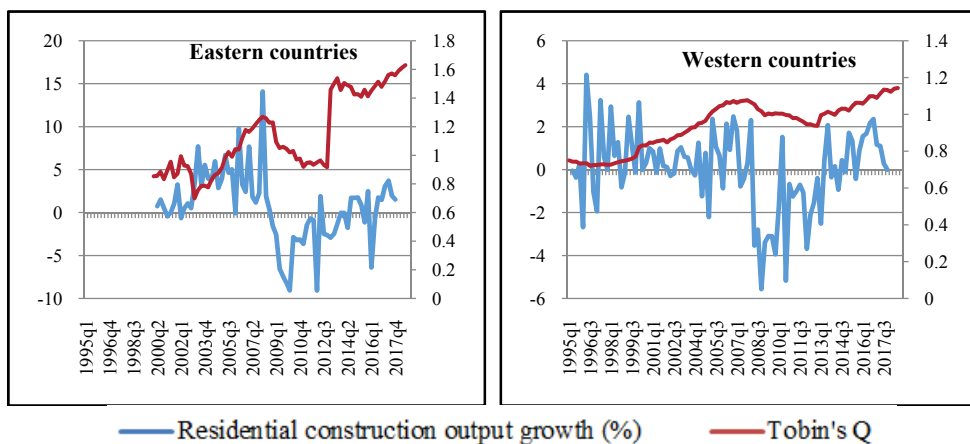
The housing theory highlights that the house prices are very sensitive to the demand shock, which must equal its supply. An increase in the demand to own real estate assets will raise prices, while a greater supply of space will depress prices (DiPasquale and Wheaton, 1992, p. 186). For example, the growth of urban population pushes the housing demand, which is accommodated by an expansion of the urban area (Mayer and Somerville, 2000). The empirical studies underline

¹ see ESRB (2016), Vulnerabilities in the EU Residential Real Estate Sector, Frankfurt am Main, p.12 (retrieved from <https://doi.org/10.2849/733467>).

the deep connection and strong correlation between urban population change and housing stock (Glaeser *et al.*, 2006).

According to the economic theory, higher construction costs could reduce the volume of residential construction work. The effects of the construction costs on the new residential construction can be estimated by the Tobin's Q indicator for residential investment, calculated as a ratio between the nominal prices of the houses and the costs of new residential constructions. The nominal values are used to capture the current information of the housing market. Figure 2 shows the variation of the residential constructions and the profitability of the constructions, quantified by Tobin's Q. Rising housing prices increase the property's market value relative to construction costs, contributing to the increase of Q values and thus the profitability of residential property investments (Asal, 2018). However, the effects of the variables may vary from country to country.

Figure 2. The profitability of the residential construction investment



Notes: The residential construction output growth is calculated using the volume index buildings production (left axis); the Tobin's Q is the ratio between the nominal housing prices and residential construction costs (right axis).

Source: own estimation and representation based on Eurostat database

Based on these arguments, the new housing supply reactions are important for understanding house price movements and market equilibrium (Barker, 2003; DiPasquale, 1999). There is a widespread agreement among researchers about the general price elasticity features of housing stock, sustaining that housing supply is relatively price inelastic in the short-run and more elastic in the long-run (Mayer and Somerville, 2000; Pozdena, 1988; Rosenthal, 1999). The partial response of the housing supply to cyclical movements in demand is due to lags in construction, relatively small effect of annual construction on the total housing stock, information asymmetries and financial requirements of the project (Arnott, 1987; Taltavull and Gabrielli, 2015).



2. Research methodology

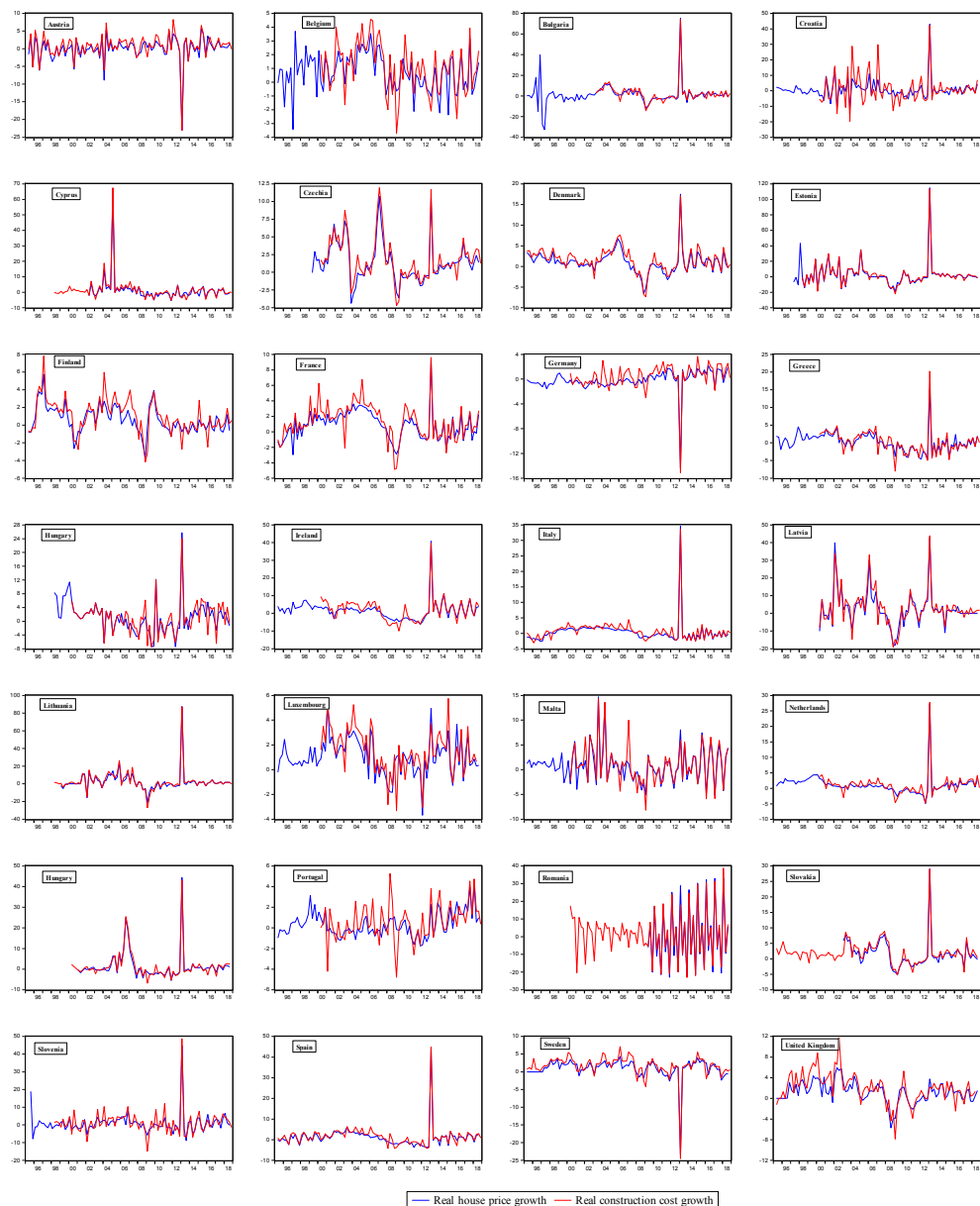
The equilibrium relationships between residential construction output, construction industry, housing market and economic and institutional development are estimated using a vector error correction model (VECM).

2.1. Data sources and description

For the empirical investigation, quarterly time series data are collected over the period 1995Q1 to 2018Q4 for all 28 EU countries ($N = 28$). Due to missing data in some countries, an unbalanced panel dataset is built. To ensure consistency in comparison across countries, Eurostat and World Bank databases are used.

In the empirical analysis, the volume index of buildings production is used as a proxy for the residential construction output (*RCCO*). The *RCCO* missing data in Italy, Luxembourg, Malta and Netherlands are replaced with the volume index of construction production, which captures the residential construction and the civil engineering works. The indicators of the construction industry are residential construction costs and land availability, frequently used in the literature as proxy for housing supply. The residential construction cost index (*RCCI*), deflated by the consumer price index (*CPI*), is applied to capture the labour and material costs of construction residential buildings. The land supply for new residential construction is reflected by the index of residential building permits (*RBP*), expressed in square meters of useful floor area. The building permits are estimated based on useful floor area, and not on the number of permits, as the land price depends on the stock of existing housing, and not on the flow or level of building activity (DiPasquale and Wheaton, 1994). The housing prices (*HPI*) dataset includes the prices of the heterogeneous houses (i.e., existing and new houses) based on the data availability. The missing house price data from Eurostat was completed with data of databases, constructed by Mack *et al.* (2011) and Cesa-Bianchi *et al.* (2015). The nominal values of *HPI* are transformed in real values, using the *CPI* series. For capturing the influence of the development, depth, efficiency and flexibility of the institutions, a proxy measure of institutional development (*IDS*) is constructed, based on the first principal component extracted from indices of business freedom, investment freedom, financial freedom, government integrity and property rights, calculated by Heritage Foundation. Because of difficulty to quantify the effect of institutional development, a similar approach is used also by Ciarlone (2015) to investigate the characteristics of house price dynamics in emerging economies. The urbanization phenomenon is measured by the urban population growth (*URP*), estimated by the World Bank staff.

Figure 3. Dynamics of the real housing prices and real residential construction costs in EU countries



Source: own representation based on Eurostat database

All series expressed as index have the reference base in the 2015 year. Also, in order to assume a normal distribution, all the series data are winsorized and logged, with the exception of the institutional development and urban population growth, which have registered negative values. The descriptive statistics of



variables for each analysed country are reported in Appendix A. Further, Figure 2 plots the time series pattern of real house price growth and real construction cost growth, which underlines the heterogeneous dynamics of the housing market and construction industry across EU countries.

In the majority of the countries, *HPI* and *RCCI* are highly correlated, as a result of variables convergence in the same directions. Both the descriptive statistics presented in Appendix A and Figure 2 indicate that the housing markets in the Baltic States have registered the highest average price changes and volatility among EU countries. In rest, the most housing markets of EU witness a combination of lower average prices changes and higher volatility. Greece, Ireland, Portugal and Spain, the most affected EU countries by the financial crises from 2007 – 2009, have experienced a very big drop in the construction industry in the analysed period.

This country group is characterized by the lowest average construction volume changes and the highest volatility in the sector. In contrast, the Baltic States, Bulgaria, Malta, Finland, Romania have experienced a boom in the construction industry, registering a combination of higher average volume of residential construction output and lower volatility. This evidence is supported also by the higher volatility of the residential building permits in these countries. The highest quarterly growth averages of the institutional development score and with lower volatility were registered for Portugal, Spain, Cyprus, Estonia, Slovenia, Malta, Lithuania, although, the values are negative because of some negative correlations between the components of the score.

According to the statistics of urbanization rates (*URP*), the Eastern countries have registered negative values that indicate the population decline determined by the massive migrations and negative natural growth, in contrast with the Western countries, where the dynamics of the urban population is increasing. Overall, these initial statistics highlight the need to explore the heterogeneous behaviour of the construction industry, housing market, institutional development and urban phenomenon for each EU countries.

2.2. Estimation method

The VECM method is commonly used to empirically analyse the dynamic behaviour of macroeconomic variables (Price, 1998), because of its dynamic nature and sensitivity to a variety of factors affecting the measured variables (Wong and Ng, 2010). This method captures the cointegration restrictions in a vector autoregressive model, incorporating the long-run equilibrium relationships among variables in the system (Lütkepohl, 2006) and allowing to eliminate the short-run forecast errors (Allen and Morzuch, 2006). The VECM approach has been widely used to assess the interconnections between housing market, construction sector and their fundamentals (Ma and Liu, 2014; Ma *et al.*, 2018; Malpezzi, 1999; Panagiotidis and Printzis, 2016; Wong and Ng, 2010).

The VECM procedure, developed by Johansen (1988, 1995), includes the cointegration test and the model estimation. This paper adopts the methodological approach, developed by Ma *et al.* (2018), who identify the long-run equilibrium types of residential construction output in the eight Australian states and territories.

Cointegration test for identification the long-run equilibrium

The cointegration test implies the identification of the long-run relations among a group of variables, where each has a unit root (Rao, 1994). The main condition of cointegration is that all time series of interest must be integrated in the same order (Andrei and Bourbonnais, 2017). If two sets of variables are integrated of order one and the linear combination of variables is stationary then the time series of the observed variables are said to be cointegrated at the first order (Rao, 1994). The cointegrated variables will revert to the equilibrium state otherwise economic forces will operate to restore the equilibrium.

The generalised vector autoregression (VAR) based on Johansen procedure can be written as follows:

$$X_t = c + \sum_{i=1}^n A_i X_{t-i} + \varepsilon_t \quad (1)$$

where X_t represents the n -dimension vector of the interest variables and X_{t-1} is the vector of the i lagged; c indicates the constant that captures the exogenous effects; A is the estimated coefficients of the matrix $n \times n$; and ε_t reflects the n -dimension vector of the error term. The null hypothesis of the Johansen trace statistics is that $rank(\Pi) = r_0$ and the alternative hypothesis is that $r_0 < rank(\Pi) \leq n$, where n indicates the maximum number of possible cointegrating vectors (Dwyer, 2015).

The existence of equilibriums between residential construction output (RCCO), residential construction costs (RCCI), building permits (RBP), housing prices (HPI), institutional development (IDS) and urbanization (URP) is investigated based on the co-integration relationship, expressed as follows:

$$CointEq(X_t) = A \times (RCCO, RCCI, RBP, HPI, IDS, URP) \quad (2)$$

where A reflects the estimated equilibrium coefficients of the residential construction output that takes values from 1 to α_5 . The existence of an equilibrium is confirmed by the rejection of the null hypothesis.

The VECM estimation for identification the type of long-run equilibriums

The VECM model captures the long-run equilibrium and the short-run dynamic patterns of residential construction output, and can be represented as follows:

$$\Delta X_t = C + \Pi CointEq(X_{t-1}) + \sum_{i=1}^{\tau} \Gamma_i \Delta X_{t-i} + \varepsilon_t \quad (3)$$



where ΔX_t and ΔX_{t-i} represents the vectors that indicate the changes of the variables at time periods t and $t-i$; C is the intercept indicating the average change of the variables; the matrix Π captures the long-run information and the matrix Γ reflects the short-run patterns of the relationship among the elements; $i = 1, 2, \dots, \tau$ represents the number of lags used for estimation; ε_t is the error term. The long-run equilibrium is specified by $\Pi \text{CointEq}(X_{t-1})$ that is equal with AX_{t-1} , where $A = (1, \alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5)$ and the parameter Π indicates the speed of convergence towards the equilibrium trajectory.

An important step in defining the VECM model is that of identifying the number of lags that are taken into account in assessing the present value of each variable (Andrei and Bourbonnais, 2017). The optimal lag (i) is selected by the VAR approach, including all variables, from a possible larger number of lag length. The literature recommends Akaike (AIC) and Schwarz (SC) information criteria to assess the optimal lag (Andrei and Bourbonnais, 2017). From the values indicated by these two criteria, the lowest value is chosen.

Based on the VECM results, the types of equilibrium relating to residential construction output are identified using t -statistic of the estimated matrix A coefficients from the Equation 3. The estimated parameters can be interpreted as follows:

- (1) if all $\alpha_1 \dots \alpha_5$ coefficients are insignificant, then the residential buildings equilibrium is dominated by the external factors of economic, political, social etc.;
- (2) if α_1 and/or α_2 parameters are significant, the equilibrium of construction output is determined by the construction market;
- (3) if α_3 coefficient is significant, then residential construction is correlated with the housing market;
- (4) if α_4 estimated parameter is significant, the equilibrium of the residential construction output is supported by the institutional development;
- (5) if α_5 coefficient is significant, then the residential constructions converge in the equilibrium relation with the urbanization phenomenon;
- (6) if all $\alpha_1 \dots \alpha_5$ coefficients are significant, then the equilibrium of the residential construction output is influenced by the conditions of the construction market, housing market, institutional development and urbanization.

2.3. Pre-test and post-test treatments

The augmented Dickey-Fuller (ADF) unit tests conducted country-by-country prior to the estimation suggest that all variables are stationary in first differences, i.e., integrated of order 1 (see Appendix B). The cointegration analysis between the variables was also performed on country-specific time series based on the Johansen procedure as presented in Equation 1 (Appendix C). Due to the lower number of observations for some countries, the cointegration results at the country

level should be viewed with caution (Philipponnet and Turrini, 2017, p. 18). The p -value of trace statistics indicates between 4 and 6 cointegrating equations at the 0.05 level, reflecting the existence of the strong long-run relationships between variables across EU countries.

In order to check the specifications of the model, tests for autocorrelation (Portmanteau and Lagrange Multipliers (LM)), normality test (Jarque-Bera), and test for heteroscedasticity in errors (White) were applied to the recommendation of Johansen (2009). The results of tests are plotted in Appendix D, which indicate the achievement of non-autocorrelation and homoscedasticity conditions for residuals, but non-fulfilment of multivariate normality condition at the 5% significance level. However, the literature demonstrates the robustness of the Johansen procedure in the presence of non-normal residuals and recommends following the outcomes of the trace test as this test is more robust to non-normality (Cheung and Lai, 1993; Gonzalo, 1994; Silvapulle and Podivinsky, 2000). Also, the Jarque-Bera test is more adequate for large panels than for short time-series ($n < 92$) that will discard the normality test because of the central limit theorem (Jarque and Bera, 1987). Taking into account that in our models the residuals are non-autocorrelated and homoscedastic, we consider the estimated coefficients efficient. To improve the distribution, we winsorized all variables and logged the positive ones. Also, to select the number of cointegrating equations, we used the trace statistic.

3. Discussion of results

The long-run equilibrium and short-run dynamic patterns between the residential construction output and the indicators of the construction industry, housing market, institutional development and urbanization are expressed as follows:

$$\begin{aligned} \Delta RCCO_t = & C + \Pi(RCCO_{t-1} + \alpha_1 RCCI_{t-1} + \alpha_2 RBP_{t-1} + \alpha_3 HPI_{t-1} + \alpha_4 IDS_{t-1} \\ & + \alpha_5 URP_{t-1} + C_0) + \sum_{i=1}^{\tau} \beta_{1i} \Delta RCCO_{t-i} + \sum_{i=1}^{\tau} \beta_{2i} \Delta RCI_{t-i} + \\ & \sum_{i=1}^{\tau} \beta_{3i} \Delta RBP_{t-i} + \sum_{i=1}^{\tau} \beta_{4i} \Delta HPI_{t-i} + \sum_{i=1}^{\tau} \beta_{5i} \Delta IDS_{t-i} + \sum_{i=1}^{\tau} \beta_{6i} \Delta URP_{t-i} + \\ & \varepsilon_t \quad (4) \end{aligned}$$

The item $RCCO_{t-1} + \alpha_1 RCCI_{t-1} + \alpha_2 RBP_{t-1} + \alpha_3 HPI_{t-1} + \alpha_4 IDS_{t-1} + \alpha_5 URP_{t-1} + C_0$ indicates the long-run construction output equilibrium, based on the estimated α_n coefficients. The average change of the construction output is captured by the C parameter and the cointegration term by the Π coefficients. The short-run patterns are reflected by the estimated $\beta_{1i} \dots \beta_{6i}$ coefficients, where i indicates the optimum lag included in VECM. According to the AIC and SC information criteria, the lowest value for each country is 1, which is adopted as the optimal lag for the VECM estimation.



Table 1 reports the estimated long-run relationships between analysed variables for each EU country. The EU panel is traditionally divided into Western countries and Eastern countries. The results confirm that the equilibrium of the residential construction output is most determined by the dual construction – housing market and urbanization, which validates the urban theory. The institutional development controls the residential constructions only in 10 out of 17 Western EU countries and in 2 out of 11 Eastern EU countries.

All long-run coefficients, based on the optimal lag, appear to be statistically significant for Belgium and Spain, which suggests that the equilibriums of the residential construction output are determined by the construction market, housing market, institutional development and urbanization. Also, the equilibrium of construction output is controlled by all variables, except construction costs, in Cyprus and, building permits, in Greece and Poland. The residential construction output converges with the construction industry, housing market and urbanization in Sweden, Croatia, Hungary, Lithuania and Slovakia. A significant influence exerts the dual construction – housing markets and institutional development on the construction output of Malta, Portugal and the United Kingdom. The construction equilibrium is determined by a single dimension in the Netherlands, Slovenia (construction market) and in Romania by the housing market. The conditions of the dual construction – housing markets are significant for the determination of the residential construction volume in Denmark, Italy, Luxembourg, Bulgaria and Latvia. The construction equilibrium of Austria, Finland, Germany and Estonia is controlled by the construction market and institutions, while in Ireland by the construction market and urbanization, and in the Czechia by housing market and urbanization. Also, the construction industry, institutional development and urbanization are important for the construction equilibrium of France.

Table 1. EU countries equilibriums between residential construction (*RCCO*) and independent variables

	<i>RCCI</i>		<i>RBP</i>		<i>HPI</i>		<i>IDS</i>		<i>URP</i>		<i>C₀</i>
	α_1	<i>t</i> -stat.	α_2	<i>t</i> -stat.	α_3	<i>t</i> -stat.	α_4	<i>t</i> -stat.	α_5	<i>t</i> -stat.	
<i>Western EU countries</i>											
Austria	-1.312	[-6.72]	0.199	[2.53]	0.147	[1.39]	-0.317	[-4.24]	0.031	[1.46]	-0.039
Belgium	-1.697	[-4.11]	-0.891	[-7.54]	0.576	[2.39]	0.409	[2.94]	-0.209	[-3.51]	4.440
Cyprus	50.186	[1.11]	-15.433	[-2.04]	-39.168	[-2.77]	-52.094	[-3.63]	45.663	[3.39]	-33.747
Denmark	-0.040	[-0.26]	-0.138	[-3.87]	-0.540	[-4.35]	0.178	[1.24]	0.453	[3.28]	-1.977
Finland	-5.723	[-6.44]	-1.262	[-6.80]	2.684	[4.00]	0.157	[1.53]	0.001	[0.02]	14.053
France	0.329	[1.57]	-0.381	[-7.13]	-0.024	[-0.22]	-0.244	[-3.01]	-0.639	[-7.50]	-3.579
Germany	0.030	[0.26]	-0.312	[-6.50]	-0.254	[-1.36]	-0.545	[-6.60]	0.024	[1.51]	-1.614
Greece	22.715	[4.56]	0.286	[0.82]	-5.840	[-3.90]	-1.474	[-2.49]	1.915	[2.15]	-88.013
Ireland	1.139	[8.97]	-0.091	[-2.15]	-0.073	[-0.78]	-0.100	[-0.73]	-0.699	[-13.23]	-8.219

	<i>RCCI</i>		<i>RBP</i>		<i>HPI</i>		<i>IDS</i>		<i>URP</i>		<i>C₀</i>
	α_1	<i>t</i> -stat.	α_2	<i>t</i> -stat.	α_3	<i>t</i> -stat.	α_4	<i>t</i> -stat.	α_5	<i>t</i> -stat.	
<i>Western EU countries</i>											
Italy	6.103	[4.72]	0.215	[1.70]	-3.236	[-4.69]	0.110	[0.44]	0.557	[3.96]	-18.725
Luxembourg	0.452	[1.72]	0.223	[6.17]	-0.398	[-3.79]	0.111	[1.39]	0.016	[0.58]	-5.945
Malta	-2.543	[-3.49]	0.310	[4.16]	-1.826	[-4.99]	0.550	[4.64]	-0.005	[-0.09]	14.903
Netherlands	-0.618	[-2.46]	-0.207	[-7.74]	-0.168	[-1.20]	0.144	[1.28]	-0.048	[-1.05]	-0.209
Portugal	2.354	[6.36]	-0.397	[-11.51]	0.987	[3.01]	-1.521	[-6.53]	0.163	[1.64]	-18.677
Spain	2.635	[5.24]	-0.336	[-4.84]	-1.554	[-7.88]	-1.821	[-4.80]	0.494	[5.31]	-8.513
Sweden	0.339	[2.03]	-0.173	[-5.67]	-0.273	[-3.75]	-0.095	[-1.46]	-0.182	[-3.90]	-2.961
United Kingdom	1.097	[5.59]	-0.034	[-0.90]	-1.169	[-7.28]	0.440	[5.84]	0.063	[0.80]	-4.714
<i>Eastern EU countries</i>											
Bulgaria	-33.793	[-6.74]	-1.824	[-5.65]	3.492	[5.24]	-0.297	[-0.39]	-2.244	[-0.71]	145.618
Croatia	-4.552	[-5.55]	-0.281	[-1.42]	2.671	[3.87]	-0.749	[-1.82]	-0.505	[-4.66]	-3.156
Czechia	-0.634	[-1.60]	-0.175	[-1.58]	0.558	[3.77]	-0.047	[-0.44]	-0.557	[-4.39]	-5.145
Estonia	-2.593	[-3.85]	-0.254	[-3.26]	0.107	[1.04]	0.510	[2.14]	-0.492	[-4.35]	8.524
Hungary	0.492	[0.30]	0.647	[2.97]	-5.544	[-5.01]	-1.698	[-1.78]	2.074	[5.68]	17.258
Latvia	18.703	[4.57]	1.335	[2.88]	-5.955	[-4.49]	-1.014	[-0.94]	1.406	[1.78]	-75.536
Lithuania	-6.858	[-2.39]	-2.099	[-5.56]	2.739	[4.96]	-0.124	[-0.33]	-0.584	[-3.25]	26.473
Poland	-4.808	[-7.25]	0.070	[0.55]	-0.281	[-2.36]	-0.153	[-2.53]	-0.711	[-4.11]	13.879
Romania	1.463	[0.78]	0.598	[0.54]	4.049	[7.47]	-0.227	[-0.50]	0.053	[0.05]	-31.324
Slovakia	-3.626	[-3.69]	-1.151	[-5.25]	1.142	[2.56]	-0.277	[-0.84]	1.163	[3.24]	13.586
Slovenia	1.703	[2.95]	-1.183	[-11.38]	-0.340	[-1.04]	-0.328	[-1.86]	-0.086	[-0.63]	-5.576

Notes: The table shows the effects of residential construction costs (*RCCI*), building permits (*RBP*), real housing prices (*HPI*), institutional development (*IDS*) and urban population (*URP*) on the residential construction output (*RCCO*). All variables are logged with the exception of institutional development (*IDS*) and urban growth (*URP*). The estimated coefficient is significant if the absolute value of the corresponding *t*-statistic is greater than 2.00.

The negative sign of the *RCCI* coefficient indicate that higher construction costs reduce the volume of the residential construction in Austria, Belgium, Finland, Malta, Netherlands, Malta, Bulgaria, Croatia, Estonia, Lithuania, Poland and Slovakia, while in other countries, like Greece, Ireland, Italy, Portugal, Spain, Sweden, United Kingdom, Latvia and Slovenia, the higher costs generate more construction output. The coefficient of the land supply index (*RBP*) (i.e. building permits) is positive in Austria, Luxembourg, Malta, Hungary and Latvia, apparently indicating that a larger availability of land is incorporated by developers in expectations of the booming housing market. However, in most of the EU countries the higher availability land conducts to a lower construction production, which can be explained by the reduced land availability and the existence of



structural constraints, such as building and zoning regulations, construction delayed, etc. (Ciarlone, 2015; Hilbers *et al.*, 2008). The increased housing prices contribute more positively to the long-term construction equilibrium, which means that construction output growth depends on the housing market conditions. This situation is specific for Finland, Portugal, Bulgaria, Croatia, Czech Republic, Lithuania, Romania and Slovakia. In the rest of the countries, where the α_3 coefficient is significant, higher housing prices diminish in the long term the level of construction. The improvement of the overall business and institutional environment would tend to reduce in the majority of countries the construction output, while in other would enhance the construction industry. The effect of the urbanization on the residential construction equilibrium is also heterogeneous among EU countries. While in some countries, the urban population growth enhances the housing construction (Cyprus, Denmark, Greece, Italy, Spain, Hungary and Slovakia), in other the effect is reverse (Belgium, France, Ireland, Sweden, Croatia, Czechia, Estonia, Lithuania and Poland).

Table 2 presents the dynamic patterns among EU countries. The values of the C coefficient indicate the changes in the dynamics of the variables. The cointegration coefficients are captured by the Π parameter, whose negative and significant values indicate the rate of adjustment to long-run equilibrium, while positive values suggest that the dynamics move away from the equilibrium (Ma *et al.*, 2018). The negative values of the C parameter for construction output denote that the residential construction activity will slow down on the long-term in 9 Western countries and 5 Eastern countries, while in countries for which have registered positive results the construction industry will grow. In most EU countries, the positive estimates of $\Delta RCCI$ and ΔHPI reflect the possible increase in construction costs and housing prices in the long term. Interesting is that for all Eastern countries, except Hungary, the positive signs of the ΔIDS suggest institutional development improvements on the long run, however, the rate is low and mostly insignificant. The estimates of the urbanization indicator highlight the dynamic patterns of the urban population across EU countries, where the urbanization phenomena are heterogeneous and relative stable on the long-run.

Table 2. Long-run dynamic patterns
Western EU countries

<i>The changes in the dynamics of the variables (C)</i>												
Countries	ΔRCO		$\Delta RCCI$		ΔRBP		ΔHPI		ΔIDS		ΔURP	
	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.
Austria	0.003 [0.73]		0.004 [2.41]		0.026 [1.57]		0.002 [0.29]		-0.008 [-1.19]		0.021 [0.92]	
Belgium	-0.002 [-0.71]		0.002 [1.42]		-0.005 [-0.33]		0.004 [2.47]		0.005 [0.70]		-0.013 [-0.85]	
Cyprus	-0.008 [-0.90]		0.004 [1.83]		-0.016 [-0.97]		0.014 [1.37]		-0.022 [-2.40]		-0.017 [-2.14]	
Denmark	0.001 [0.43]		0.005 [3.92]		0.002 [0.07]		0.004 [1.00]		-0.004 [-0.71]		0.010 [1.54]	
Finland	0.007 [2.25]		0.001 [1.08]		-0.006 [-0.64]		0.003 [2.26]		0.021 [1.58]		-0.007 [-0.90]	
France	-0.002 [-1.17]		0.005 [3.41]		0.000 [-0.01]		0.009 [4.29]		-0.008 [-0.90]		0.002 [0.32]	
Germany	-0.002 [-0.56]		0.004 [2.88]		0.017 [1.26]		-0.002 [-0.70]		0.000 [-0.04]		0.006 [0.14]	
Greece	-0.034 [-2.82]		0.003 [1.44]		-0.045 [-2.02]		-0.001 [-0.25]		-0.017 [-1.35]		-0.009 [-0.84]	

The changes in the dynamics of the variables (C)

Countries	ΔRCO		$\Delta RCCI$		ΔRBP		ΔHPI		ΔIDS		ΔURP	
	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.
Ireland	-0.006	[-1.18]	0.001	[0.44]	-0.021	[-1.12]	0.010	[1.56]	-0.004	[-0.58]	-0.001	[-0.05]
Italy	-0.007	[-2.11]	0.004	[3.19]	-0.022	[-2.23]	0.008	[1.50]	0.002	[0.15]	0.004	[0.15]
Luxembourg	0.002	[0.33]	0.003	[1.61]	0.046	[1.31]	0.008	[3.28]	-0.009	[-1.35]	0.011	[0.73]
Malta	0.022	[3.04]	0.003	[1.20]	0.001	[0.04]	0.009	[2.03]	0.009	[0.70]	0.020	[1.10]
Netherlands	0.000	[-0.16]	0.003	[2.23]	-0.014	[-0.65]	0.005	[1.25]	-0.001	[-0.17]	-0.014	[-1.40]
Portugal	-0.011	[-3.39]	0.003	[1.01]	-0.011	[-1.35]	0.000	[0.24]	0.003	[0.52]	-0.021	[-1.93]
Spain	-0.004	[-0.66]	0.005	[2.65]	-0.002	[-0.10]	0.011	[1.77]	-0.003	[-0.65]	-0.003	[-0.14]
Sweden	0.011	[2.46]	0.003	[1.65]	0.012	[0.55]	0.007	[1.27]	0.001	[0.12]	0.025	[2.94]
United Kingdom	-0.002	[-0.71]	0.004	[1.96]	-0.001	[-0.04]	0.003	[1.67]	-0.002	[-0.37]	0.008	[1.39]

The coefficient equilibrium (Π)

	ΔRCO		$\Delta RCCI$		ΔRBP		ΔHPI		ΔIDS		ΔURP	
	Π	t-stat.	Π	t-stat.	Π	t-stat.	Π	t-stat.	Π	t-stat.	Π	t-stat.
Austria	-0.116	[-0.91]	0.136	[2.70]	-0.445	[-0.91]	-0.155	[-0.75]	0.636	[3.34]	0.264	[0.39]
Belgium	0.037	[0.98]	0.011	[0.55]	0.788	[4.40]	-0.019	[-0.81]	-0.042	[-0.45]	0.595	[2.88]
Cyprus	0.001	[0.81]	0.000	[-0.93]	0.009	[3.78]	-0.001	[-0.56]	0.004	[3.13]	0.001	[0.47]
Denmark	-0.214	[-4.68]	-0.047	[-2.32]	0.152	[0.42]	-0.015	[-0.25]	-0.101	[-1.10]	-0.199	[-2.08]
Finland	-0.026	[-0.93]	0.006	[0.56]	0.464	[5.52]	0.011	[0.93]	-0.127	[-1.02]	-0.168	[-2.29]
France	-0.052	[-1.90]	-0.038	[-1.97]	0.441	[2.53]	-0.134	[-5.05]	0.109	[0.90]	-0.051	[-0.74]
Germany	-0.378	[-4.98]	0.006	[0.23]	0.646	[2.50]	0.035	[0.63]	0.013	[0.10]	0.219	[0.26]
Greece	0.070	[2.78]	-0.012	[-2.96]	0.062	[1.31]	0.006	[0.74]	0.082	[3.08]	0.062	[2.60]
Ireland	-0.051	[-0.67]	-0.022	[-0.63]	0.066	[0.24]	-0.144	[-1.48]	-0.051	[-0.48]	1.355	[5.80]
Italy	-0.072	[-5.64]	0.000	[-0.05]	-0.166	[-4.19]	0.015	[0.66]	-0.029	[-0.49]	0.181	[1.64]
Luxembourg	-0.442	[-4.34]	0.030	[0.86]	-3.050	[-4.13]	-0.095	[-1.83]	-0.064	[-0.45]	-0.190	[-0.58]
Malta	-0.075	[-1.22]	0.009	[0.47]	-0.765	[-2.88]	-0.030	[-0.75]	-0.346	[-3.18]	-0.175	[-1.10]
Netherlands	-0.210	[-3.00]	-0.045	[-1.25]	0.341	[0.62]	-0.055	[-0.51]	-0.064	[-0.67]	0.927	[3.56]
Portugal	-0.072	[-1.69]	-0.053	[-1.56]	-0.289	[-2.55]	-0.084	[-4.15]	0.050	[0.74]	-0.023	[-0.16]
Spain	-0.113	[-2.13]	-0.044	[-2.92]	-0.292	[-2.01]	0.076	[1.52]	0.045	[1.22]	-0.340	[-1.85]
Sweden	-0.488	[-5.69]	-0.079	[-2.06]	-0.420	[-1.04]	-0.245	[-2.38]	0.105	[0.60]	0.010	[0.06]
United Kingdom	-0.225	[-3.65]	-0.018	[-0.33]	0.128	[0.35]	0.133	[2.70]	-0.036	[-0.24]	0.355	[2.43]

Eastern EU countries*The changes in the dynamics of the variables (C)*

Countries	ΔRCO		$\Delta RCCI$		ΔRBP		ΔHPI		ΔIDS		ΔURP	
	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.	C	t-stat.
Bulgaria	0.003	[0.46]	0.004	[1.27]	0.010	[0.65]	0.015	[1.25]	0.006	[0.36]	0.000	[0.08]
Croatia	0.000	[-0.01]	0.003	[0.48]	0.004	[0.28]	0.008	[1.17]	0.009	[0.71]	0.017	[0.29]
Czech Rep.	0.002	[0.35]	0.003	[2.96]	0.006	[0.52]	0.006	[1.82]	0.000	[0.01]	0.006	[0.59]
Estonia	0.002	[0.77]	0.000	[0.14]	-0.010	[-0.24]	0.003	[0.17]	0.002	[0.20]	0.018	[2.14]
Hungary	0.005	[0.74]	0.006	[2.41]	0.003	[0.18]	0.003	[0.56]	-0.005	[-0.95]	0.010	[0.84]
Latvia	0.000	[-0.02]	0.006	[1.43]	0.016	[0.47]	0.014	[1.30]	0.023	[1.60]	-0.001	[-0.09]
Lithuania	-0.008	[-0.64]	0.003	[1.00]	0.014	[0.65]	0.019	[1.70]	0.023	[2.60]	-0.018	[-0.76]
Poland	-0.006	[-0.64]	0.000	[0.27]	0.008	[0.38]	0.010	[1.27]	0.003	[0.24]	-0.002	[-0.23]
Romania	-0.006	[-0.36]	0.004	[0.86]	0.012	[0.81]	-0.027	[-1.37]	0.020	[0.85]	0.004	[0.39]
Slovakia	-0.013	[-1.37]	0.005	[3.58]	0.004	[0.16]	0.015	[2.08]	0.007	[0.77]	0.005	[0.45]
Slovenia	-0.003	[-0.30]	0.008	[2.14]	-0.004	[-0.22]	0.005	[0.84]	0.006	[0.44]	0.000	[-0.03]



The coefficient equilibrium (Π)

	ΔRCO		$\Delta RCCI$		ΔRBP		ΔHPI		ΔIDS		ΔURP	
	Π	<i>t</i> -stat.	Π	<i>t</i> -stat.	Π	<i>t</i> -stat.	Π	<i>t</i> -stat.	Π	<i>t</i> -stat.	Π	<i>t</i> -stat.
Bulgaria	0.007 [0.65]		0.019 [3.98]		0.089 [3.59]		0.003 [0.14]		-0.021 [-0.85]		0.001 [0.17]	
Croatia	-0.014 [-1.01]		0.037 [1.77]		0.065 [1.36]		-0.032 [-1.43]		-0.062 [-1.57]		0.570 [3.20]	
Czechia	-0.159 [-1.11]		0.021 [0.80]		0.385 [2.14]		0.025 [0.52]		-0.230 [-2.39]		0.516 [3.37]	
Estonia	-0.105 [-5.08]		0.021 [1.35]		0.116 [0.38]		-0.164 [-1.32]		0.032 [0.42]		0.083 [1.33]	
Hungary	-0.069 [-4.11]		0.009 [1.40]		-0.160 [-4.23]		-0.016 [-1.30]		0.010 [0.75]		-0.064 [-2.36]	
Latvia	-0.009 [-1.00]		-0.010 [-2.20]		-0.052 [-1.38]		0.019 [1.59]		0.009 [0.56]		-0.021 [-1.17]	
Lithuania	-0.013 [-0.36]		0.004 [0.59]		0.140 [2.45]		-0.115 [-3.90]		0.002 [0.09]		-0.041 [-0.63]	
Poland	-0.310 [-3.24]		0.034 [2.08]		0.076 [0.36]		0.125 [1.54]		-0.128 [-1.13]		0.061 [0.61]	
Romania	-0.124 [-3.79]		0.005 [0.56]		-0.028 [-0.93]		-0.056 [-1.40]		0.007 [0.15]		0.056 [2.85]	
Slovakia	-0.052 [-1.21]		0.021 [3.17]		0.248 [2.32]		0.075 [2.21]		0.005 [0.11]		-0.041 [-0.87]	
Slovenia	-0.300 [-4.05]		-0.039 [-1.58]		0.346 [2.97]		-0.079 [-1.88]		-0.076 [-0.93]		0.097 [0.99]	

Notes: The table shows the average changes in the dynamics of the variables (*C*) and coefficient equilibrium (Π) for residential construction output (*RCCO*), residential construction costs (*RCCI*), building permits (*RBP*), real housing prices (*HPI*), institutional development (*IDS*) and urban population (*URP*) on the. All variables are logged with the exception of institutional development (*IDS*) and urban growth (*URP*). The estimated coefficient is significant if the absolute value of the corresponding *t*-statistic is greater than 2.00.

The negative results of the error correction term (Π) for the construction output show the long-run trends of construction activities towards the equilibrium state in all EU countries, except Belgium, Bulgaria and Cyprus. The construction costs and housing prices equilibriums adjustments are visible only in Denmark, Greece, Spain, Sweden, France, Portugal and Latvia.

The positive and significant signs of the Π parameter, observable for the construction and housing prices in Austria, Bulgaria, Poland, Slovakia and the United Kingdom, denote the prices of construction and housing will be unable to achieve the equilibrium level. If the changes of the building permits dynamics are mostly insignificant, the coefficients equilibrium of the ΔRBP are significant and negative in Italy, Luxembourg, Malta, Portugal, Spain and Hungary, denoting the equilibrium adjustment of the land availability, and significant and positive in Belgium, Cyprus, Finland, France, Germany, Bulgaria, Czech Republic, Lithuania, Slovakia and Slovenia, suggesting the inability of the land supply to achieve an equilibrium level. The tendency of the institutional development in the context of the construction environment towards the equilibrium level is observed only in Malta and the Czechia, while the urban population is able to adjust the construction equilibrium only in Denmark, Finland and Hungary.

Also, the short-run coefficients (β_{ni}) estimated by the VECM are reported in the Appendix E. Most coefficients of the variables are insignificant, indicating that the residential construction dynamics was not determined by the contemporary changes of the construction industry, housing market, institutional development and urbanization. However, there are some direct causalities on short-term between housing prices changes in countries where after the financial crisis from 2008,

residential markets have quickly rebounded and house prices have continued rising. This means that the lag prices increase the current dynamics of prices with 0.33% in Belgium, 0.50% in Denmark, 0.65% in Finland, 0.62% in Great Britain, 0.60% in Czechia and 0.33% in Latvia. Also, in some of the EU countries, the previous residential construction changes influence negatively the current housing supply of Belgium (-0.41%), Denmark (-0.25%), Luxembourg (-0.28%), Malta (-0.41%), Hungary (-0.29%) and Romania (-0.59%). These evidences are sustained also by the significant and negative short-run coefficients of the residential building permits, which indicate the current decreasing of the residential construction activities under the influence of the previous dynamics of building permits in Austria (-0.49%), Cyprus (-0.39%), France (-0.31%), Italy (-0.41%), Malta (-0.31%), Sweden (-0.41%), Czechia (-0.28%), Estonia (-0.30%), Poland (-0.42%), Romania (-0.40%). These facts explain the current situation of the most EU countries, especially Western, which are facing with a large-scale structural housing shortage in urban areas associated to the growing urban population, reinforced by recent waves of migration. In other EU countries, like Ireland, Bulgaria, Estonia and Latvia, the lag of construction output changes determine the increasing current level of the residential construction with 0.31-0.84%, while in Belgium and Portugal, the short-run dynamics of residential building permits stimulate with about 0.30% the current authorization of residential constructions.

The estimated coefficients highlight the heterogeneity of the construction industry and residential markets in EU countries. However, the results show some differences between Eastern and Western countries that are mostly determined by the regional socio-economic conditions.

According to Eurostat data compared to Western markets, the housing markets from Eastern countries are more active, where after the crisis has passed, the construction industry has started to grow by 14-30%. In most of the Eastern countries, the estimated results validate the housing supply theory (DiPasquale and Wheaton, 1992), according to which the growth of residential construction costs affects the output of construction industry, while the increasing of built area reduces the land availability that on long term contributes to the decreasing of construction volume. Unlike the Eastern countries, on the Western markets, the reduced availability of land for new constructions, particularly in the big cities, together with the growing urban population has generated in the last years an acute crisis of the affordable housing for the population with low and medium incomes². Between the two groups of states, the biggest differences exist in explaining the new housing supply depending on the institutional development. In the Western markets, the supply reacts to the efficiency of the institutional changes, unlike the ones from the East, where the effect is largely insignificant. This fact is due to the maturity and high transparency of the real estate domain in the Western countries,

² See Housing Inequality in Europe. Tackling Inequalities in Europe: The Role of Social Investment, Paris (retrieved from https://coebank.org/media/documents/Part_3-Inequality-Housing.pdf).



where the regulation (land regulation, administrative rules, housing policy measures) are more robust³.

Conclusions

This research investigates the equilibrium types related to the construction environment and institutional development across EU countries, using a VECM approach during the period 1995 - 2018. The research proposed an innovative way to identify the long-term equilibrium of the new housing supply, quantified through residential construction output, in relation to construction costs, building permits, housing prices, institutional development and urban population growth. All these dimensions represent the system of residential real estate.

The estimated results are very heterogeneous among EU regions, suggesting the local nature of the housing construction activity that reflects the socio-economic factors of each country. The estimations confirm that the equilibrium of residential construction is largely determined by the construction markets, housing markets, institutional efficiency and urbanization, validating the presumptions of urban theory. However, only in Belgium and Spain, the output of the residential construction industry is determined by all dimensions of the residential real estate system. In most Eastern countries, rising construction costs lead to a decrease in the volume of residential construction, unlike to Western countries where the effect is often opposite, which can be explained by the high demand for housing compared to the existing supply of living spaces. Also, in Western countries, housing construction is very sensitive to the reduced availability of land for construction. These empirical facts underline the housing shortage prevalent in the major European cities under the influence of urban population growth.

The effect of institutional development on the residential construction output is quite heterogeneous, because while in most Western countries (Austria, Cyprus, France, Germany, Greece, Portugal and Spain), the improvement of the institutional factor is reflected in the diminution of the new housing supply, meaning, in fact, the efficiency of the residential construction works, from the Eastern countries, the significant negative influence is visible only in Poland. These pieces of evidence are also validated by the significant influence of rising house prices, which in long-term reduce the construction of new homes in most Western countries, and in Eastern ones, on the contrary they boost the activity of real estate developers. Following the financial crisis of 2007 - 2008, the EU increased the protection measures against the risks of the real estate markets, demanding more transparency and efficiency from the tangential real estate institutions. The effect of EU regulations is more visible in the countries with mature and transparent real estate markets like Western. Thus, the improvement of

³ See *Global Real Transparency Index 2018. Transparency: Data, Disclosure and Disruption* (retrieved from [http://www.jll.com/greti/Documents/greti-revamp/JLL Transparency Report 2018 FINAL.pdf](http://www.jll.com/greti/Documents/greti-revamp/JLL%20Transparency%20Report%202018%20FINAL.pdf))

the institutional structures reduces the information asymmetry, transaction and search costs on the housing market, and accelerate the efficiency of the construction activity.

Housing is a key sector in the real economy and represents a major part of household wealth, which is why policymakers and supervisors should pay close attention to its evolution. Also, the reaction of the residential construction output is important to understand the housing price movements and market equilibrium in order to assure financial stability. The crucial need for affordable housing in many European states in a period of increased demand requires urgent action from the authorities that should reconsider the land-use zones that allow the building of new homes. For this reason, the approach used in this study could be applied in the analysis of long-term equilibrium relationships in European cities, in order to highlight the vulnerabilities of local markets in relation to national need.

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Appendix A. Descriptive statistics

EU countries	Residential construction output (<i>RCCO</i>)			Residential construction costs (<i>RCCI</i>)			Residential building permits (<i>RBP</i>)			Real housing prices (<i>HPI</i>)			Institutional development (<i>IDS</i>)			Urban population growth (annual %) (<i>URP</i>)		
	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Mean	SD
Austria	88	92.32	14.08	96	83.51	14.57	55	108.05	19.36	95	96.69	6.69	96	0.78	0.15	92	0.18	0.59
Belgium	72	102.18	3.18	75	91.90	7.44	95	96.25	15.54	95	82.05	18.24	96	0.51	0.22	92	0.57	0.28
Bulgaria	72	90.84	35.38	64	108.96	4.77	76	173.13	125.21	95	106.39	39.70	96	-1.35	0.20	92	-0.33	0.41
Croatia	72	83.75	20.58	75	109.29	2.28	76	105.10	41.57	95	100.96	16.85	96	-1.31	0.38	92	-0.04	1.02
Cyprus	71	93.24	28.17	84	98.08	13.94	76	75.70	37.28	67	89.09	20.30	96	0.06	0.39	92	1.42	0.59
Czechia	72	97.68	11.30	76	5.46	0.52	76	107.26	23.63	79	90.40	23.59	96	-0.38	0.18	92	0.04	0.33
Denmark	72	109.08	7.68	96	9.23	1.67	84	120.25	42.43	95	95.47	22.05	96	1.25	0.28	92	0.59	0.16
Estonia	68	139.69	38.94	83	147.34	12.37	84	168.08	114.51	87	134.42	58.84	96	0.19	0.29	92	-0.57	0.61
Finland	91	83.87	22.30	96	78.12	9.90	95	88.48	17.82	95	84.50	14.40	96	1.19	0.28	92	0.59	0.21
France	92	95.92	7.14	95	82.88	11.26	96	95.73	18.43	95	85.02	23.04	96	0.34	0.20	92	0.84	0.17
Germany	92	111.22	15.66	76	93.66	10.18	96	153.90	42.39	95	108.82	10.85	96	0.86	0.14	92	0.27	0.46
Greece	71	166.64	112.80	76	107.52	5.92	71	132.74	110.44	95	87.24	17.22	96	-0.79	0.32	92	0.49	0.37
Hungary	72	110.74	20.54	75	0.59	0.06	84	177.80	81.84	83	111.06	21.82	96	-0.43	0.19	92	0.12	0.38
Ireland	71	219.77	111.24	75	86.46	10.88	76	234.47	159.65	95	107.55	33.80	96	0.78	0.21	92	1.61	0.63
Italy	92	89.79	16.10	96	92.42	12.48	74	123.98	65.62	95	93.58	15.82	96	-0.55	0.38	92	0.48	0.39
Latvia	72	173.71	55.37	76	150.76	22.45	76	180.50	135.49	75	143.47	61.51	96	-0.84	0.37	92	-1.19	0.32
Lithuania	80	157.53	56.02	84	172.26	19.34	80	110.99	51.13	80	119.86	58.60	96	-0.69	0.41	92	-1.09	0.38
Luxembourg	72	97.69	3.64	74	83.87	7.33	75	108.14	28.14	95	88.69	23.55	96	0.92	0.25	92	2.11	0.45
Malta	72	92.40	25.47	75	132.52	7.08	75	143.23	59.42	95	96.30	18.38	96	-0.30	0.53	92	1.11	0.58
etherlands	72	103.51	8.02	76	90.02	7.43	96	113.84	33.32	95	93.97	19.38	96	0.99	0.22	92	1.49	0.36
Poland	72	104.80	19.78	75	40.46	1.66	76	92.03	26.09	72	95.18	27.97	96	-0.60	0.39	92	-0.16	0.24
Portugal	72	117.25	48.78	76	120.98	10.85	76	169.04	124.64	95	99.28	6.48	96	0.03	0.08	92	1.21	0.50
Romania	72	102.01	28.76	75	45.54	7.69	76	106.13	40.72	39	83.87	15.47	96	-1.49	0.33	92	-0.65	0.45
Slovakia	72	85.75	16.39	95	130.62	24.65	64	107.31	26.84	64	103.90	23.79	96	-0.87	0.20	92	-0.15	0.16
Slovenia	72	82.03	34.82	84	115.29	13.28	84	94.10	35.82	94	97.33	17.21	96	-0.33	0.34	92	0.47	0.73
Spain	72	125.49	34.64	96	96.86	15.00	95	277.07	175.65	95	91.56	25.91	96	-0.05	0.21	92	0.95	0.34
Sweden	92	86.99	17.56	96	7.71	1.41	76	108.16	39.64	95	75.94	20.81	96	1.06	0.26	92	0.77	0.50
UK	88	99.26	10.77	94	95.22	20.93	83	161.52	40.65	95	87.03	25.20	96	1.01	0.12	92	0.83	0.31

Notes: The database is constructed using quarterly time series over the period 1995-2018. The variables *RCCO*, *RCCI*, *RBP* and *HPI* are expressed as index with the reference base in the 2015 year. The variable of institutions (*IDS*) represents the first principal component extracted from indices of business freedom, investment freedom, financial freedom, government integrity and property rights. The criterion Benzécri was applied to determine the number of principal components. The *IDS* variable is uniformly explained by the input variables in a positive direction, about 40-50% of the variation of each variable.

Source: own representation based on Eurostat, World Bank and Heritage Foundation databases



Appendix B. Country-level unit root tests (augmented Dickey-Fuller tests)

	<i>RCCO</i>		<i>RCCI</i>		<i>RBP</i>		<i>HPI</i>		<i>IDS</i>		<i>URP</i>	
	levels	1st diff.	levels	1st diff.	levels	1st diff.	levels	1st diff.	levels	1st diff.	levels	1st diff.
Austria	0.18	0.00	0.83	0.00	0.05	0.00	0.06	0.00	0.30	0.00	0.44	0.02
Belgium	0.30	0.00	0.87	0.00	0.00	0.00	0.47	0.09	0.01	0.01	0.33	0.00
Bulgaria	0.13	0.05	0.17	0.01	0.07	0.02	0.87	0.00	0.66	0.00	0.11	0.00
Croatia	0.55	0.00	0.22	0.00	0.61	0.00	0.70	0.00	0.01	0.00	0.07	0.00
Cyprus	0.88	0.00	0.39	0.00	0.72	0.00	0.25	0.00	0.66	0.00	0.57	0.06
Czechia	0.22	0.00	0.82	0.00	0.29	0.00	0.78	0.00	0.25	0.05	0.75	0.00
Denmark	0.33	0.01	0.86	0.00	0.27	0.00	0.68	0.00	0.00	0.00	0.85	0.00
Estonia	0.05	0.01	0.21	0.10	0.10	0.00	0.40	0.00	0.47	0.00	0.20	0.00
Finland	0.83	0.00	0.73	0.00	0.10	0.00	0.12	0.00	0.00	0.00	0.51	0.00
France	0.75	0.00	0.62	0.00	0.23	0.00	0.72	0.00	0.18	0.00	0.13	0.02
Germany	0.07	0.00	0.90	0.00	0.27	0.00	0.19	0.00	0.26	0.00	0.04	0.00
Greece	0.86	0.00	0.46	0.03	0.73	0.00	0.61	0.00	0.44	0.00	0.28	0.03
Hungary	0.46	0.00	0.98	0.02	0.57	0.00	0.21	0.00	0.97	0.00	0.59	0.00
Ireland	0.66	0.01	0.15	0.00	0.73	0.00	0.85	0.00	0.02	0.00	0.17	0.03
Italy	0.89	0.00	0.92	0.00	0.84	0.04	0.69	0.00	0.05	0.00	0.40	0.00
Latvia	0.07	0.00	0.86	0.02	0.46	0.00	0.41	0.00	0.90	0.00	0.35	0.00
Lithuania	0.17	0.00	0.36	0.00	0.22	0.00	0.88	0.00	0.27	0.00	0.31	0.00
Luxembourg	0.00	0.00	0.65	0.00	0.00	0.00	0.97	0.00	0.00	0.00	0.72	0.00
Malta	0.97	0.00	0.12	0.00	0.05	0.00	0.78	0.01	0.34	0.00	0.49	0.01
Netherlands	0.12	0.02	0.87	0.00	0.15	0.00	0.61	0.00	0.00	0.00	0.47	0.01
Poland	0.56	0.00	0.25	0.00	0.73	0.01	0.67	0.00	0.49	0.00	0.03	0.00
Portugal	0.93	0.00	0.88	0.00	0.26	0.03	0.67	0.03	0.02	0.00	0.93	0.01
Romania	0.39	0.00	0.72	0.09	0.40	0.00	0.79	0.00	0.73	0.00	0.08	0.00
Slovakia	0.45	0.00	0.01	0.00	0.02	0.00	0.65	0.00	0.01	0.00	0.29	0.00
Slovenia	0.70	0.00	0.62	0.00	0.66	0.00	0.82	0.00	0.02	0.00	0.35	0.00
Spain	0.78	0.00	0.81	0.00	0.72	0.00	0.88	0.00	0.58	0.00	0.28	0.02
Sweden	0.93	0.00	0.68	0.00	0.68	0.00	0.69	0.00	0.50	0.00	0.97	0.00
United Kingdom	0.60	0.00	0.25	0.00	0.46	0.00	0.64	0.00	0.13	0.00	0.48	0.04

Notes: Lag length selection based on SIC criteria. The probability reported is the one associated with the null hypothesis that the time series has a unit root.

Appendix C. Results of the country-specific tests for cointegration based on Johansen procedure

Number of cointegration eqn(s)	None	One	Two	Three	Number of cointegrating eqn(s) (n) at the 0.05 level
<i>Austria</i>					
Trace statistic	246.748	156.460	86.749	49.801	4
p-value	0.000	0.000	0.000	0.000	
<i>Belgium</i>					
Trace statistic	273.997	164.435	108.230	63.329	6
p-value	0.000	0.000	0.000	0.000	
<i>Cyprus</i>					
Trace statistic	858.658	385.816	195.378	89.572	6
p-value	0.000	0.000	0.000	0.000	
<i>Denmark</i>					
Trace statistic	335.941	217.874	135.520	74.399	5
p-value	0.000	0.000	0.000	0.000	
<i>Finland</i>					
Trace statistic	248.279	148.711	72.504	39.517	4
p-value	0.000	0.000	0.000	0.003	
<i>France</i>					
Trace statistic	357.304	171.237	113.186	65.388	6
p-value	0.000	0.000	0.000	0.000	
<i>Germany</i>					
Trace statistic	420.480	248.086	109.423	61.815	5
p-value	0.000	0.000	0.000	0.000	
<i>Greece</i>					
Trace statistic	420.888	245.760	124.403	67.119	6
p-value	0.000	0.000	0.000	0.000	
<i>Ireland</i>					
Trace statistic	400.635	228.598	140.077	78.817	6
p-value	0.000	0.000	0.000	0.000	
<i>Italy</i>					
Trace statistic	397.504	232.199	106.198	61.861	5
p-value	0.000	0.000	0.000	0.000	
<i>Luxembourg</i>					
Trace statistic	270.924	160.826	66.003	34.029	4
p-value	0.000	0.000	0.000	0.015	
<i>Malta</i>					
Trace statistic	360.046	167.302	102.894	50.745	5
p-value	0.000	0.000	0.000	0.000	
<i>Netherlands</i>					
Trace statistic	359.268	187.412	102.050	34.343	4
p-value	0.000	0.000	0.000	0.014	
<i>Portugal</i>					
Trace statistic	364.268	228.022	129.560	71.018	6
p-value	0.000	0.000	0.000	0.000	
<i>Spain</i>					
Trace statistic	417.134	206.480	114.652	62.685	6
p-value	0.000	0.000	0.000	0.000	



Number of cointegration eqn(s)	None	One	Two	Three	Number of cointegrating eqn(s) (n) at the 0.05 level
<i>Sweden</i>					
Trace statistic	306.394	184.315	117.207	58.293	5
p-value	0.000	0.000	0.000	0.000	
<i>United Kingdom</i>					
Trace statistic	221.565	146.393	79.337	41.651	5
p-value	0.000	0.000	0.000	0.001	
<i>Bulgaria</i>					
Trace statistic	255.736	170.859	98.090	52.348	5
p-value	0.000	0.000	0.000	0.000	
<i>Croatia</i>					
Trace statistic	311.598	189.494	113.111	48.420	4
p-value	0.000	0.000	0.000	0.000	
<i>Czechia</i>					
Trace statistic	323.347	174.049	82.830	42.590	5
p-value	0.000	0.000	0.000	0.001	
<i>Estonia</i>					
Trace statistic	397.068	238.038	136.114	63.351	6
p-value	0.000	0.000	0.000	0.000	
<i>Hungary</i>					
Trace statistic	182.511	106.669	68.481	35.568	4
p-value	0.000	0.000	0.000	0.010	
<i>Latvia</i>					
Trace statistic	0.000	0.000	0.000	0.000	5
p-value	408.886	240.351	150.311	77.664	
<i>Lithuania</i>					
Trace statistic	369.904	157.606	93.778	45.568	6
p-value	0.000	0.000	0.000	0.000	
<i>Poland</i>					
Trace statistic	374.368	209.758	102.698	37.425	4
p-value	0.000	0.000	0.000	0.006	
<i>Romania</i>					
Trace statistic	385.860	242.117	122.494	54.145	6
p-value	0.000	0.000	0.000	0.000	
<i>Slovakia</i>					
Trace statistic	190.370	133.519	93.325	54.738	5
p-value	0.000	0.000	0.000	0.000	
<i>Slovenia</i>					
Trace statistic	295.833	176.526	99.114	55.268	5
p-value	0.000	0.000	0.000	0.000	

Notes: The null hypothesis of the Johansen trace statistics is that $rank(\Pi) = r_0$ and the alternative hypothesis is that $r_0 < rank(\Pi) \leq n$, where n indicates the maximum number of possible cointegrating vectors (see Equation 1).

Appendix D. VECM robustness tests

Models for countries	Autocorrelation tests		Normality test	Heteroskedasticity test
	Portmanteau Tests ^a	LM Tests ^b	Jarque-Bera ^c	White test ^d
	Q-stat.	LM-stat.	Chi-sq.	Chi-sq.
Austria	19.760	14.307	885.844*	686.388
Belgium	21.691	19.650	710.112*	651.454
Bulgaria	15.553	17.732	5358.893*	711.676
Croatia	20.739	18.740	1307.884*	780.515
Cyprus	36.140	35.595	2164.148*	644.998
Czechia	40.624	42.022	154.886*	672.320
Denmark	19.182	17.691	4637.956*	680.369
Estonia	31.387	23.422	3025.660*	675.713
Finland	49.759	49.412	948.129*	677.248
France	54.989	41.621	3030.505*	696.979
Germany	33.451	24.644	4582.126*	736.379
Greece	49.230	47.874	368.234*	730.075
Hungary	28.886	19.213	952.749*	680.267
Ireland	34.049	26.238	2153.410*	654.283
Italy	20.688	18.745	6010.943*	684.155
Latvia	30.340	25.713	4050.373*	699.316
Lithuania	26.510	16.527	2811.499*	697.023
Luxembourg	46.099	38.431	703.644*	592.150
Malta	28.651	31.151	381.660*	638.114
Netherlands	29.174	23.233	5219.986*	655.461
Poland	21.478	21.470	2953.336*	766.560
Portugal	36.585	30.593	125.948*	711.322
Romania	40.498	23.741	144.922*	613.520
Slovakia	24.450	26.365	1234.285*	700.079
Slovenia	37.801	41.932	2476.534*	632.419
Spain	40.816	37.642	4657.530*	800.424
Sweden	23.069	18.847	7364.251*	668.816
UK	43.512	33.3694	909.309*	667.770

Notes: ^a Null hypothesis: *No residual autocorrelations up to lag h*. The test is valid only for lags larger than 1, specified by the VAR estimation. Given the large volume of data, the table shows only the Q-statistic for the 2 lags, but note that for most of the countries, the test indicates the lack of autocorrelation for more than 2 lags.

^b Null hypothesis: *No serial correlation for 1 lag*.

^c Null hypothesis: *Residuals are multivariate normal*. Orthogonalization method – Cholesky method (Lutkenpohl). * indicates the p-value < 0.05.

^d Null hypothesis: *No heteroskedasticity*. The test includes cross terms.

The test statistics do not reject the null hypothesis for autocorrelation and heteroskedasticity tests, but reject the null of normality test.



Appendix E. Short-run coefficients

Western EU countries
Short-run coefficient, optimal lag = 1

Dependent variables	Austria						Belgium					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	-0.142 [-0.7254]	-0.029 [-0.37298]	-0.245 [-0.32518]	0.286 [0.89477]	0.000 [0.00026]	-0.497 [-0.47685]	-0.406 [-3.12325]	0.047 [0.68009]	-0.406 [-0.65376]	0.167 [2.07465]	-0.140 [-0.42649]	-1.070 [-1.49547]
$\Delta RCCI_{(-1)}$	-0.069 [-0.1708]	0.308 [1.89915]	-1.392 [-0.88788]	0.057 [0.08602]	1.257 [2.05292]	-0.798 [-0.36785]	0.047 [0.19234]	-0.035 [-0.27376]	1.114 [0.95855]	0.003 [0.01708]	-0.625 [-1.01894]	0.819 [0.61102]
$\Delta RBP_{(-1)}$	-0.009 [-0.2466]	-0.011 [-0.70989]	-0.493 [-3.41281]	-0.067 [-1.07773]	-0.061 [0.79038]	0.158 [0.79038]	0.040 [1.37000]	0.004 [0.27163]	0.285 [2.02125]	-0.004 [-0.22327]	0.017 [0.22695]	0.187 [1.15144]
$\Delta HPI_{(-1)}$	-0.031 [-0.30997]	-0.033 [-0.81105]	0.396 [1.01952]	-0.067 [-0.44462]	-0.067 [-0.10849]	-0.058 [-0.10849]	0.267 [1.39168]	0.180 [1.77347]	0.351 [0.38300]	0.326 [2.74541]	0.356 [0.73700]	1.927 [1.82293]
$\Delta IDS_{(-1)}$	0.077 [0.80121]	0.024 [0.61681]	0.161 [0.43110]	-0.019 [-0.12033]	-0.013 [-0.09046]	-0.011 [-0.02081]	0.013 [0.25031]	0.015 [0.55092]	0.034 [0.14077]	0.045 [1.41277]	-0.008 [-0.06346]	-0.200 [-0.71155]
$\Delta URP_{(-1)}$	0.014 [0.35310]	-0.013 [-0.87433]	-0.128 [-0.85844]	0.017 [-0.44627]	-0.026 [0.18368]	0.038 [0.18368]	-0.006 [-0.23784]	-0.002 [-0.14605]	0.111 [0.98120]	0.000 [-0.01927]	0.025 [0.41861]	-0.010 [-0.07711]
Dependent variables	Cyprus						Denmark					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	0.127 [0.96451]	0.044 [1.36154]	0.480 [1.94627]	0.237 [1.57186]	-0.246 [-1.87314]	0.103 [0.86920]	-0.251 [-2.33761]	-0.002 [-0.04012]	-0.130 [-0.15227]	0.015 [0.10993]	-0.207 [-0.95121]	0.199 [0.88393]
$\Delta RCCI_{(-1)}$	0.422 [0.68517]	0.139 [0.91627]	1.414 [1.22039]	0.074 [0.10446]	0.676 [1.09319]	0.079 [0.14209]	0.329 [1.09587]	0.006 [0.04381]	-1.422 [-0.59407]	-0.176 [-0.44851]	-0.056 [-0.09245]	-0.340 [-0.54034]
$\Delta RBP_{(-1)}$	0.076 [1.17551]	0.021 [1.31538]	-0.389 [-3.18196]	0.021 [0.28745]	-0.047 [-0.72444]	0.056 [0.96368]	-0.011 [-0.64134]	-0.011 [-1.44943]	-0.077 [-0.58716]	0.008 [0.39441]	-0.071 [-2.11905]	-0.042 [-1.21313]
$\Delta HPI_{(-1)}$	0.119 [0.82074]	-0.013 [-0.37724]	0.402 [1.47674]	-0.033 [-0.19913]	0.139 [0.95708]	0.127 [0.97583]	-0.094 [-0.97125]	0.046 [1.09456]	1.894 [2.46616]	0.501 [3.96999]	0.027 [0.13937]	-0.105 [-0.52049]
$\Delta IDS_{(-1)}$	0.098 [0.70847]	-0.004 [-0.10949]	0.320 [1.23104]	-0.006 [-0.04036]	0.090 [0.65168]	-0.007 [-0.05749]	-0.061 [-0.92504]	0.019 [0.66765]	0.314 [0.59810]	-0.048 [-0.55336]	-0.015 [-0.11583]	0.042 [0.30229]
$\Delta URP_{(-1)}$	0.072 [0.43564]	-0.026 [-0.62694]	-0.295 [-0.95064]	0.138 [0.72553]	-0.240 [-1.45005]	-0.147 [-0.98414]	0.141 [2.13076]	0.035 [1.18667]	0.095 [0.17912]	0.019 [0.21812]	0.117 [0.86963]	-0.008 [-0.05923]
Dependent variables	Finland						France					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	0.063 [0.61366]	0.054 [1.35952]	0.093 [0.30616]	-0.023 [-0.54019]	-0.018 [-0.03950]	0.118 [0.44435]	-0.102 [-1.02141]	0.059 [0.79723]	0.793 [1.16961]	0.119 [1.19905]	0.402 [0.89258]	0.131 [0.53208]
$\Delta RCCI_{(-1)}$	0.254 [0.79056]	0.167 [1.33448]	-1.001 [-1.09111]	-0.193 [-1.42060]	-1.541 [-1.08705]	-0.882 [-1.06000]	0.256 [1.58669]	0.068 [0.57061]	0.941 [0.86033]	0.030 [0.18576]	0.110 [0.15158]	-0.134 [-0.33682]
$\Delta RBP_{(-1)}$	0.058 [1.75955]	-0.007 [-0.52971]	0.161 [1.63556]	0.031 [2.22962]	-0.014 [-0.09569]	-0.022 [-0.25940]	-0.020 [-1.16701]	0.016 [1.23190]	-0.305 [-2.61466]	-0.002 [-0.12157]	-0.040 [-0.52149]	0.099 [2.34210]
$\Delta HPI_{(-1)}$	0.508 [2.102]	0.211 [0.652]	2.102 [0.652]	0.652 [0.652]	-0.202 [-0.202]	0.729 [0.729]	0.128 [0.128]	0.033 [0.033]	-0.124 [-0.124]	-0.057 [-0.057]	-0.069 [-0.069]	-0.244 [-0.244]

$\Delta IDS_{(-1)}$ $\Delta URP_{(-1)}$	$\Delta RCO_{(-1)}$	[2.40340] [-0.005] [-0.1933] 0.062	$\Delta RCCI_{(-1)}$	[2.56037] 0.002 [0.20853] 0.004	$\Delta RBP_{(-1)}$	[3.34543] 0.144 [1.84740] 0.263	$\Delta HPI_{(-1)}$	[1.728299] 0.018 [1.61820] 0.003	$\Delta IDS_{(-1)}$	[-0.21648] -0.017 [-0.14604] 0.003	$\Delta URP_{(-1)}$	[1.33053] 0.009 [0.13897] -0.067	$\Delta RCO_{(-1)}$	[0.95443] -0.008 [-0.28201] -0.003	$\Delta RCCI_{(-1)}$	[0.33791] -0.009 [-0.45791] -0.015	$\Delta RBP_{(-1)}$	[-0.13687] -0.025 [-0.13343] -0.293	$\Delta HPI_{(-1)}$	[-0.42834] -0.016 [-0.58647] -0.051	$\Delta IDS_{(-1)}$	[-0.11357] -0.030 [-0.24121] -0.127	$\Delta URP_{(-1)}$	[-0.73099] 0.002 [0.02532] 0.061
	Germany																							
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP						
	$\Delta RCO_{(-1)}$	$\Delta RCCI_{(-1)}$	$\Delta RBP_{(-1)}$	$\Delta HPI_{(-1)}$	$\Delta IDS_{(-1)}$	$\Delta URP_{(-1)}$																		
	$\Delta RBP_{(-1)}$																							
	$\Delta HPI_{(-1)}$																							
$\Delta IDS_{(-1)}$ $\Delta URP_{(-1)}$	$\Delta RCO_{(-1)}$	[-0.190] [-1.5879] -0.064 [-0.1709] -0.059	$\Delta RCCI_{(-1)}$	0.027 [0.63659] 0.1073 [1.30081] 0.017	$\Delta RBP_{(-1)}$	[0.03759] [0.03759] -3.779 [0.68391] 0.061	$\Delta HPI_{(-1)}$	[1.56157] [1.56157] 0.188 [0.68391] 0.030	$\Delta IDS_{(-1)}$	[0.48448] [0.48448] -0.067 [0.00212] 0.050	$\Delta URP_{(-1)}$	[1.748] [1.33106] 0.009 [0.00212] 0.213	$\Delta RCO_{(-1)}$	[-0.235] [1.35950] -1.423 [0.58217] 0.053	$\Delta RCCI_{(-1)}$	[0.031] [-0.60515] 0.084 [-0.49515] 0.003	$\Delta RBP_{(-1)}$	-0.162 [0.61940] -0.838 [-0.00816] -0.206	$\Delta HPI_{(-1)}$	0.028 [0.61940] -0.002 [-0.43789] 0.036	$\Delta IDS_{(-1)}$	-0.308 [-2.05054] -1.365 [-1.43789] -0.025	$\Delta URP_{(-1)}$	-0.158 [-1.18160] -1.155 [-1.36559] 0.039
	$\Delta RBP_{(-1)}$	[-1.6822] -0.054 [-0.3114] -0.113 [-0.1042] -0.002	$\Delta RCCI_{(-1)}$	[1.34036] -0.003 [-0.04925] -0.023 [-0.58679] -0.001	$\Delta RBP_{(-1)}$	[0.51324] -0.032 [-0.05343] 0.156 [0.41946] 0.043	$\Delta HPI_{(-1)}$	[1.17433] -0.059 [-0.39504] 0.023 [0.28283] 0.006	$\Delta IDS_{(-1)}$	[0.84125] -0.117 [0.39504] 0.016 [0.08819] 0.006	$\Delta URP_{(-1)}$	[0.55385] 0.255 [0.13322] 0.579 [0.48321] 0.055	$\Delta RCO_{(-1)}$	[0.75253] 0.860 [1.86414] 0.053 [0.38853] -0.097	$\Delta RCCI_{(-1)}$	[0.28347] -0.066 [-0.89061] -0.007 [-0.29692] 0.022	$\Delta RBP_{(-1)}$	[-1.54944] 0.874 [0.100742] -0.391 [-1.51980] 0.353	$\Delta HPI_{(-1)}$	[1.60856] -0.085 [0.54598] 0.008 [0.05663] 0.057	$\Delta IDS_{(-1)}$	[-0.33269] 0.266 [0.12625] 0.023 [0.17944] -0.202	$\Delta URP_{(-1)}$	[0.58469] 0.528 [0.58498] 0.008 [0.17944] -0.202
	$\Delta URP_{(-1)}$	[-0.1662] [-0.20893]	$\Delta RCCI_{(-1)}$	[1.03782] [0.65973]	$\Delta RBP_{(-1)}$	[0.28159] [0.41698]																		
	Italy																							
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP						
	$\Delta RCO_{(-1)}$	$\Delta RCCI_{(-1)}$	$\Delta RBP_{(-1)}$	$\Delta HPI_{(-1)}$	$\Delta IDS_{(-1)}$	$\Delta URP_{(-1)}$																		
$\Delta URP_{(-1)}$																								
$\Delta IDS_{(-1)}$ $\Delta URP_{(-1)}$	$\Delta RCO_{(-1)}$	0.614 [5.11531] 0.371 [1.75751] 0.027	$\Delta RCCI_{(-1)}$	-0.033 [-0.59598] 0.540 [1.50801] -0.037	$\Delta RBP_{(-1)}$	0.381 [0.86364] 0.493 [0.63425] -0.006	$\Delta HPI_{(-1)}$	0.314 [2.01663] 0.238 [0.86956] 0.051	$\Delta IDS_{(-1)}$	-0.036 [-0.20880] 0.043 [0.14274] -0.018	$\Delta URP_{(-1)}$	0.161 [0.43232] -0.154 [-0.23567] 0.037	$\Delta RCO_{(-1)}$	-0.130 [2.70587] 0.272 [0.84271] -0.069	$\Delta RCCI_{(-1)}$	0.126 [2.70587] 0.151 [1.18897] -0.013	$\Delta RBP_{(-1)}$	0.417 [1.14346] 0.165 [0.16356] -0.405	$\Delta HPI_{(-1)}$	-0.016 [-0.07660] -0.342 [-0.61310] 0.094	$\Delta IDS_{(-1)}$	-0.171 [-0.30983] 0.057 [0.21058] 0.039	$\Delta URP_{(-1)}$	1.152 [1.13790] 0.582 [0.21058] 0.325
	$\Delta RBP_{(-1)}$	[0.72212] [1.84737] 0.129 [1.26154] 0.045	$\Delta RCCI_{(-1)}$	[-0.04005] [1.58386] 0.053 [1.12645]	$\Delta RBP_{(-1)}$	[1.04845] [1.20254] 0.562 [1.49704]	$\Delta HPI_{(-1)}$	[0.32919] [0.56828] 0.083 [0.61538]	$\Delta IDS_{(-1)}$	[0.31598] [-0.16250] -0.026 [-0.19017]	$\Delta URP_{(-1)}$	[0.31598] [1.02327] 0.232 [0.73141]	$\Delta RCO_{(-1)}$	[-1.77500] [-0.22170] 0.009 [0.30154]	$\Delta RCCI_{(-1)}$	[-0.87711] [-0.46539] -0.008 [-0.74802]	$\Delta RBP_{(-1)}$	[-3.39315] [-1.37258] 0.077 [0.86518]	$\Delta HPI_{(-1)}$	[1.40972] [-0.06937] -0.029 [-0.57809]	$\Delta IDS_{(-1)}$	[0.21275] [-0.63153] -0.004 [-0.03209]	$\Delta URP_{(-1)}$	[0.98111] [1.29007] -0.026 [-0.10661]
	$\Delta URP_{(-1)}$	[1.09943] [2.64696]	$\Delta RCCI_{(-1)}$	[0.73760] [0.31779]	$\Delta RBP_{(-1)}$	[-0.31779] [-0.09910]																		
	Malta																							
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP						
	$\Delta RCO_{(-1)}$	$\Delta RCCI_{(-1)}$	$\Delta RBP_{(-1)}$	$\Delta HPI_{(-1)}$	$\Delta IDS_{(-1)}$	$\Delta URP_{(-1)}$																		
$\Delta URP_{(-1)}$																								



$\Delta IDS_{(-1)}$	[0.10987] -0.037 [-0.3812]	[1.34346] -0.012 [-0.3517]	[-2.2419] 0.118 [0.16531]	[1.41802] -0.001 [-0.0179]	[0.61013] 0.015 [0.11259]	[-0.7686] 0.059 [0.18576]	[-0.8543] 0.000 [0.00498]	[0.99018] 0.000 [-0.0222]	[-0.3380] -0.072 [-0.2447]	[-0.9308] 0.065 [1.47386]	[-0.9265] 0.060 [-0.49922]	[-0.8350] -0.005 [-0.0290]
$\Delta URP_{(-1)}$	[0.84976] 0.035 [0.84976]	[0.60067] 0.009 [0.60067]	[-0.4615] -0.139 [-0.4615]	[0.24654] 0.005 [0.24654]	[0.35591] 0.020 [0.35591]	[-0.0840] -0.011 [-0.0840]	[-0.7793] -0.040 [-0.7793]	[-0.1557] -0.002 [-0.1557]	[-0.0208] -0.005 [-0.0208]	[-0.9960] -0.033 [-0.9960]	[-0.1727] -0.107 [-0.1727]	[-0.3166] -0.042 [-0.3166]
Portugal												
Dependent variables	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	0.192 [1.58345]	0.063 [1.01335]	0.623 [0.65737]	0.064 [0.33867]	-0.215 [-1.2977]	1.004 [2.22484]	0.169 [1.36464]	-0.035 [-0.3526]	0.186 [0.56022]	-0.018 [-0.3061]	0.061 [0.31162]	0.022 [0.05347]
$\Delta RCCI_{(-1)}$	0.206 [0.79504]	0.174 [1.30950]	0.752 [0.37133]	0.055 [0.13819]	-0.067 [-0.1882]	0.244 [0.25307]	-0.190 [-1.1186]	0.039 [0.2875]	-0.474 [-1.0439]	0.144 [1.76558]	-0.042 [-0.1565]	0.322 [0.55874]
$\Delta RBP_{(-1)}$	-0.028 [-1.4459]	-0.009 [-0.9373]	-0.209 [-1.3719]	-0.048 [-1.5978]	0.004 [0.15305]	-0.052 [-0.7198]	0.096 [1.85307]	0.010 [0.2515]	0.307 [2.22311]	-0.029 [-1.1592]	0.022 [0.27026]	0.175 [0.99771]
$\Delta HPI_{(-1)}$	0.166 [2.01793]	0.009 [0.20699]	0.706 [1.09376]	-0.013 [-0.1050]	0.008 [0.07487]	0.155 [0.50335]	0.028 [0.11358]	-0.401 [-2.0674]	-0.017 [0.0267]	0.178 [1.53017]	0.096 [0.24847]	1.321 [1.60677]
$\Delta IDS_{(-1)}$	-0.116 [-1.1557]	0.026 [0.50765]	-0.470 [-0.6009]	0.003 [0.01971]	0.040 [0.29307]	-0.520 [-1.3971]	-0.084 [-0.9221]	0.010 [0.1405]	-0.590 [-2.4241]	-0.050 [-1.1514]	0.036 [0.24543]	0.024 [0.07737]
$\Delta URP_{(-1)}$	0.054 [1.51887]	0.023 [1.26719]	-0.028 [-0.1013]	0.039 [0.70490]	0.012 [0.25437]	-0.182 [-1.3658]	-0.002 [-0.0462]	-0.044 [-1.4885]	0.097 [0.98589]	0.038 [2.13950]	0.003 [0.04556]	-0.210 [-1.6771]
Sweden												
Dependent variables	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	0.063 [0.51007]	0.011 [0.32207]	0.435 [1.28362]	0.265 [2.26508]	0.090 [1.04953]	0.674 [1.56743]	-0.143 [-1.3248]	-0.012 [-0.2419]	-0.125 [-0.2476]	-0.103 [-0.7970]	0.065 [0.29609]	0.273 [1.37709]
$\Delta RCCI_{(-1)}$	-0.246 [-0.5766]	0.030 [0.2508]	-1.242 [-1.0682]	-0.202 [-0.5039]	0.057 [0.19477]	0.574 [0.38961]	0.328 [1.14595]	0.234 [1.8193]	0.161 [0.11990]	0.425 [1.23816]	0.121 [0.20598]	-0.372 [-0.7072]
$\Delta RBP_{(-1)}$	-0.015 [-0.2942]	-0.001 [-0.0919]	-0.041 [-0.3018]	-0.021 [-0.4458]	-0.025 [-0.7194]	0.028 [0.16157]	-0.052 [-1.6729]	-0.005 [-0.3696]	-0.410 [-2.8348]	-0.016 [-0.4430]	0.088 [1.39355]	0.062 [1.09537]
$\Delta HPI_{(-1)}$	0.019 [0.13588]	-0.051 [-1.2620]	-0.698 [-1.7850]	0.158 [1.16908]	0.110 [1.11298]	0.238 [0.48088]	-0.087 [-0.7801]	-0.035 [-0.6878]	0.518 [0.98546]	-0.027 [-0.2015]	0.113 [0.49216]	0.079 [0.38501]
$\Delta IDS_{(-1)}$	-0.134 [-0.67329]	-0.031 [-0.5443]	-0.292 [-0.5389]	-0.065 [-0.3455]	-0.026 [-0.1926]	-0.486 [-0.7075]	-0.016 [-0.2470]	0.014 [0.4664]	-0.358 [-1.1703]	-0.033 [-0.4198]	-0.034 [-0.2567]	-0.044 [-0.3699]
$\Delta URP_{(-1)}$	0.042 [1.04417]	0.002 [0.17504]	0.193 [1.77451]	0.044 [1.18079]	-0.001 [-0.0193]	0.072 [0.52508]	-0.093 [-1.1825]	0.045 [1.2889]	0.223 [0.60605]	0.035 [0.36776]	0.034 [0.21209]	-0.172 [-1.1893]
United Kingdom												
Dependent variables	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	0.021 [0.20465]	-0.085 [-0.9612]	-0.838 [-1.3943]	0.103 [1.27862]	0.332 [1.35501]	0.452 [1.89290]	0.021 [0.20465]	-0.085 [-0.9612]	-0.838 [-1.3943]	0.103 [1.27862]	0.332 [1.35501]	0.452 [1.89290]
$\Delta RCCI_{(-1)}$	0.165 [1.10015]	0.089 [0.67728]	-1.626 [-1.8178]	-0.007 [-0.0560]	0.230 [0.62967]	-0.433 [-1.2175]	0.165 [1.10015]	0.089 [0.67728]	-1.626 [-1.8178]	-0.007 [-0.0560]	0.230 [0.62967]	-0.433 [-1.2175]
$\Delta RBP_{(-1)}$	0.023 [1.16920]	-0.036 [-2.1060]	-0.148 [-1.2762]	0.023 [1.51688]	0.061 [1.28840]	-0.017 [-0.3649]	0.023 [1.16920]	-0.036 [-2.1060]	-0.148 [-1.2762]	0.023 [1.51688]	0.061 [1.28840]	-0.017 [-0.3649]
$\Delta HPI_{(-1)}$	0.407 [3.81198]	0.259 [2.76628]	1.719 [2.69668]	0.623 [7.30818]	-0.286 [-1.1007]	0.136 [0.53782]	0.407 [3.81198]	0.259 [2.76628]	1.719 [2.69668]	0.623 [7.30818]	-0.286 [-1.1007]	0.136 [0.53782]



$\Delta IDS_{(-1)}$	-0.065 [-1.15335]	-0.036 [-0.7396]	-0.466 [-1.3917]	-0.019 [-0.4219]	0.019 [0.13895]	-0.188 [-1.4084]
$\Delta URP_{(-1)}$	-0.022 [-0.42050]	0.015 [0.31986]	-0.233 [-0.7367]	0.017 [0.39197]	-0.014 [-0.1079]	-0.165 [-1.3130]

Note: t -statistics in []. The estimated coefficient is significant if the absolute value of the corresponding t -statistic is greater than 2.00.

Eastern EU countries

Short-run coefficient, optimal lag = 1

Dependent variables	Bulgaria						Croatia					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	0.308 [2.41259]	0.013 [0.22568]	0.378 [1.21976]	0.131 [0.56896]	0.022 [0.07314]	-0.009 [-0.17550]	0.392 [3.38156]	0.334 [1.90468]	0.479 [1.19581]	0.219 [1.18826]	-0.017 [-0.05145]	0.024 [0.01585]
$\Delta RCCI_{(-1)}$	-0.503 [-1.51658]	0.041 [0.27035]	1.249 [1.54815]	0.205 [0.34222]	0.135 [0.16860]	0.028 [0.19912]	0.108 [1.23812]	-0.013 [-0.09873]	0.470 [1.55552]	-0.098 [-0.70344]	-0.258 [-1.04148]	1.827 [1.62910]
$\Delta RBP_{(-1)}$	0.170 [3.21084]	-0.026 [-1.08099]	-0.017 [-0.13464]	0.159 [1.66723]	0.045 [0.35622]	-0.002 [-0.10501]	0.080 [2.16286]	-0.046 [-0.82745]	-0.195 [-1.52537]	-0.117 [-1.99299]	0.050 [0.47417]	-0.294 [-0.62006]
$\Delta HPI_{(-1)}$	0.042 [0.48584]	-0.066 [-1.68640]	0.107 [0.51507]	0.055 [0.35563]	0.009 [0.04371]	0.002 [0.04216]	-0.017 [-0.21932]	-0.179 [-1.50275]	-0.380 [-1.39046]	-0.153 [-1.22040]	0.134 [0.59957]	-1.135 [-1.12001]
$\Delta IDS_{(-1)}$	0.028 [0.43203]	0.000 [-0.01607]	-0.166 [-1.03903]	-0.076 [-0.64351]	0.001 [0.00633]	0.001 [0.04985]	0.034 [0.64284]	0.008 [0.10069]	-0.092 [-0.50503]	-0.097 [-1.16213]	-0.040 [-0.26525]	0.227 [0.33651]
$\Delta URP_{(-1)}$	-0.067 [-0.17587]	-0.021 [-0.12178]	-2.264 [-2.44655]	-0.329 [-0.47992]	0.071 [0.07763]	0.005 [0.02844]	0.008 [0.70171]	0.010 [0.59641]	0.035 [0.88634]	-0.009 [-0.49665]	-0.018 [-0.56341]	0.134 [0.92512]
Dependent variables	Czechia						Estonia					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	-0.159 [-1.11176]	0.021 [0.79509]	-0.169 [-0.60201]	0.051 [0.67776]	0.225 [1.50830]	-0.082 [-0.34620]	0.835 [15.1578]	0.100 [2.47270]	1.597 [1.96990]	0.331 [1.00067]	0.089 [0.43838]	-0.164 [-0.99370]
$\Delta RCCI_{(-1)}$	-0.107 [-0.17511]	0.233 [2.06268]	-0.881 [-0.73764]	-0.269 [-0.83878]	0.274 [0.42969]	-0.756 [-0.74469]	0.132 [0.78664]	0.038 [0.30970]	-1.881 [-0.76227]	0.716 [0.71072]	1.474 [2.37601]	0.699 [1.18792]
$\Delta RBP_{(-1)}$	0.133 [2.09915]	0.010 [0.88480]	-0.276 [-2.23007]	0.016 [0.46830]	0.037 [0.55944]	0.202 [1.92515]	-0.027 [-3.02892]	0.009 [1.37028]	-0.298 [-2.28782]	0.032 [0.60542]	-0.027 [-0.82346]	-0.009 [-0.36466]
$\Delta HPI_{(-1)}$	0.241 [1.17890]	-0.052 [-1.36895]	0.355 [0.88856]	0.603 [5.62554]	-0.090 [-0.42092]	0.714 [2.10137]	0.029 [1.28937]	0.021 [1.29278]	0.440 [1.34870]	0.065 [0.48449]	0.004 [0.04576]	0.016 [0.24372]
$\Delta IDS_{(-1)}$	-0.105 [-0.82241]	0.008 [0.34865]	0.188 [0.75063]	-0.014 [-0.21550]	-0.071 [-0.53320]	0.273 [1.27897]	0.005 [0.13178]	0.016 [0.53578]	-0.512 [-0.83912]	0.076 [0.30667]	0.009 [0.05948]	0.006 [0.04475]
$\Delta URP_{(-1)}$	-0.090 [-1.22176]	0.035 [2.55491]	-0.030 [-0.20803]	0.026 [0.66056]	-0.035 [-0.46029]	-0.121 [-0.98747]	-0.041 [-0.77452]	-0.006 [-0.15420]	0.932 [1.20673]	-0.019 [-0.06169]	0.018 [0.09200]	-0.110 [-0.69498]

Dependent variables	Hungary						Latvia					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	-0.287 [-2.40001]	-0.008 [-0.17604]	-0.192 [-0.71053]	0.006 [0.06265]	-0.094 [-1.01795]	-0.014 [-0.07261]	0.350 [3.35989]	0.011 [0.20528]	0.428 [1.00465]	0.264 [1.97078]	0.147 [0.83795]	0.257 [1.28444]
$\Delta RCCI_{(-1)}$	0.129 [0.39394]	-0.588 [-4.87565]	-0.476 [-0.64292]	0.229 [0.92294]	-0.347 [-1.37981]	-0.218 [-0.41166]	0.370 [1.46940]	-0.166 [-1.30506]	0.818 [0.79550]	0.122 [0.37710]	0.291 [0.68623]	0.631 [1.30637]
$\Delta RBP_{(-1)}$	-0.030 [-0.59026]	-0.001 [-0.05528]	-0.090 [-0.76986]	0.044 [1.13277]	-0.003 [-0.07469]	0.005 [0.05627]	0.048 [1.55920]	0.003 [0.22456]	-0.182 [-1.44720]	0.009 [0.23450]	0.005 [0.09992]	-0.085 [-1.43876]
$\Delta HPI_{(-1)}$	-0.283 [-1.35671]	0.089 [1.15592]	-1.045 [-2.21530]	-0.135 [-0.85720]	0.149 [0.92652]	-0.110 [-0.32566]	0.107 [1.05979]	-0.003 [-0.05516]	-0.203 [-0.49072]	0.334 [2.56757]	-0.151 [-0.88426]	0.108 [0.55740]
$\Delta IDS_{(-1)}$	-0.208 [-1.05230]	0.138 [1.89501]	-0.833 [-1.86353]	-0.083 [-0.55337]	0.120 [0.78721]	0.141 [0.44085]	-0.082 [-1.05819]	0.016 [0.40986]	-0.331 [-1.03848]	-0.043 [-0.43171]	-0.035 [-0.26352]	-0.014 [-0.09197]
$\Delta URP_{(-1)}$	0.089 [1.11967]	-0.014 [-0.48605]	0.065 [0.35850]	0.095 [1.57933]	0.014 [0.23071]	-0.002 [-0.01845]	0.182 [2.62045]	0.002 [0.06311]	0.260 [0.91441]	0.084 [0.94198]	0.051 [0.43463]	-0.043 [-0.32212]
Dependent variables	Lithuania						Poland					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	-0.006 [-0.04129]	0.069 [2.36818]	0.007 [0.02937]	0.297 [2.39990]	0.101 [0.99393]	-0.196 [-0.72816]	-0.093 [-0.77892]	0.033 [1.61766]	-0.155 [-0.57837]	0.046 [0.45069]	0.165 [1.15665]	-0.070 [-0.55097]
$\Delta RCCI_{(-1)}$	1.016 [1.63972]	-0.026 [-0.21075]	1.347 [1.31680]	0.070 [0.13091]	-0.416 [-0.95853]	1.005 [0.87105]	1.706 [2.47910]	0.194 [1.64886]	-0.324 [-0.21143]	0.015 [0.02579]	-0.284 [-0.34633]	0.267 [0.36796]
$\Delta RBP_{(-1)}$	0.069 [0.90762]	0.027 [1.79301]	-0.119 [-0.94798]	-0.020 [-0.31373]	0.045 [0.85709]	0.053 [0.37697]	0.097 [1.80623]	0.005 [0.50449]	-0.423 [-3.54759]	0.012 [0.26135]	-0.061 [-0.95827]	-0.003 [-0.05121]
$\Delta HPI_{(-1)}$	0.214 [1.57074]	0.001 [0.02036]	0.263 [1.16818]	0.034 [0.28732]	-0.027 [-0.28174]	0.254 [1.00234]	0.410 [2.78346]	0.007 [0.28663]	0.442 [1.34677]	0.220 [1.76614]	-0.081 [-0.46385]	-0.003 [-0.02041]
$\Delta IDS_{(-1)}$	0.194 [1.07728]	0.037 [1.01565]	-0.369 [-1.24127]	-0.024 [-0.15412]	-0.116 [-0.91660]	0.160 [0.47827]	-0.288 [-2.55631]	-0.001 [-0.07711]	0.017 [0.06761]	-0.027 [-0.28664]	-0.046 [-0.34244]	0.019 [0.15833]
$\Delta URP_{(-1)}$	-0.064 [-0.83563]	0.004 [0.25305]	-0.048 [-0.37910]	-0.121 [-1.83624]	-0.026 [-0.48574]	0.004 [0.02540]	0.029 [0.44135]	-0.001 [-0.10890]	-0.133 [-0.91558]	-0.040 [-0.73150]	0.004 [0.04802]	-0.002 [-0.02366]
Dependent variables	Romania						Slovakia					
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP
$\Delta RCO_{(-1)}$	-0.590 [-3.17579]	-0.073 [-1.52462]	0.142 [0.83533]	0.057 [0.25360]	0.092 [0.34641]	0.134 [1.20344]	-0.015 [-0.10657]	0.007 [0.32642]	-0.250 [-0.73684]	0.021 [0.19752]	0.005 [0.03332]	0.240 [1.59325]
$\Delta RCCI_{(-1)}$	1.451 [1.69140]	0.273 [1.23270]	0.121 [0.15401]	-0.811 [-0.77932]	0.133 [0.10845]	-0.880 [-1.71420]	2.236 [-0.97072]	0.002 [-0.15026]	-1.627 [-2.39034]	-0.956 [-0.76013]	-0.133 [-0.97232]	0.252 [-1.06083]
$\Delta RBP_{(-1)}$	-0.122 [-0.70525]	-0.019 [-0.43017]	-0.399 [-2.51971]	-0.157 [-0.74678]	0.246 [0.99092]	0.100 [0.96391]	0.020 [0.46278]	0.012 [1.81268]	-0.065 [-0.60009]	0.026 [0.74263]	0.043 [0.96456]	-0.059 [-1.21713]



$\Delta HPI_{(-1)}$	0.298 [2.10451]	0.092 [2.52431]	0.180 [1.38697]	-0.793 [-4.60906]	-0.187 [-0.92146]	-0.174 [-2.04983]	0.243 [1.20412]	-0.029 [-0.93246]	1.320 [2.65896]	0.145 [0.91918]	0.017 [0.08318]	0.117 [0.53145]
$\Delta IDS_{(-1)}$	-0.054 [-0.36562]	-0.016 [-0.43167]	-0.107 [-0.79508]	0.245 [1.37526]	0.047 [0.22409]	-0.003 [-0.03183]	-0.164 [-1.04193]	0.026 [1.08406]	-0.417 [-1.07497]	0.202 [1.63274]	-0.029 [-0.18580]	-0.106 [-0.61807]
$\Delta URP_{(-1)}$	0.370 [1.17865]	-0.012 [-0.14291]	-0.015 [-0.05243]	-0.079 [-0.20657]	0.000 [0.00050]	-0.114 [-0.60929]	0.126 [0.79777]	-0.003 [-0.13938]	-0.150 [-0.38724]	-0.067 [-0.54579]	-0.038 [-0.24278]	0.063 [0.36692]

Dependent variables	Slovenia											
	ΔRCO	$\Delta RCCI$	ΔRBP	ΔHPI	ΔIDS	ΔURP						
$\Delta RCO_{(-1)}$	0.074 [0.62798]	0.038 [0.98513]	0.036 [0.19707]	-0.052 [-0.77994]	0.160 [1.23758]	-0.220 [-1.40219]						
$\Delta RCCI_{(-1)}$	0.005 [0.01277]	-0.439 [-3.46087]	-0.939 [-1.56318]	0.237 [1.09558]	0.103 [0.24562]	0.155 [0.30385]						
$\Delta RBP_{(-1)}$	-0.273 [-3.05508]	-0.042 [-1.42742]	-0.138 [-0.98124]	0.003 [0.05203]	-0.003 [-0.03292]	0.369 [3.09855]						
$\Delta HPI_{(-1)}$	-0.088 [-0.37693]	-0.096 [-1.24052]	0.799 [2.18123]	-0.120 [-0.91230]	-0.170 [-0.66410]	0.176 [0.56540]						
$\Delta IDS_{(-1)}$	-0.307 [-2.55038]	-0.046 [-1.14191]	0.061 [0.32088]	-0.018 [-0.26846]	-0.041 [-0.30553]	0.143 [0.89074]						
$\Delta URP_{(-1)}$	0.076 [0.72859]	-0.062 [-1.78204]	0.227 [1.39184]	0.022 [0.37898]	0.017 [0.14579]	0.142 [1.02235]						

Note: t -statistics in []. The estimated coefficient is significant if the absolute value of the corresponding t -statistic is greater than 2.00.

THE NORMATIVE FRAMEWORK OF REGIONAL ORGANIZATIONS AND ASYMMETRIC EVENTS IN THE TIME OF GLOBALIZED THREATS

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Abstract

The redefinition of world architecture by global phenomenon rather than doctrines creates a sophisticated environment for the development of risks, vulnerabilities, and threats. In this new reality, the chaotic state of the world and the inequalities created by globalization are the main factors that offer an asymmetrical evolution to the sensitive events generated through tensions and crises. Against this backdrop, the article analyses how the European Union responds to asymmetrical events that have multiple sources and can develop vulnerabilities or risks to organizational security. In particular, the article demonstrates how the normative framework of the European Union answers to these challenges through the resilience and flexibility of norms, in a context of rapid change. Secondly, we question how the member states and their partners' reaction influence the correct application of the normative framework against potential threats.

Keywords: asymmetric events, normative framework, refugees, European Union, cooperation

Introduction

The world is facing an unprecedented growing number of systemic challenges, including fractures and dephasing in the face of the new trends (Ripsman and Paul, 2005; World Economic Forum, 2018). This is caused by the transformation of the world architecture from a systemic construction to a network one, by the availability of the new technologies, financial resources, and by the emergence of trends that accelerate the interconnectedness. Nevertheless, the security themes of the global agenda continue to be dominated by the military and economic subjects to which are added the new perspectives about cybersecurity and environment. Yet the social forces and the continuing change of world configuration determined that transnational activity and trans-governmental networks to induce a sophisticated plurality of dynamics and trends from global to the regional level. Consequently, the current perception of worldview and global order generates for the international actors, but also for societies, a fuzzy image about threats which is often accompanied by a very complex lexicon that

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incorporates the capability or resilience of actors to react in an unpredictable environment.

In this context of complex transformation on a global level and unpredictable state behaviour, which governs the dynamo, regional organizations are in the position of attractors for challenges due to the fact that their dimension and international behaviour frequently outline a collection of opportunities in a world which becomes more and more competitive. In the last decade, for the European Union, the real challenges were in most cases of organizational nature – BREXIT, Greece sensitivity, Ukrainian crises or the rise of populism. Yet, an exception from that model was the refugee crisis, which started to amplify from 2011 onwards. Nevertheless, in all cases, three aspects are essential to understanding what determined the appearance of these issues and their further evolution. The first argument refers to the construction of the European Union, the logic of which has its roots in a period of ideological and doctrinal competition between superpowers. This context and the systemic paradigm of IR (international relations) confers a degree of resilience on a regional level by permitting the integration of regional systems into the global system which allows the member states to benefit from unity and an environment which protects and sustains their interests. The change of the world paradigm in the post-Cold War era, however, caught the European construction in a period where member states shared common historical and cultural sources, factors which pushed the European Union to preserve the system organization despite world transformation. Secondly, the source of events and their drives have become so complex in implications and supra-dimensioned that today is very hard to follow or to predict a logical pattern of what will be happening. The information available can have a multitude of meanings for actors and offers a huge set of perspectives to the same situation, especially, in a world which tends to develop a hyper-connected configuration. Thirdly, threats and risks often develop distinctly and at a distance from organizational dynamics. This situation became possible due to complex interdependence, where sensitivity became the major vector of propagation and dissemination.

Due to these three aspects, the nature of actual risks in an international environment has known a reformulation from the classical paradigm, in the sense of approaching the problem from the perspective of the information that describes the baseline of event sources. In addition, the multiple factors of propagation, which often are atypical or nonconventional, induce to the tensioned events a random variation which can definitively change their implications and through that, the understanding of risks. All that makes the present world structuration to display a high degree of sensitivity to potential *butterfly effects*.

Under this backdrop, the paper analyses how the European Union generally perceives risks, in a world which suffers an accelerated transformation. In particular, we are interested in how can the European Union, as an organization, conceptualize a normative framework of legal norms that prescribe the basis on which to act and to offer a solution to the threat weaves stemming from the



international environment. The paper is configured as follows: in the first section, we approach international instability during actual transformation. We are interested in the factors and vectors that set-up the global dynamics and implicitly develop the source for risks or threats. In the second part, we analyse the refugee crises as a long-time event that generates huge sensitivity at the level of the European Union. The third part consists of a technical discussion from the perspective of European regulations and norms, which should ensure a degree of resilience in the face of this type of situations. The last part comprises of conclusions and discussions about the future of the European Union's capabilities to formulate a coherent answer to nonconventional risks.

1. The dynamo of security under global transformation

Traditionally, the security dimension from international relations has a military connotation (Mearsheimer, 2003; Kolodziej, 2005; Williams, 2006). Due to that, the main themes from the international agenda invoke directly or indirectly the use of force, threats prevention, and the security dilemma with the purpose of maintaining relative stability and state of peace in an interactive environment. Thus, the security domain is linked to policies by the capabilities of an actor that can satisfy the legitimate interests without amplifying the dynamics of risks or threats (Buzan, 1984). Yet, in the last decade, the security concept has known few changes, besides the incorporation of new elements, which are specific to the historical period. This changes the ontology of security and how the actors refer to it (Buzan *et al.* 1998; Fierke, 2015).

Two vectors sustain this doctrine in an international environment – geopolitical and geostrategic. During the Cold War, both have a relatively simple logic that examines the ideological confrontation and maintenance of the balance of power (Mearsheimer, 1990). However, today the volatility of the international environment and global phenomena, such as globalization or the Fourth Industrial Revolution, change not just the world logic, but even the nature of the threats' sources (Steward, 2011; Department of Defense, 2014; Schwab, 2017).

The shift of international perception from the West-East axis to a North-South axis and from the force of power to international influence, emphasize a redefinition of global trends through development processes and hyper-connectivity. All these transformations make the world a more sophisticated and unpredictable place where social transactions and their preferred outcomes represent new types of vectors for security themes. Therefore, the pressure, which results from this, is focused more on regions than on countries (Finbarr, 2017). Still, we need to recognize that political instability, conflicts, societal insecurity, and poverty remain the main sources for global tensions and the development of threats. However, the new world configuration and state behaviour are factors that amplify the development of asymmetry (World Economic Forum, 2017; Bello-Schünemann and Moyer, 2018).



Today the diversity of dimensions that characterize international interactions, and exchanges create a complex puzzle of issues and challenges relating to security and whose nature is often a combination of meanings, elements, perceptions and perspectives as projections of the future states. For example, the digitalization and advance of information technology combined with easy and cheap access to technologies into a hyper-connected space create a series of real issues in the cyberspace. Moreover, development acceleration of human society in the last century produced a series of climate issues, which cannot be controlled. Moreover, if we combine these with the inequality that has accentuated through globalization in the last three decades, we obtain through national development degree a partial source for huge demographic movements. From this perspective, the world became a multi-dimensional puzzle with a very sophisticated relationship between causality and effects.

This change of perspective from country to region brings into the discussion of security the development degree from the outlook of opportunities and prospection of realistic expectations. Thus, because the dominant dimensions, which determined the transformation trends put the accent on technology development and markets, regional organizations such as ASEAN (Association of Southeast Asian Nations) or the European Union, and countries such as China or the United States become very quickly, in a globalized world, the sources that dictate the trends (Blanton and Kegley, 2017). This label, however, came for each of them with huge benefits but also with serious threats for security, stability, and evolution. For the United States, it was a way to maintain its international supremacy and to be able to continue and propagate its innovation and creative process. Yet traditional societies perceive this continuity as threatening to the old conduit and to self-identify, a situation that generates a chain of firebox, conflicts, and tensions in different parts of the world. In addition, the maintaining of the image of the land of opportunities and due to incoherence in evolution in Latin America, this image generates a mirage that engages immigrant flows (Ikenberry, 2017; Steward, 2017; Wyne, 2018). For ASEAN and China, the acceleration of globalization was a point that started a series of structural reforms to ensure their resilience to the new world logic. They were able to develop a multilateral perspective and infrastructure, focused on the actual tendencies. Because of that achievement, the South-East region obtained a dynamical environment for manufacturing economic markets, and R&D of emergent technology (Rice, 2017; ASEAN, 2018). However, the price that needs to be paid is the appearance of volatility and versatility in an environment of evolution and stability. The series of crises that characterize the zone is a fine example. Moreover, despite the fact that China succeeded to impose itself as a great power in the world, to construct a complex network of foreign investments, and to compete as an equal with the United States for the domination of new markets especially on technology development or service, it was not exempt from economic sensitive situations and social movements which contest the party order.



For the European Union, the perspective of common markets and stability, allowed it to continue its economic development and to maintain its label as the largest market. In addition, the social stability in the member states, as well as the regional level, leads to the improvement of living conditions and the beginning of advancement for smart resources (Malgorzata, 2012). Nevertheless, apart from all main actors – countries or regional organizations – the European Union experienced in the last decade, the most sensitive situation. In part, due to its organization which is rooted in a historical paradigm, which no longer coincides with the new logic of global transformation. This is augmented by the weakness of leadership, both on national and supranational level, which complicates, even more, the situation of the European Union to predict future paths. The growth of populism, BREXIT, the tendency for an individualist approach of the international context rather than collective actions, are examples of systemic stagnation in the face of the new global forces (Mathers, 2016; Ammaturo, 2018).

In part, the geostrategic position of the European Union, high social expectation, and traditional relations with NATO and United States create a dual image of the “dreamland” and of “target”, in a context when neighbours experience long-term and hard transitions, conflicts, tensions, and ambitions for global affirmation. After the Arabian spring and the starting of the conflict in Syria, the European Union was confronted with a massive demographic movement and by an incoherent-discontinue answer, together with its neighbours to solve the situation. This was a complex situation that raised the pressure and controversy on the capacity of European institutions to create a responsive backdrop to events, which exhibit a randomness evolution with multiple implications (Pace, 2014; Del Sarto, 2016).

A network between the most important actors, to manage the world security and to determine a world order is not something new. However, the implications and limits of this type of configuration in the international environment become very fuzzy. The tendency of societies to strive for opportunities from the perspective of development, accessibility to new kind of resources, and stability, more than liberty or openness – as it was during of Cold War – generate, besides classical sources for risks, new dynamics that gear a huge spatiality of the world. In this security framework, the European Union was caught into an internal dispute of consolidation, to continue the convergence and integration process of member states after the financial crisis from 2009 (Fabbrini, 2016; Juncos, 2016). Unfortunately, this orientation for an organizational paradigm covers in many ways the world transformation which boosted the sensitivity degree, world logic, and sources for new dynamics or risks by growing the distance between developed regions and the rest of world. Second, the existence of the European Union as a system into a global network without the need to admit the necessity of diffusion as ASEAN put the European construction into a difficult position. This is bound to combine internal functionality with the management of a global position, through resilience to tensions of global transformation, including new security themes.



2. Migration as a threat to the security of the European Union

The ceaseless change of world configuration and the refocus of pressure on the regional level, have made the EU's own security dependant on what happens in its near abroad, its borderlands. As such, it is in the EU's best strategic interest to establish and maintain a stable MENA (Middle East and North Africa) region. Starting from 2004, the EU formalized and standardized its own policy towards its neighbours, through the European Neighbourhood Policy (ENP)¹ and the Union for the Mediterranean (UfM)². These represented the main instruments through which the EU transferred its own rules, standards and best practices, the *acquis communautaire*, to the countries of the Middle East and North Africa (Del Sarto, 2016).

Initially, the instruments focused primarily on political stability, economic prosperity and social cooperation, results that would be achieved through economic liberalization. In 2005, in order to calm the anxiety of Member States, concerning the threat that immigration stemming from the MENA region could pose to the security the EU, a fourth dimension was added (Abbott, 2018). From that point onward, the normative power of the EU was expressly used to ensure the prevention of irregular migration flows and the management of borders. The emphasis in this area is on prescribing the conditions for legal migration between the EU and MENA countries and establishing procedures for the return of illegal immigrants to their state of origin.

The notion of the EU as a normative power is conceptualized as the promotion by the EU of a set of principles, including peace, liberty, democracy, the rule of law and human rights (Manners, 2002). The EU is deemed to be a model to be pursued by choice and not by coercion. Nevertheless, the promotion of democracy and human rights in MENA states does not represent a priority for the EU, when security concerns are at stake, especially as the EU could accomplish its security objectives and risk mitigation by cooperating with the local leaders while ignoring their clear autocratic tendencies (Woollard, 2018). As such, throughout the years, the EU cooperated with Ben Ali of Tunisia, Qaddafi of Libya and Mubarak of Egypt, among others, in an effort to prevent unwanted migration to Europe. With the aim of bolstering security, part of this cooperation included, from 2007 onward the participation of MENA countries in the workings of a series of EU agencies, such as FRONTEX and EUROPOL.

¹ The countries included in the European Neighbourhood Policy (ENP) are divided, based on their geographical location into the Eastern Partnership and the South Partnership. This article will only refer to the Middle East and North Africa (MENA) countries when mentioning the ENP.

² The Union for the Mediterranean (UfM) is the successor to the Euro-Mediterranean Partnership (EMP), adopted in 1995 through the Barcelona Declaration. The acceptance of the EMP was limited, and the results of the partnership were disappointing. As a result, in 2008 the EMP was restructured and transformed into the UfM.



The Arab Spring, the uprisings and revolutions of 2010-2012, that contested the existing political and economic order of the MENA states, disrupted the delicate balance set up in the region, balanced achieved only with the aid of the existing authoritarian regimes. The shock prompted the EU to respond by way of its normative power, by reviewing its ENP and launching the “Partnership for Democracy and shared prosperity with the Southern Mediterranean”. Its aim is the “strengthening of capacity building in the Mediterranean countries on borders/migration/asylum and more effective law enforcement cooperation to improve security throughout the Mediterranean” (EC, 2011). It also specified that the post-revolutionary governments will have to continue the previous collaboration with the EU border agency. While the aim of the protests was to bring regime changes to the region, for most of the countries involved they led to increased instability leading to civil wars (Syria, Libya), new authoritarian regimes (Egypt), widespread oppression and severely limited access to food and basic healthcare (History, 2018).

The conflict in Syria, coupled with the instability of other MENA countries, led to a large increase in refugees arriving in Europe in the 2015-2016 period. The acute period of instability, the massive population displacement, represented a direct consequence of the crisis in the Arab Spring countries, a continuation of a previous shock (Salameh, 2018). The EU was confronted, right after recovering from the financial crisis, with a massive demographic movement. Only in 2015, 1 million people entered into the EU, mostly from Turkey, through Greece and then on land towards the Western Member States. This complicated situation put enormous pressure both on the EU institution, managing the crisis internally and on the ENP. The crisis led to a new review of the ENP in 2015, with the EU aspiring to “better support the different aspirations, values, and interests of our partners” (EC, 2015).

The bilateral agreement entitled EU-Turkey Statement of March 2016³, managed to limit the number of people arriving into the EU. Among others, the agreement states that all new irregular migrants crossing from Turkey to the Greek islands will be returned to Turkey, that for every Syrian being returned to Turkey from the Greek islands, another Syrian will be resettled to the EU and that Turkey will take any necessary measures to prevent new sea or land routes for irregular migration opening from Turkey to the EU. Considered at first an exceptional measure, its success prompted debates on its introduction into the ENP. The objective of the EU became the prevention of arrivals to the EU, by the externalization of refugee protection to countries that are not member states. The Member States, especially the most affected by the crisis, concluded separate bilateral agreements, independent of the EU. One such example is the deals concluded between Italy and France and the government of Libya, or different

³ Retrieved from https://europa.eu/rapid/press-release_MEMO-16-963_en.htm

militias, regarded as instruments that do not respect basic human rights standards but with the endorsement of the EU.

3. Resilience in the face of risk through a normative framework

The Merriam-Webster Dictionary, defines resilience as the ability to recover from or adjust easily to misfortune or change⁴. Resilience has thus become a central evaluative concept, traditionally used to explain social and ecological systems that are dynamic, complex, and subject to swift and unpredictable change. Resilience theory, states that the presence of certain protective factors reduces the exposure to adversity. As such, the more protective the assets are, the higher the level of resilience. The theory has also been transported to the law domain, assessing both the quality of laws, quality of legal systems and the quality of the aim one wishes to achieve through the law (Ruhl, 2011). For the purpose of this article, we will look at resilience, not as a quality of a single specific legal instrument or of the whole of the EU as a legal system, but as a quality of legal agreements applicable for the MENA region. Thus, the article will address the adaptability and resilience of the principles applied by the EU during the Arab Spring and refugee crisis to stem the irregular immigration and minimize threats to its security.

From a structural standpoint, the ENP is composed of bilateral legal agreements, in the form of Partnership and Cooperation Agreements (PCA) or Association Agreements (AA)⁵. These contractual relationships, concluded between the European Union (EU) and a non-EU country, promote among other aspects, close relations on security matters. The legal basis for their conclusion is found in the EU primary law, both in the TFUE and in the TUE⁶. The agreements also offer the possibility of applying for “advanced status”, which aims for regulatory convergence between the parties. Even more profound cooperation can be achieved through the Deep and Comprehensive Free Trade Area (DCFTA), a free trade agreement which given MENA states access to the internal market. In reality, the agreements refer to an accelerated absorption of EU norms by the neighbouring states, a regulatory approximation (EC 2011). As such, while MENA states have the right to decide on the intensity of their collaboration with the EU, the contract is one of adhesion.

The ENP, viewed as a series on parallel relations between the EU and MENA states, had to be augmented by regional multilateral organizations that

⁴ Resilience is also defined as the capability of a strained body to recover its size and shape after deformation caused especially by compressive stress.

⁵ Ancillary to these agreements are the ENP Action Plans, which define an agenda of political and economic reforms by means of short and medium-term (3-5 years) priorities, including in the area of justice and home affairs.

⁶ Article 217 of the Treaty on the Functioning of the European Union (TFUE) and Article 8(2) of the Treaty on European Union (TEU).



would provide a forum for information exchange, cooperation and hopefully coordination. The EMP and then the UfM managed to fulfil this role, with debatable levels of success (Stivachtis, 2018). Over the years, the EU has adopted and periodically reviewed its legislation dealing with MENA countries. Nevertheless, there are a series of principles that emerge from the normative framework, and outlines the philosophy of the EU, namely the principles of “differentiation”, “conditionality” and “mutual accountability”.

The differentiation principle states that the more and faster a country adopts EU norms and rules, the more support and financial aid it will receive from the EU. As such, each MENA country will develop a unique relationship with the EU, will be assessed individually and will have the liberty to choose the right level of involvement. The application of the principle is based on the more general-purpose principle of “more for more”. Faster reform, as in more integration, is thus rewarded with aid, support, and trade, more carrots. As such, the approximation of laws and the implementation of the *acquis communautaire* in the MENA area is and will be in the foreseeable future, a patchwork, advancing at multiple speeds. The EU does not seek to impose a model or a ready-made recipe for political reform. The level of implementation by MENA countries of EU rules and norms is periodically assessed by the EU Commission and the European External Action Service (EEAS). The principle of conditionality overlaps substantially with the more for more principle, and tie the advantages conferred by the EU to the improvement made by the MENA states.

The meaning of the principle entitled mutual accountability is harder to define because it has not been properly spelled out in the relevant legal instruments. Is it just a synonym for solidarity and good faith between the parties to a contractual agreement? As previously mentioned, the EU has the power to assess the MENA countries and, based on the results, decide to award certain advantages. There is no reciprocal right for the MENA countries to evaluate the EU or even participate in their own evaluation. There is also no right for the MENA countries to participate in the legislative decision-making process at EU level, not even in the procedures containing legislation they will eventually also apply.

Despite the flexibility of these principles, their actual application by the EU proves a little more problematic. This is because, according to primary law, the EU has no exclusive competences in the area of asylum, irregular migration or security, acting mostly as a supranational coordinator. In order to ensure a smooth interaction between the EU institutions and Member States, the principle of solidarity was instituted, which states that immigration policies are to be governed by the principle of solidarity and fair sharing of responsibility, including its financial implications (art. 80 TFEU). Nevertheless, the proper management of migration flows was and is hindered, by the lack of a synchronization between Member States.

During the 2015-2016 refugee crisis, differences such as the geographical position or the level of economic development of Member States, made them

experience risk differently and as a consequence led to different appetites to address the crisis and shoulder responsibility. This lack of solidarity, in contradiction to the Treaty provisions, deepened existing fault lines and transformed the refugee crisis into a regional political crisis. It thus generated huge sensitivity at the EU level, and exposed shortcomings of the existing normative framework that prescribes the internal working of the EU. Considering the Member States treated the refugee crisis, as a high level risk that affected their national interest, the response was construed as national ignoring the regional dimension. The responses also disregarded at first the normative framework instituted by the EU in regards to the MENA countries.

In this dynamic and ever-changing context, increasing the resilience of the legal system, especially with regards to migration represents an objective of the EU. A resilient system would enable the EU, to flip back to a “new equilibrium state” (Ruhl, 2011) after withstanding shocks. However, while resilience is a desired quality for any legal system, and a main variable for evaluation, it does not represent an absolute standard. This is because a legal system can be at the same time both resilient and infamous or immoral. For example, in the area of immigration, not adhering to human rights legislation, as the EU has been accused of doing in numerous cases, might actually make the system more resilient and better equipped to deal with the security threats posed by immigration from MENA countries. The new President of the EU, Ursula von der Leyen recently addressed this criticism, by proposing to introduce new legislation on migration and asylum that would be both “effective and human” (AFP, 2019). However, this future review of the legislative framework concerning migration will address the legal instruments that govern the relationships between EU member states, more precisely the Dublin Treaty and the intra-EU relocation agreements and not the direct relationships between the EU and MENA countries.

Moreover, when analyzing resilience, one has to distinguish between the resilience of the legal system and the resilience of the system that is regulated by the legislative framework (Ruhl, 2011). As such, the resilience of the legal system is not valuable in itself, but as means through which the EU can achieve a resilient immigration and security system. This quality is especially important in the current international context characterized by increasing threats to security and raised sensitivity in front of events.

The literature on resilience (Ruhl, 2011; Arnold, 2013) identifies three features that any system which can withstand changes should have. There are scalability, modularity and evolvability. Scalability represents the property of a system to grow and manage an increased demand, both a temporal and spatial point. Modularity represent the separation of the functionality of a program into independent and interchangeable modules that adjust to changing conditions. Lastly, evolvability allows a system to be both scalable and modular over a certain period of time, to reach a certain level of stability.



Another concept, usually analysed in connection to the resilience of a legal framework, is the adaptability of a law framework. While some articles treat adaptability and resilience as distinct but complementary concepts (Ruhl, 2011), with adaptive capacity as a term that describes the best combination of the resilience features, other consider them to be interchangeable (Arnold, 2013).

The legal framework applicable in the relations between the EU and MENA countries, which was presented beforehand, is characterized by a series of parallel relationships that establish a set of rules and principles, specifically the principles of “differentiation”, “conditionality” and “mutual accountability”. This system was and is scaled up spatially, to integrate different countries with different legal and cultural traditions. Moreover, the system is modular enough to allow for different levels of integration, through the application of the principles of differentiation and conditionality. The normative framework contains as such a formal follow-up mechanism that allows to integrate new information into an ongoing decision making process. This is especially important considering that in the area of immigration, not all effects can be predicted and evaluated at the moment a certain decision is made. Finally, the system was founded in 1995 and from that point onward has endured a number of crises such as the Arab Spring and the 2015-2016 immigration crisis – the feature of evolvability. As such, we can conclude that the MENA legal framework, meets all the criteria used to evaluate the resilience of a system.

Conclusions

The globalization, as a global phenomenon, brings forward, from the perspective of security, the huge implications of the asymmetries in the development of risks and vulnerabilities. In addition, besides the hyper-connectivity process that raises the sensitivity in front of the events, the global phenomenon replaces the political-military complexity of the interstate interaction with a more sophisticated character that implies society and culture. In front of this backdrop, the states find their resilience into regional constructions or agreements. However, under the impact of the financial crisis from 2007, and the growth of global inequality the sensitive events have seriously tested these formal and institutional constructions.

In a similar situation, due to his stability, life condition, and growth, the European Union became an attractive target for emigrants first due to social-cultural implications, and second because of economic-security stability. In the face of this challenge, as a regional organization, the European Union was in the situation to respond to events whose sources were farther from his capacity to act. Thus, the European Union find that is more opportune to respond through neighbour policy as an instrument that can secure the region using regional partnerships. However, the article emphasizes that, in this situation, the difference from how the actions there need to be correlated and what to contain, make that common actions of the European Union with his regional partners to be minimal.



Second, the way in how the actors report to their internal norms and international laws to create an action framework produce a breach in implementation and continuity. And last, the internal state of each actor involved in solving the situation is, in reality, a political factor that determined that the refugee situation to be understood as a pressure point in interstate policy interaction.

For member states, the refugee situation is an event that challenges not just the relations among the member states, but even the normative capacity of the organization to respond. In fact, these two parts are strongly linked and reveal clearly the incongruities which exit on the European Union about how the organization needs to report from the perspective of interest to the new type of events. Moreover, the power of normative framework to construct sustainable solutions in the long term is mainly banned by the lack of capacities to impose on the international environment. In addition, the individualism of actors, and their political interest to follow more a personal agenda in the geopolitical stage, rather than consolidate and to sustain the organizational interest, represents a high vulnerability.

The present article has applied the theory of resilience to a limited and clearly defined part of the legal framework of the EU, respectively the normative framework established by the EU for its relations with the MENA region. This theory can nevertheless be applied to other areas of the legal system, in order to evaluate their resilience. In particular, a future research could use the same theory to evaluate the EU legislation that regulates immigration, at the intra-EU level, more precisely the Dublin Treaty and the relocation agreements. This will further on permit a comparison between the resilience levels of the normative framework on immigration regarding the MENA region as opposed to the intra-EU level.

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EUROPEAN INSTITUTIONAL MECHANISM FOR POLITICAL RESPONSE TO CROSS-BORDER CRISES – EFFECTIVENESS IN ENSURING EUROPEAN SECURITY AGAINST TERRORIST ATTACKS AND THE REFUGEES AND MIGRANTS CRISIS

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Abstract

In recent years, the European Union, as a supranational actor, with the declared objective to play an important role in the security field, has developed its own regulatory framework and capabilities in order to manage the cross-border crises. In the service of this objective, European Union has built a mechanism aiming at coordinating and leading at the highest political level the response to threats that require by the nature of their consequences a conjugated reaction. We propose ourselves to analyse its effectiveness by studying the events that generated the triggering of the mechanism, or which could have led to the triggering of this mechanism, but did not do it. The approach of the threats that transcend the national boundaries can involve actions which start with the interconnection of states' response capacities to their integration through the framework advanced by EU.

Keywords: IPCR, terrorism, crisis management, solidarity clause, temporary arrangements

Introduction

The emergence of the EU's security dimension has manifested as a response to various types of threats (Stephenson and Rhinard, 2008, pp. 1-26), but the present work aims to document and assess the evolution of processes contributing at the redefinition of the institutional instruments and of the mechanisms developed in order to ensure as much coordination and complementarity as possible between Member States' efforts, regarding two types of crisis-generating situations. On one hand, a first analysis, carried out both from the perspective of the engine role of the evolutions and the evidentiary role of the product of these developments, is given by events disruptive for the internal security such as terrorist attacks produced in the territory of European or extra-European with repercussions on the European states. On the other hand, we will refer to the analysis of the modality of managing the situations occurring at the external borders of the Union as a result of the flows

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of illegal immigrants, which implies the reshaping of the legislative framework in order to allow a structured and predictable response, situated in a stage of negotiation and alternative proposals until the completion of the negotiations.

Both types of security threats, related to the recorded crises and to the policies and strategies developed by the European Union, were at the basis of the response approaches materialized in the optimization of the normative and institutional framework for integrated crisis management of the cross-border crisis. The objective of providing Member States with leverage to access operational capabilities and the EU-level decision-making process has been achieved by signing arrangements designed to allow for coordination in crisis situations and the response at the political level of the European Union (by assigning a central role to the Council of the European Union), respecting the attribute of complementarity in relation to the actions of the competent authorities of the Member States. The full implementation of these arrangements has been the subject of evaluation reports, which led to the identification of new possibilities for improvement of the developed mechanisms and finally to the reform of the normative framework. In this regard, in order to implement the *solidarity clause* (article 222 TFEU), the set of mechanisms and tools aimed at providing an EU response to crises has been perfected and expanded.

So far, crises related to terrorist attacks and those caused by migrants in need of international protection have been addressed both at Member State level and by recourse to the mechanisms developed at European Union level, in which case the coordination has oscillated between facilitating the exchange of information between Member States and bringing forward proposals for action. The complexity of the phenomenon represented by transnational terrorism involves, in terms of the EU reaction to terrorist incidents (in 2017 there were 282 terrorist incidents in Europe, Institute for Economics & Peace, 2018, p. 2), the development of support mechanisms in crisis situations, particularly by virtue of the principle of solidarity. The setting-up of an automatic relocation mechanism through the allocation of quotas was an exceptional measure in an exceptional situation, but subsequent to the crisis of refugees from 2015 has not been reached a long-term solution. The current practice is based on the assumption of *pledges* from the Member States for the relocation of migrants who are the subject of search and rescue operations, in the absence of these pledges the states in the front line (Italy, Malta, Spain) refusing to disembark migrants, despite the urgent need for action in to counterbalance dramatic effects reflected by the statistical data on the number of deaths recorded on the Mediterranean routes (between January and August 2019, the estimated number is 909 deaths and 53,916 arrivals on the Mediterranean transit routes)¹.

¹ Flow Monitoring. Arrivals to Europe, 2019 (retrieved from <https://migration.iom.int/europe?type=arrivals>).



1. Crisis Coordination Arrangements (CCA)

Due to events with a cross-border impact, which have brought to light the need to act above the national plan in the crisis-management area, respectively of involving an actor which would use its institutional resources and which would update its regulatory framework with the aim of ensuring the coordination of actions between States in the event of a crisis, EU agreements for coordination in emergency and crisis situations have been adopted (*EU Emergency and Crisis Coordination Arrangements/CCA*).

The identification of the absence of an arrangement for the coordination at the highest political level of the actions for managing the crisis situations produced inside or outside the Union, with repercussions on the security of the Member States, triggered the reactive action of the European Union in response to these events. As a result, the CCA has established the way in which the EU institutions and the affected Member States interact in a crisis situation.

The need of adaptation to the deepening of the cross-border nature of the challenges faced by EU Member States in the security plan, in the conditions of an overcoming of the internal capacity of the States to act individually, constituted the impetus for initiating a process of establishing the legal basis for the management of the crisis with cross-border effects at the Union's level. At the foundation of this release was the paradigm shift, intervened with the attacks of the 11th of September 2001, in the relation with the terrorist threat, a shift initiated by the United States' declaration of the *War on Terror*, followed by virulent position-assuming in the implementation of legislative instruments and counter-terrorism strategies at European and global level.

In this context, the European Council launched a strategic guidance line for the European institutions, which led to the proposal and negotiation of integrated and coordinated EU crisis-management arrangements for crises with cross-border effects within the EU, with the designation of the deadline of the 1st of July 2006 for their implementation (Council of the EU, 2005, p. 10). The process of establishing a legal framework to enable the coordination and the augmentation of the efficiency of the decision-makers' response in crisis situations, including through the exchange of information, has been driven by the events with a security impact - the bombing attacks in London on July 7, 2005 (O'Brien, 2016, pp. 199-200), followed by the assuming of the decision to act, "particularly for terrorist attacks on more than one Member State" (Council of the EU, 2005).

EU Emergency and Crisis Coordination Arrangements (CCA), adopted in December 2005 (Council of the EU, 2005, 1-2 December) have been implemented since July 2006, at which time they were not fully functioning, engaged in a process of full implementation. At the centre of CCA there was a *Crisis Steering*

Group subordinated to COREPER II² (Larsson and Olsson, 2009, p. 127); as such it was managed at the level of the Council of the European Union and was addressing institutional and cross-sectorial issues, with a profile both technical and political, immediately below the highest decision-making level of the Council. A progress report developed one year after the adoption of the CCA highlighted issues that could have supported an improvement in relation to the objectives stated in the *Manual on EU Emergency and Crisis Coordination*, approved in order to facilitate the implementation of the CCA, with the profile of a document that can be permanently updated and adjusted as a result of periodic reviews. The manual is structured in sections referring to the following issues: EU agreements for political coordination at the level of the European institutions for major crises inside and outside the Union, pre-established points of contact in the Member States, available at all times in the case, for example, of the occurrence of a terrorist attack, as well as the activity of identifying a single point of contact for all types of emergencies, good practices and tools for the cross-border cooperation within the EU and with third countries (Council of the EU, 2007, 20 June).

In the enforcement of the CCA, the impact of a crisis, respectively its assessment by the Member State/States directly affected shall shape the course of response. This can be achieved either with the support of other Member States or the EU institutions, in which case it involves the coordination at the political level of the EU, or without external support, in which case it relates to the management of the crises at national level, without recourse to the CCA. Between the two cases, a third case is placed which involves recourse to external assistance without the need for EU coordination, but involving the recovery of the national contact points indicated in the CCA, for the provision of operational support.

In the event that the affected Member State took the decision to call for political coordination at EU level, the commissioning of specific procedures followed: The transmission of information on the crisis to the General Secretariat of the Council (Sit Cen), to the specially appointed representatives within the Council and the Commission, the consultation between representatives who have come into possession of information with the aim of analysing the opportunity of triggering the crisis-coordination agreements, taking the final decision on the activation of the CCA by the Presidency of the Council, in agreement with the Member State/States directly involved. The activation of CCA was performed by convening the Crisis Coordination Group, which consists of representatives of the Presidency of the Council, the Member States affected (permanent representatives within the Permanent Representation of the Member States at Brussels), the General Secretariat of the Council (Deputy Secretary-General), the European

² COREPER (Committee of the Permanent Representatives of the Governments of the Member States to the European Union) is a working group of the Council of the European Union composed of each member states' permanent representatives which has responsibility for all EU policy areas, characterized by rapidity and high political commitment.



Commission (the Secretary-General), with the role of assessing the situation and formulating a preliminary view on the EU's response options. The central body for the coordination of the decision, the Committee of Permanent Representatives (COREPER), was acting by taking into account the national competences, the actions undertaken by the States and the European institutions, with the objective of imbuing coherence and coordination in the formulation of the response to the crisis in the concrete case (Council of the EU, 2007).

2. Integrated Political Crises Response Arrangements (IPCR)

At the level of EU, a mechanism has been relatively recently developed regarding the reaction to non-predictable situations that have the potential to develop as threats to the security of Member States, namely terrorist acts and any type of situations that can be qualified as major crises. “The European Union counter- terrorism strategy”, adopted on November 30, 2005 (Council of the EU, 2005), formulated the EU-wide objective of responding to a terrorist attack, with a view on managing and mitigating its consequences to a minimum, as well as for the coordination of the response and the reaction in assisting the victims of terrorism. In order to achieve this objective, the EU has developed a crisis coordination mechanism to work alongside the main crisis response tool – *the EU Civil Protection Mechanism*.

The EU strategy on the fight against terrorism was preceded by the development of the terrorist attacks in London in July 2005, being a clear expression of the need to counter the terrorism, a cross-border phenomenon, by the Union as a whole, not just exclusively at national level by the Member States. Next, the approach of the threat posed by terrorism is placed as a primary responsibility of the Member States, EU taking the role of contributing through four modalities: strengthening of the national capacities, facilitating the European cooperation, developing the collective capabilities of response, promoting the international partnerships.

The need to develop a framework for coordinating the responses at the highest political level in the face of major crises has imposed itself as a result of the paradigm shift in approaching the internal security, following the attacks on 9/11 and the terrorist attacks in Madrid (2004) and London (2005). Prior to the EU's Integrated Political Crisis Response/IPCR mechanism, established under the coordination of the Council of the European Union on the 25th of June 2013, there were EU arrangements for coordination in emergency and crisis situations (Crisis Coordination Arrangements/ CCA), designed to manage major terrorist attacks and natural disasters. These arrangements, officially approved by the Council of the EU since 2006 onwards, have allowed the EU and the Member States to provide a strategic political response to crises in a coordinated way.

The Integrated Political Crises Response Arrangements (IPCR) are at the service of the Presidency of the EU Council by means of instruments ensuring the



exchange of information, joint decision-making and coordination of responses to the highest political level. The IPCR was conceived as a tool more flexible and adaptable to crisis situations, able to consolidate the political process. The aim of the IPCR is to promote the common approach-the mobilization of all relevant services and bodies, without the overlapping of competences and to ensure a coordinated set of actions in the EU response to crises. The achievement of a unitary action of EU response to crises is required under the conditions of institutions and bodies with different crisis management cultures (Minard, 2015, p. 2).

A first instrument to support and advise the Presidency of the EU Council in crisis management is the organization of informal meetings involving bringing together the key actors and experts, such as representatives from the European Commission, the European External Action Service (EEAS), the Office of the President of the European Council, international organizations and experts from the Member States. The role of the informal roundtables is to prepare the decisions regarding the possible crisis management within the Council and to develop proposals for action (Council of the EU, 2016, RS 195).

Another tool is the Integrated Report of Situational Analysis and Awareness (*Integrated Situational Awareness and Analysis/ ISSA*), representing an analytical written information, drafted by the Commission and the EEAS/ High Representative of the Union for Foreign Affairs and Security Policy, which serves as a decisional basis for the Council, by providing a strategic radiography of the situation as well as its possible developments. The flexibility of this instrument is proven by the drafting of these key documents for political decision-making, by reference to the particularities of the crisis in the actual case. The reports reunite the validated contributions made available voluntarily by the Member States, the Commission, the EEAS and the relevant Union agencies, as well as the relevant international organizations (Council of the EU, 2016, RS 195).

The exchange of information is facilitated by the existence of an IPCR web platform which ensures the pooling of essential documents, including the ISAA report, situational maps and stakeholder contributions. In the event of a crisis, one or more pages of monitoring the development of the crisis can be generated on the IPCR web platform, depending on the situation and the political needs identified. Based on the information provided following the updates on the evolution of the crisis, the Commission, the EEAS, the General Secretariat of the Council may advise the Council's Presidency on the appropriateness of the activation of IPCR. The decision of partial or total activation of IPCR agreements may intervene on the basis of the Presidency's decision, following the revaluation of centralized information on the crisis and following the convening of an informal roundtable or at the request of a member. The activation of IPCR determines the creation of a crisis page that replaces the previous monitoring page (Minard, 2015, p. 2).

An essential tool for the performance of the monitoring and alerting functions for the fulfilment of the IPCR aims is the implementation of a singular union contact point, functioning 24 hours a day and 7 days a week, with the aim of



maintaining the permanent link with the competent authorities of the Member States and other interested parties. The Emergency Response Coordination Centre/ERCC has been established by the Decision No. 1313/2013/EU as a coordination centre for assistance and collection point for the database containing the information related to ISSA (Council of the EU, 2013, 20 December).

The integrated mechanisms for political response to crises can be activated by the Presidency of the Council of the EU or following a request from a Member State, in the context of a major crisis requiring the need for political coordination between Member States, whether the event takes place inside or outside the EU. Depending on the size of the crisis situation there are three levels of activation of IPCR: a monitoring mode not equivalent to the *de jure* activation of IPCR and two activation levels for which support instruments are available, i.e. the modality of sharing/distributing information and the full activation of IPCR. The monitoring, carried out through the access to the IPCR web platform, allows the information about a crisis to be shared voluntarily. The second level of engagement, the exchange of information, implies the obligation for the Commission and the EEAS to draw up ISSA reports, which are included on the page dedicated to the crisis in question, generated by the General Secretariat of the Council on the IPCR web platform. The full activation of the IPCR involves managing the crisis at EU level by organizing extraordinary meetings at the level of the Council or the European Council, thereby contributing to the increasing of the visibility of the EU crisis response. At the same time, the full activation involves the preparation by the Council Presidency of proposals for action by recourse to exceptional measures, in engaging the decision-making process by contributing to the presentation of the ISSA reports to the Council and COREPER and the contributions of the informal roundtables.

The Commission communication entitled “EU Internal Security Strategy in Action: Five steps towards a more secure Europe” has set the objective of amplifying the Union's response to crisis situations and natural or provoked disasters, through a number of actions including the full use of the solidarity clause (European Commission, 2010, 22 November). Therefore, the structuring of the political response in crisis situations through the mechanism provided by the IPCR is closely linked with the solidarity clause (TFEU, 2012, pp. 47-390), innovation introduced by the Treaty of Lisbon (article 222 TFEU), which opens the possibility of granting assistance on behalf of the Member States and the Union in case a Member State is subject to a terrorist attack. The summoning of the solidarity clause by a Member State determines the automatic triggering of the IPCR mechanisms. The political coordination of the response to the summoning of the solidarity clause is within the competence of the Council, while the General Secretariat of the Council, the Commission and the EEAS contribute to the management of the IPCR mechanisms. The management of a crisis situation arising from a terrorist attack, by invoking the solidarity clause, becomes necessary when the response capabilities available to the affected Member State are clearly insufficient (Council of the EU, 2014, 1 July, pp. 53-58). The Member States

remain responsible for the management of the crises occurring in their territory and what determines the use of the solidarity clause is, regarding to the nature of the crisis, the potential of cross-border dissemination of its effects, and regarding the taking over of the sharing of the response responsibility, the decision of the affected State based on the exceeding of the response capacity. The IPCR agreements are based on the principle of subsidiarity, fully respecting Member States' responsibilities in a crisis situation. Also, they do not replace the arrangements already in place at sectorial level. The practical operation of this innovation implies a staged development/a progressive approach: the action at national level until the response capacity is consumed, a certain degree of solidarity being activated at this stage by mobilizing the community civil protection mechanism; the request from the political authorities, the directly affected state, the activation of the solidarity clause; the establishment by the Council of the strategic and political direction of the Union's response and the automatic activation of the IPCR agreements (EU-Logos, 2015).

The European Union prioritized the provision of security against cross-border threats by building a complex system of legal instruments and operational capacities based on a specific legislation and expressly mandated to meet operational tasks for the prevention and fighting against criminality, including terrorist-specific activities. By the institutionalization of the legislative framework for preventing and fighting against terrorism the aim has been to increase the degree of cooperation and coordination between Member States in order to: identify groups and individuals suspected of terrorist activities, mitigate and halt terrorist financing activities, facilitate the exchange of information, conduct criminal prosecutions and bring the terrorists to justice.

The European External Action Service (EEAS) possesses structures in the field of information gathering (Int Cen – The EU Information Analysis Centre, including a counter-terrorism department), as well as the network of delegations that can contribute to the response given to threats or disasters occurring in the territory of the Member States (Council of the EU, 2014, 1 July, pp. 53-58). The Commission's Directorates-General have competences circumscribed to actions approaching the threats in the internal security plan as a result of certain crisis situations. From this perspective, the role of the IPCR is to concentrate the expertise and competences existing at EU's level in order to avoid institutional competition and to develop a „coherent, integrated and efficient” crisis resolution system (EU-Logos, 2015).

In the 90s, steps were taken towards a closer cooperation and coordination of anti-terroristic activities, approved through the Maastricht Treaty, which has become operational starting with 1st of July 1999 (Council of the EU, 1995, pp. 1-32). The need for an information exchange centre also derives from the need for systematic management of the monitoring of persons suspected of terrorist activities, in the context of the space without internal frontiers generated by the implementation of the Schengen Agreement (Trandafir *et al.*, 2003, p. 147). The



European Police Office (EUROPOL) is an institution with attributions in collecting and analysing the information with implications for the security of the states (operational analyses, strategic reports, analysis of criminal activities, based on the data provided by the Member States), with the role of coordinating the States' efforts in preventing and combating serious forms of organized international crime and terrorism (Tomescu, 2011, p. 84). The Member States continue to hold the investigative authority by means of the delegation of liaison officers, Europol assuming the role of providing expertise and technical support for joint investigations and operations. After September 11, 2001, Europol developed its competence domain by establishing a crisis centre for the coordination and exchange of information on the phenomenon of transnational terrorism, subsequently developing a unit specialized in counter-terrorism with the aim of providing analyses and assessments of terrorist threats (Occhipinti, 2003, p. 304). Europol presents itself as a key partner of Member States in meeting the security challenges, by providing a platform for the exchange of information, as well as analytical and operational support for complex international investigations (European Police Office, 2017, p. 7). The alignment of Europol with the requirements of the Treaty of Lisbon was achieved by the adoption of Regulation (EU) 2016/784, which establishes a closer link with the Union's citizens through the performance of a review by the European Parliament and the national parliaments on the activities of the European Union Agency for Law Enforcement Cooperation (European Parliament, Council of the EU, 2016, 24 May, pp. 53-114).

3. IPCR activation and the level of activation

The first full engagement of the IPCR agreements occurred following the decision of the Presidency of the Council of the European Union, in the first phase on October 30, 2015 (Council of the EU, 2015, 30 October) in the manner of exchanging information, followed by the full activation on November 9, 2015 (Council of the EU, 2015, 9 November), in the context created by the exacerbation of the refugee crisis. The necessity of ensuring a coordinated response of EU at the highest political level in the face of a major crisis, a key purpose of the IPCR, was at the heart of the concern for monitoring and analysing the migratory flows. In adjunction to the objective of implementing the agreed measures and granting the support for the decision-making process, the setup of roundtables at political level and of technical roundtables targeted issues related to the free movement of persons, visas, borders (Minard, 2015, p. 4). The application of the IPCR agreements, in the case of the refugee crisis, constituted a test that proved the applicability, the flexibility, the high degree of adaptability to the crisis situations of this political tool.

The activation of the IPCR mechanisms as a result of a major crisis triggered outside the European Union has not occurred until now. External events, which led to the implementation of the operations carried out as part of the Common Security



and Defence Policy (CSDP), with repercussions on the European security – an example may be the prolonged conflict in Syria, which expanded on European territory through the incidence of terrorist attacks and the phenomenon of the return of a large number of foreign fighters at high risk of radicalization – were not the object of the IPCR activation. By complying with the territorial criterion of proximity and the major repercussions on the European states the terrorist attacks produced on European territory may constitute the basis for triggering the IPCR agreements. However, the option of fully activating the IPCR process remains politically sensitive, being influenced by the willingness of the Member States to take joint decisions at EU level and the degree of restrictiveness of the national policies.

In the period 2006-2013 the CCA mechanisms were applied for the purpose of exchanging information in three crisis situations, one of which being linked to a terrorist attack on an extra-European territory – the terrorist attacks in Mumbai in 2008, and two related disasters – produced in 2010 in Haiti and Iceland (Minard, 2015). The reviewing process of CCA, which lasted two years, was finalized by the progress registered in the mission of strengthening the EU's ability to make rapid decisions when faced with crisis situations, by the co-optation of the support on behalf of the institutions and synchronizing it with the actions of the Member States, in such way that no institutional overlap would be possible.

The CCA proved their limits, by not being fully activated, being used only in the process of information exchange. The reviewing process sought to compensate for the weaknesses in structural rigidity, with the IPCR agreements reaching a greater flexibility for the adoption of swift decisions leading to the strengthening of the cooperation between the parties involved in a major crisis.

The IPCR was widely used to support the exchange of information regarding certain complex crises (monitoring pages on Syria/Iraq, Yemen, Ebola, Ukraine, Nepal, etc.), for communication in crisis situations (good practices and communication strategies), humanitarian assistance and counter-terrorism. It was activated for the first time in October 2015, for the refugee and migration crisis. Since its activation, it has been instrumental in monitoring and supporting the crisis response, informing COREPER, the Council and the European Council. The IPCR has also been used to conduct Union's response exercises to major crises caused by cyber-attacks, natural disasters or hybrid threats (Council of the EU, 2016).

4. Temporary arrangements

The refugee and migrant crisis, with an exponential increase in arrivals in 2015, highlighted the existing weaknesses and underlined the structural limitations of the European migration, asylum and border management system. At present, although the number of third-country nationals arriving at the European Union's external borders is below the level before the crisis, the structural pressure exerted by migration remains very high. Recent developments regarding the situation of the transit on the Central-Mediterranean route of the migrants desiring to reach Europe



show the need to increase the search and rescue capacity, to which the unfolding of EU operations in the Mediterranean Sea have been contributing (the recent extension of the mandate of EUNAVFOR Med Operation Sophia³), in accordance with the long-term maritime legal obligation to rescue persons on the high seas. The estimated number of deaths at sea is of 2,299 in the year 2018⁴, most of which are registered in the central area of the Mediterranean Sea, the coastal authorities of Libya and Italy being forced to save or intercept a large number of migrants. These situations with a high destabilising potential pose a challenge to the Member States and the European Union.

Despite the process of reforming the EU norms regarding the asylum, the issues related to the takeover of migrants as a result of search and rescue operations in the Mediterranean Sea (Search and Rescue/SAR), of landing and intra-EU resettlement present issues that require an immediate solution.

In the Commission Communication of December 4, 2018 (European Commission, 2018), the need was signalled to move from ad hoc responses, currently used in the face of crisis situations caused by pressure exerted at the external border of the Union as a result of migrants' arrivals, to the identification of sustainable solutions to contribute at the rescue of as many lives as possible at sea, alongside avoiding the creation of attraction factors, reducing the number of illegal arrivals and discouraging the movements of migrants/refugees from one Member State to another. The EU policies in the domain of the asylum and immigration rights are carried out by applying the principle of solidarity and responsibility (article 80 TFEU) and, given the political nature of the issue represented by the fair distribution of the nationals of the third-party countries which are subject of intra-EU resettlement operations and their voluntary nature, the negotiations to identify effective solutions are difficult.

The imperative underlying of the need to identify transitional measures, in the context of the impasse the negotiations on the package of reformation of the common European asylum system have been finding themselves in, has been brought into question with reference to the search and rescue operations of the migrants illegally arriving at the external border of the Union by means of the boats which are roaming the Mediterranean Sea (European Commission, 2018, 4 December). The European Union as a whole, the support provided to the coastal Member States included, has sought to contribute to the identification of efficient landing solutions in order to demonstrate the ability of reducing the pressure

³ According to the official website dedicated to this operation of the Union's external policy, entitled EUNAVFOR Med Operation Sophia, "the mission core mandate is to undertake systematic efforts to identify, capture and dispose of vessels and enabling assets used or suspected of being used by migrant smugglers or traffickers, in order to contribute to wider EU efforts to disrupt the business model of human smuggling and trafficking networks in the Southern Central Mediterranean and prevent the further loss of life at sea".

⁴ Recorded migrant deaths by region. Mediterranean., 2019 (retrieved from <https://missingmigrants.iom.int/>)

caused by the existence of a massive inflow of immigrants, in accordance with the provisions of article 78 TFEU⁵.

*The temporary arrangements*⁶ would be based on a political commitment, expressed by the Member States with the aim of filling the lack of a predictable framework facilitating the rapid landing of migrants, namely identifying a solution for replacing the current practice of ship-by-ship type. The treatment of future landings by applying the framework provided by the future *temporary arrangements* is seen as a temporary and transient measure until the adoption of the legislative proposal regarding the Dublin Regulation (European Commission, 2016, 04 May).

In the context of the stagnation of the negotiations on the reform of the Common European Asylum System (CEAS), focusing on the difficulty of advancing the discussions on the Dublin Regulation⁷, the EU wants to offer a solution allowing the transition from the ad hoc approach of the situations generated by the arrival of the immigrants at the borders of the first-line states, to a more efficient framework by applying certain practical and predictable arrangements. Such a mechanism can be based on the established principles of the joint effort, the voluntary contributions from the Member States, the support from the relevant EU institutions and agencies, in an effort to reach a balance between solidarity and responsibility. They should also search for solutions, by referring to lessons from past experiences.

The search and rescue operations have proved their limits, being often dramatic, including as a result of the response from the European States situated at the European Union's external border, in conjunction with the European States' reaction to the support granted for the takeover of migrants. The cases of boats crossing the Mediterranean Sea, identified by the coastal authorities of the Member States and allowed - or delayed, in some cases - to land on European shores⁸ may constitute examples from which to extract both the shortcomings regarding the

⁵ Article 78 paragraph (3) of the TFEU states that: "In the event of one or more Member States being confronted by an emergency situation characterized by a sudden inflow of nationals of third countries, the Council, on a proposal from the Commission, may adopt provisional measures for the benefit of the Member State(s) concerned."

⁶ The European Union has coined this term. The expression temporary arrangements appears for the first time in COM (2018) 798 final, 04.12.2018.

⁷ Through the current proposal of reforming the Dublin Regulation, the EU aims to add provisions allowing the approach of the situations in which the asylum systems of some Member States are subject to disproportionate pressure, together with the conservation of the main objectives – the provision of the swift access of the applicants to an asylum procedure and the examination of the application by a single Member State.

⁸ In 2018, a number of ships were not allowed to disembark migrants immediately until they started or obtained the agreement from the Member States that have shown themselves voluntarily to take over migrants (e.g.: 'Sea Watch 3', 'Sea-Eye' with 18, respectively 12 days spent at sea).



management of the situations in which a number of migrants reaches the gates of Europe and the examples of best practices that can be exploited in order to advance a support and response solution to these problems.

The main difficulty in implementing *the temporary arrangements*, if these will be adopted, will be posed by the operational coordination, with the involvement of Member States, European institutions and agencies. This could be achieved either by using the existing instruments (IPCR) or by developing an operational platform (possibly supported by coordination reunions, discussions in existing formations, and the allocation of a key role to the Commission and to the Member State of landing under pressure). The alternative of an operational coordination platform at the Commission level would have the objective to ensure the efficient and coordinated support for the Member State of landing, based on the cooperation with the applicant Member State/States and the participating ones.

Solutions can be identified either based on principles similar to those applied in response to the terrorism-related crises, or through the capitalization on the regulatory framework currently being used for managing and mitigating the effects of such crises, taking into account the applicability of temporary arrangements restricted to the existence of exceptional circumstances.

The context of the changes at European institutions is likely to print to the EU's activities and policies on migration and asylum a course characterized by innovative solutions. In this regard, the signals coming from the newly elected President of the European Commission, Ursula von der Leyen, argued that it is desired to continue to reform the Dublin Regulation in order to support the Member States that are under the pressure of migration, so that the *burden*⁹ is equitably redistributed at European Union level. To settle differences of opinions encountered in the negotiations for the reform of the legislative package on the asylum system and the improvement of the applicable legal framework can contribute both to the support already manifested by the President of the European Commission for the states located at the southern external border of the Union, balanced by the diluted language towards the central and eastern European countries (Poland and Hungary) regarding the economic sanctions carried in connection with the non-respect to the principles of the rule of law. A new proposal by the European Commission for the recast of the Dublin Regulation could be a first step in trying to harmonize the positions of the Member States regarding the appearance of the common European asylum system.

Conclusions

The role that COREPER occupies in the management of the crisis at Union's level, with regard to the monitoring of the implementation of the IPCR, the

⁹ Foreign Policy, Ursula von der Leyen's Big Promises for Europe, July 16, 2019 (retrieved from foreignpolicy.com/2019/07/16/ursula-von-der-leyens-big-promises-for-europe/).

reception of information on the crisis, the debates on the strategy to be followed in order to prepare proposals for the crisis response, emphasizes the predominantly political character of this process, through the fact that it grants the governments of the Member States the primary responsibility for the decision making. From this perspective, one can observe that in the EU response to major crisis situations certain key responsibilities are being allocated to the institution representing, by structure and competences, the interests of the Member States, which shows that possible difficulties in applying the regulatory framework governing this area - and the absence of its application - will be explained primarily based on the understanding of the political aspects and interests on the internal stage of the Member States, and less as a result of the bureaucratic or institutional shortcomings.

The inclusion of the principle of solidarity in the internal security strategies formulated at Union level aims to ensure a common action as a response to crisis situations. However, the commitment to solidarity is not doubled by a legal one, the Member States being the ones establishing the means they use in a crisis situation, and they can choose only a mere declarative positioning regarding the conviction of a terrorist action. Moreover, the adoption of a position in the spirit of solidarity is linked to the formulation of a request for support from the political authorities of the affected State, fact which is tantamount to the existence of prerequisites for invoking the solidarity clause. The identification of the acts of violence produced in the territory of a state as terrorist attacks, the acceptance of the identification of the elements in a crisis situation as falling within the next definition: „*Crisis* means a situation with such a broad impact or political significance that requires a swift coordination of policies and a swift response at the political level of the Union” (Council of the EU, 2018, 12 December) represent such examples.

The Member States continue to have the responsibility and the main competences in the management of crises produced in their territory, with the full recognition of the subsidiarity principle. At the same time, as a complement to the action on a national plan, taking into account the broad impact and political significance, the trans-sectorial and transnational character of the crises, the convergent action of a number of actors (Member States, European institutions and agencies) in support of the efforts of efficiently managing the effects of a crisis are achieved by recourse to the principle of solidarity – as a foundation for the process of developing the EU’ legislative and operational tools in the field of crisis management – so as to facilitate a coordinated response of the EU at the political level.



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RE-ASSESSING EU'S WESTERN BALKAN ENLARGEMENT: ETHNO-POLITICAL CHALLENGES AND THE RUSSIAN REVISIONISM

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Abstract

The European Union is in the process of re-assessing the various challenges engulfing it. Enlargement - a flagship policy of the EU, is now materialising as a challenge, critically testing its competence. The course of Western Balkan enlargement comes with its own tier of difficulties. Complications stem from the very conceptualisation of the six Western Balkan countries as a single bloc and the underlying fragilities that characterise them. This paper attempts to deconstruct the EU's political conditionality applied in the Western Balkan enlargement. It postulates the critical issues of ethno-political conflicts within these territories as one of the major causes behind the delay in accession and highlights the limits of EU's approach to influence these countries. As a result, the geopolitical vacuum gives space for external actors like Russia to become proactive. The growing Russian intervention in these regions, contributes to the construction of salient political discourse in the enlargement.

Keywords: EU enlargement, Western Balkans, political conditionality, ethno-political challenges, Russian intervention

Introduction

In February 2018, the European Commission announced its much awaited Western Balkan Strategy, announcing 2025 as the year of possible accession for all the Western Balkan countries. The European Union's (henceforth EU) enlargement is its flagship initiative and the most successful example of European Integration. Started by just six countries, the EU has achieved a membership of 28-member states in six different waves of enlargement. As the six countries of former Yugoslavia race against each other for a successful accession, the Union is foreseeing perhaps the most difficult enlargement wave after that of the Central and Eastern European Countries (henceforth CEECs). The countries of Serbia,

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Montenegro, Northern Republic of Macedonia, Serbia, Kosovo and Bosnia-Herzegovina form a fragile neighbourhood, with internal ethno-political conflicts and territorial differences, making the Western Balkan Enlargement a challenge for the Union.

Since the Thessaloniki Summit of 2003, where the EU expressed its intentions to extend its membership towards the Balkan region, several debates have emerged on whether the Western Balkan Enlargement project can turn into a reality. The six countries in the Balkans have a history of unresolved conflicts among themselves posing challenges to the Union's basic values of democracy, rule of law and human rights. Internal instability, underdeveloped economies, ethnic disputes and rise of external influences, are some of the major difficulties facing the Union. Hence, political conditionality appears to be a critical tool to attain Regional Cooperation and prepare the countries for the EU accession. On the contrary, accession is not an easy process. Other than overcoming the internal challenges that the potential and candidate countries face, the EU is also tasked to *Europeanise* them, in order to be able to close the 35 chapters of the *acquis communautaire*. Following the Stabilisation and Association Process (SAP), it has increased its budget for funding these candidate and potential countries, making them politically and economically stable to accelerate the pre-accession process. With its 'Carrot-Stick' method, the Union is trying to assert its values necessary for *Europeanisation* of the future members.

Political conditionality emerges as the most successful enlargement tool used by the Union in previous waves, such as that of the CEEC enlargement. The EU introduced a Stabilisation and Association Process, or SAP, in the year 1999, a policy aimed at the Western Balkan countries to establish a free-trade area and maintain regional cooperation and stability¹. In the year 2018, the EU released its communication on EU Enlargement Policy, highlighting its readiness to provide incentives and guidance to the candidate and potential countries to make necessary reforms. The paper also established the importance of regional cooperation and need for stronger political relations in order to be eligible for a progressive 'European path'². However, the road to EU accession is very complex for the six countries. Although it is up to the states to implement the necessary reforms, whether the EU can manage the pre-accession process and guide them through their challenges with conditionality remains questionable. It is also worth observing that despite all the ambitious plans relating to enlargement, there is indeed no concrete timeline of accession. Its prophecy for 2025 appears bleak and it is this very indecisiveness which makes space for external actors to intervene and influence the Balkan region. The dominating Russian presence on the Balkan soil, calls for a pressing concern to the EU. This paper attempts to shed light on the

¹ See European Commission, Stabilisation and Association Process. Retrieved from ec.europa: https://ec.europa.eu/neighbourhood-enlargement/policy/glossary/terms/sap_en.

² See European Commission. 2018 Communication on EU Enlargement Policy. Communication, Strasbourg.



various models of political conditionality employed by the EU in the course of the Western Balkan Enlargement. These models as reflected and debated in the literature are deconstructed to gain better understanding of the effectiveness of the EU's conditionality in the enlargement of the region. It highlights the critical issues of ethno-political conflicts within these territories as one of the major causes that has resulted in a delay in the accession process as well as postulates the limits of EU's approach to wield its influence in the Western Balkan countries. We argue that the geopolitical vacuum created in the region paves the way for external actors like Russia to adhere to its realpolitik ambitions. In the first part of the paper, we shall attempt to deal with political conditionality to study the EU's approach towards the six Western Balkan countries. The final analysis will provide insights into the internal conditions of Serbia, Kosovo and Bosnia-Herzegovina (henceforth BiH), followed by discussions on the intervention of new political actors mainly Russia in the region.

1. Dynamics of Political Conditionality and the EU's Strategy towards Western Balkans

European Union's conditionality gained momentum during the late 1990s and the early 2000s during the Central and Eastern Enlargement, or the CEEC (Anastasakis, 2008). Conditionality is understood as a tool used by the European Union to ensure that potential or candidate members reform their policies and structures to adapt to those of the Union's. It is coherently linked to the democratisation of illiberal states that are aspiring to undergo democratic transition. Enlargement as a process would be incomplete and the compliance with the *acquis communautaire* wouldn't be achievable in the absence of conditionality. Such is the importance of the instrument. In practice, the Union's enlargement policy towards the six countries began to take shape under the *Thessaloniki Summit* of 2003. Since then the EU has been steadily prioritising the six states through SAP, *Stabilisation and Association Process*, under which the EU provides funds to the countries to create regional stability and accelerate the growth of their economies. However, significant literature shows a certain paradox. While on one hand the Union has been projecting its intentions and duties towards stabilising the states through constant incentives and EU norms, on the other hand researchers have observed a certain '*Enlargement fatigue*.' It was after a long 15 years that the Union finally declared a date for a possible accession in 2025, which for a long time has created a huge sense of uncertainty about the EU's intentions. This places a focus on how serious the EU is, towards this Enlargement, mainly because the current political scenario, where certain countries, such as Serbia and Kosovo are undergoing a deadlock, hampers the fulfilment of the Copenhagen criteria. Moreover, since these states are at different stages of completing their chapters of the *acquis*, it is highly unlikely that they all can join the EU at the same time. On the contrary, the EU has been taking several state-building initiatives to influence



the region since the time it took over the Western Balkan Stabilisation project from the hands of the UN. For example, in 2003, the EU launched its *Ohrid Border Process*, managed alongside NATO. The main aim of this initiative was to secure and restructure the external border as per the EU's norms (Renner, 2009). Second, was the launch of SAP. Under the Stabilization and Association Process, the EU expects from these countries to restructure their economy and their political structure as per the European model. In short, it asks of them to democratise themselves and in return for compliance provides them for incentives (Renner, 2009). This implies that despite the Union's efforts, there are certain loopholes. This also leads to debates on EU's intentions. Is the EU ready for an Enlargement anytime soon? Or are the incentives a way to carry on the Enlargement talks while it tries to overcome its much criticised 'Enlargement fatigue?'

Political Conditionality hence plays a huge role in these implementations. The following are the models of conditionality discussed widely in the scholarship concerning enlargement in the EU (Schimmelfennig and Sedelmeier, 2004):

- External Incentives Model or the Carrot-Stick approach;
- Social Learning Model;
- Lesson Drawing Model.

The European Union adheres to the Carrot and stick method. Under this model, the Union sets some conditions that are expected of the candidate and potential countries. In return, the Union provides incentives, considered as 'rewards', where the ultimate aim is to attain EU membership. This however, is subject to the size and speed of the rewards as well as their credibility. This is based on the Union's 'bargaining strategy'. Likewise, if the reward is better and there is balance of cost benefit analysis or if there are more benefits, the more would the state try to adapt the values (Trauner, 2009). However, it is possible that not all the costs are related to money. For instance, if a particular state feels that the implementation efforts aren't worth the efforts, it could be counted as a cost (Schimmelfennig and Sedelmeier, 2004). Another important task for the Union would be to determine the size and the nature of rewards, so as to attract the states. Furthermore, if the state thinks that the 'carrot' it is supposed to get is on a long term basis or that it is in anyway uncertain, then the process of implementation might be adversely affected (Schimmelfennig and Sedelmeier, 2004). The External model also suggests that it's more likely that a candidate country would adapt to the EU rule of law quickly if it knows that the punishment or penalty is stringent. For instance, during the CEEC Enlargement, this model was applied in case of Slovakia, where in the country was blocked during the initial negotiations of enlargement because it failed to implement the levels of democracy that the EU's *acquis* demands. Thus, this proves the fact that it is important for the EU to stay committed to the conditionality policy. Here, we understand that political conditionality can prove to play a huge role to achieve the goals of both parties and failure of which could either lead to non-accession or on the other end, it may lead to lack of credibility towards the EU's norms. It has been observed from the



previous wave of enlargement of the Central and East European Countries that the European Union relies on the carrot and stick method not only to undertake state building projects but also to pass its normative values. Hence the carrot stick model or the external incentive model not only acts as a soft-power instrument in those countries where EU intends to assert its influence. The second model would be that of 'social learning', where in the state is assumed to decide based on reasoning whether it should implement EU's norms. The state here would adopt an EU norm because it's the most appropriate one to do so (Schimmelfennig and Sedelmeier, 2004). While on the other end, the 'Lesson drawing model' is when a candidate country would be ready to adapt to EU's laws and norms just because the domestic situation demands it and policy change would happen in accordance to the domestic policy (Schimmelfennig and Sedelmeier, 2004). While comparing the three models, it is certain that the external model is the one which is widely used and also very closely associated with the process of conditionality since that is the current EU policy. The external incentives model also comes as a poster child for success from the previous wave of Enlargement, which shows that incentives are the driving force of transposition. However, after analysing the models and role of EU's conditionality, it is evident that conditionality comes with both costs and benefits. The instrument of accession definitely has its fair share of setbacks.

EU's conditionality is mainly aimed at achieving accession of future member states. This implies that once the members attain access, the importance of political conditionality loses its pertinence. This comes off as the biggest setback of the instrument. Moreover, if the EU doesn't foresee any future Enlargements post the WB6, political conditionality as an accession instrument would no longer exist. This could explain why the EU has been prolonging the Enlargement procedure and that it expects a total transposition of EU laws. A possible argument could be that political conditionality for future states is also a way to broadcast its normative power in its neighbourhood. One of its strong setbacks is the fact that since the 'carrot and stick' model is highly based on benefits, if the country finds greater costs and low benefits, it may not comply with EU norms to the fullest, making Europeanisation unsuccessful. Conditionality is also seen as an 'elitist procedure', where it does not focus at solving the internal conflicts of the region, which is the root cause of instability in the Western Balkan states.

2. Ethno-political Challenges: Dealing with the Past

The former states of Yugoslavia saw a series of civil wars in the late 1990s. Since the breakup of Yugoslavia, regional cooperation has been a major priority of state builders and organisations. Regional cooperation, as a process is more of an external force in the case of the Western Balkans. Since the 1990s, it has been driven by external actors such as the UN, NATO and later EU. The first step towards attaining this measure was the 'Dayton Accord', an initiative taken by the United Nations in 1995, which aimed at ending the Bosnian war and also



stabilising the region, Regional cooperation could hence be understood as an initiative taken by these forces to maintain peace and stability. In case of EU, it also includes the harmonization of the norms as per the *acquis communautaire*. However, regional cooperation has been a huge challenge due to the internal instabilities of the countries. One of the important factors that contribute to this difficulty is that all the countries are at different stages of Enlargement. A lot of literature on the regional instability also shows that these states can be considered as 'minimalist states', often characterised as weak, where there is an external driving force. For example, in case of Serbia, Kosovo and BiH, it is often the Union which acts as a driving force to achieve developmental goals and not the states themselves (Bieber, 2011). This indeed highlights the fact that Western Balkans is a fragile region which has become the latest interest for Russia's realpolitik. If one thinks on regional grounds, the Balkan states could either bend to the left, meaning to the EU or to the right, meaning Russia. The main point of departure for the Western Balkan Enlargement's challenge lies in the fact that EU's conditionality, although helps democratise and develop the states, fails to resolve the root cause of the instability: ethno-political issues. On the contrary, Russia's advantage lies in using the internal issues and fragility to its benefits (Bechev, 2018).

2.1. Serbia-Kosovo: A (un)successful story of Secession?

The relationship of Serbia and Kosovo wasn't always so fragile, considering Kosovo and Metohija were the two autonomous parts of Serbia before Kosovo's secession. Serbia, a major part of the former Yugoslavian state, seems to surround the other states with dominance based on ethnic issues. Before the deadly war, the Yugoslavian states were cordial towards one another. Additionally, Yugoslavia has had a long history of multi-ethnic population with Albanians, Serbians, Croats, Slovenians and several other communities. However, it is argued that in case of Serbia, the political elites enforced an aggressive nationalism and used a strategy of agenda setting to its own benefits, based on ethnic lines in the former Yugoslavia (Gagnon, 1995). This could also explain Serbia's ambitions to protect its national interests and fight for the Serb communities in Kosovo and BiH.

In the year 2008, Kosovo declared its independence by seceding from Serbia. This act of self-determination was not accepted by the latter. Currently, Kosovo and Serbia are both completing their pre-accession procedures in hopes of a better European future. However, a deadlock between the two hinders either parties from joining the EU till it is resolved. Serbia recently came up with banners that said: "Kosovo is Serbia." Serbia under Vucic has a rather staunch position towards Kosovo and sees the seceded region as still an integral part of Serbia. In 2005, under the tenure of Martti Ahtisaari, the then UN envoy, several negotiations were held with regards to the status of Kosovo's independence, which was a consequence of a decade long war. The main idea was to eventually have a



settlement arranged by the UNSC which would not only protect the interests of the Kosovo Serbs but also overall transform Kosovo's status in the international politics. However, this proposal was vetoed by Serbia's ally Russia (Lehne, 2012). What followed further was an unprecedented step by Kosovo, which regardless of all oppositions, decided to declare independence with Pristina as its capital in 2008. The reality today remains that Kosovo has come a long way and even though its legitimacy isn't acknowledged by five EU members and several others, including Russia and Serbia, it still proves to have the power of acting as Serbia's roadblock to EU accession. Kosovo and Serbia's never-ending saga of cat and mouse chase has become one of the biggest challenges to EU's global governance policy. For instance, recently, Kosovo, which is part of CEFTA along with Serbia, BiH and other candidate and potential countries of the Balkans, decided to impose 100% customs fees on both Serbia and BiH, instead of 10% which it imposed initially. This came as a retaliation to the latter countries' opposition to Kosovo joining the Interpol3. While in 2012, the world saw another spat between the two neighbours, as Kosovo wanted to be recognised internationally on its own and without any representation from UNMIK, an initiative under '*UN Security Council Resolution 1244*⁴. A major failure of UNMIK lies, however in the fact that it failed in enhancing any internal cooperation within Kosovo, which would avoid North region and rest of Kosovo's cleavage. Hence, we list two important problems that need attention on the Serbia-Kosovo dialogue:

1. Reluctance to accept Kosovo's independence;
2. Serbia's efforts to create a north-south divide in Kosovo to create instability.

Serbia seems to agree to compromises as long as it receives some credible benefits and it is not Kosovo's recognition. Second, creation of disputes in Kosovo on ethnic lines, draws a parallel with its intentions in BiH with *Republika Srpska*. The EU's first special envoy mission to Kosovo was the UNMIK (United Nations Mission in Kosovo), followed by NATO-led *KFOR*. EU began its state-building mission through EULEX (EU'S Rule of Law Mission), which was a large-scale initiative comprising of around 14,000 policemen, customs officers, judges and prosecutors. The main aim was to help Kosovo adapt the Rule of Law (Deda, 2010).

However, it seems like the European Union's peace talks have not been very successful in the last decade. Primarily, Kosovo's unrecognition amongst the European Union member states has already started declining the rate of encouragement among the Kosovars. Second, a serious lack in the Union's measures to stop Serbian mediation in the north, along the Ibarra river is another

³ Read more at <https://www.euractiv.com/section/enlargement/news/kosovo-hits-serbia-bosnia-with-100-customs-fees-after-interpol-snub/>.

⁴ United Nations (2012, Feb). Serbia-Kosovo dialogue eases tensions, but challenges remain. Retrieved from UNMIK: <https://unmik.unmissions.org/serbia-kosovo-dialogue-eases-tensions-challenges-remain-%E2%80%93-un-official>

reason why the Union needs to concentrate on the internal conflicts in Kosovo and also the ethnic conflict of both these states with their minorities. Despite having a series of peace-building initiatives, the European Union is lacking in achieving the regional cooperation, which is necessary for a stable Western Balkan region.

A much-criticised strategy of the EU is that it acts as a peace-negotiator and not a mediator. It is important to take into account that this wave of enlargement is unlike any other, and that the Central and Eastern European Countries' Enlargement cannot act as a model for state-building initiatives in the Western Balkans as the region comprises of newly formed states whose frontiers have never been constant.

In case of Kosovo, despite the ICJ (International Court of Justice) declaring Kosovo's secession as "no breach of international law", there is a good amount of countries who haven't respected this decision as mentioned above, mainly because they have a history of regions wanting to separate and form a new state, such as Spain. Other than the differences on international level, and the problem of northern Kosovo, there is also the case of the city of Mitrovica. The Union has attempted to take some state-building measures. However, mere bridge-building initiatives aren't sufficient.

Despite of its shortcomings, the Union has managed to achieve some success as well. EU's missions in Kosovo have been able to help establish some stability in Kosovo as is seen today. However, the downfall of EU's missions lies in the problem of internal differences. The post 2008 scenario has seen the EU maintain its position as a 'negotiation organiser' and not as a 'negotiator' itself. For instance, during the tenure of the first *Higher Representative of EEAS*: Catherine Ashton, there were some major arrangements made at Brussels in 2013, for both the countries to resolve their disputes which weren't successful. Brussels Agreement was then followed by the Berlin Process which was a flagship initiative of the Merkel Government to encourage and accelerate the Western Balkan Accession talks. This initiative was primarily made to blast through summits of Berlin, Vienna, Paris, Trieste and London, between 2014 and 2018 (Kmezic, 2017). In the year 2018, under EU's Sofia Summit, Serbia expressed its intentions to be flexible for a future dialogue, provided it wouldn't have to recognise Kosovo's separation. On the other end, Kosovo had just celebrated 10 years of self-proclaimed independence. Although EU's state building projects and peace building initiatives have helped stabilise the region to an extent, they are merely peace initiatives. The current situation demands high level of negotiations. This is also challenged by a lack of pressure from the EU's side. For instance, in 2019, the Romanian presidency announced Western Balkan Enlargement as one of its key priorities. However, the deadlock has not been resolved, nor have the parties been put under enough pressure. We argue that unless European Union takes a role of a negotiator itself, this deadlock between Kosovo and Serbia shall not get better. Furthermore, Kosovo has to fight its battle in the international community to legitimise its claim as a separate nation. Although almost a half of UN members recognise its status,



there are countries, including some EU members themselves, like Spain, Serbia, Russia, India and China, who do not recognise Kosovo as an independent state. Hence it becomes important first for Kosovo to not just implement the EU norms and close the 35 chapters, but to also achieve an accord from the other EU members. Most of the states which are against Kosovo's recognition are the ones who have an internal history of regions wanting to secede, and a successful Kosovo Story would emerge as an ideal example of 'Self-determination'.

2.2. Bosnia-Herzegovina: Limited Statehood

The Dayton Peace Agreement of '95 finally ended the Bosnian Conflict and with it there was an emergence of two separate internal entities: The Federation of Bosnia-Herzegovina and The *Republika Srpska*. While the Republika Srpska is a unitary state sort of structure, the federation of BiH is highly decentralised and comprises of 10 cantons (Noutcheva, 2007). The system of decentralisation is perhaps one of the most important factors behind BiH's instability. Second, legitimising the *Republika Srpska*, which has Pro-Serb inclination, is also an equally important factor. Post-Dayton Process, Bosnia had gained all the focus by the US and eventually by the EU, to change the conditions. There were three major upliftment tools, the first being Dayton Agreement itself, which enabled the refugee return which was necessary to re-establish the multi-ethnic BiH. The second was the NATO-EU incentives system and the third was financial support, which was complex as it didn't have a well-functioning central government. Nonetheless, by 2000, about €2.4bn were promised for upliftment projects. The whole organisation was distributed among institutions like OSCE, CIVPOL, UNHCR and the PIC. Although the situation in the country isn't at its best, one could agree that things are certainly better than they were in 1995 (Overcoming Obstacle to Peace, 2013). Regardless of the efforts, steps to democratise and bring stability in the region haven't been as successful. After taking over from NATO, the EU wasn't in a very strong position to successfully prevent any conflicts that would further complicate the internal situation. As for the initial conflict settlement, the EU had no role to play. It wasn't until the 2000s with the entry of SAP, that it began providing incentives to the political elites. The peacebuilders expected the situation in BiH to be better and become more "westernized". However, the current scenario says quite contrary. Political scene in BiH is run by three nationalist parties who have a mutual distrust and dislike for each other. The Federation of BiH consists of just a bit more than half of the population. The third entity here is the Brcko District, which is neither under the federation nor under the RS as it runs through a local government (Juncos, 2005). The Bosnians officially applied to the EU in 2016, due to their need of the EU membership for innumerable reasons, some of them being easy migration for jobs, peace and prosperity and better opportunities. As for the current status in BiH, the *Republika Srpska* has expressed to be separated from the rest of the country. According to the *Human*



Rights Watch report of 2017, the country has still not made any progress to get rid of ethnic discrimination and problems between the Serb, Croat and the Bosnian communities. Political elites such as Milorad Dodik, have expressed their hopes for a separation for the Bosnian Serbs. In a scenario where, political elites have played active roles in separatist movements in a nation with an already fragile ethnic identity, puts light on how there a constant imbalance in the national politics has been, putting the collective identity of BiH at risk. The irony here is that the *Republika Srpska* feeds from the funding provided by Serbia, which at the same time opposes the separation of Kosovo.

Despite this spiral of internal ethnopolitical conflicts, the EU's stand remains pretty constant. EU's main strategy includes peacekeeping missions, encouraging the states to implement the rule of law in and Europeanise themselves in exchange for the incentives and other perks, with the ultimate treasure being 'EU accession'. There are however two sides of the story:

First, that EU's strategy remains an elite strategy, which hasn't been successful in resolving the conflicts in these regions. Second, even if it is willing to bridge all gaps, the ethnic differences, sparked by political ambitions are so strong and complicated that it would take more than just financial incentives and developmental aids to repair the damage done in these candidate and potential countries of the Former Socialist Republic of Yugoslavia. As a result of the political chaos, the Western Balkan region has influenced external powers such as Russia to use their realpolitik.

3. Russian Revisionism: A Game-Changer

The Western Balkans is of a very strategic importance not only for the EU but also for Russia. The region's relations with the Soviet Union go decades back. The region is seen as a "chessboard" for major powers and Russia already has strong partnerships, aside from the fact that the Kremlin is also one of the major trade partners of the European states. When the Yugoslavian war ended, Serbia's defeat was also seen as a drawback for Russia. In the current geopolitical context, Russia's interest in the Western Balkans lies in its dynamics with the EU and NATO. Post-Crimea, Russia began looking at the area from a better strategic standpoint, as a way to keep its western counterparts away. Although Russia doesn't have a very overt policy towards the region, it certainly uses some strategies in this 'sphere of influence'. But is the region of any actual geopolitical importance to the Kremlin?

The Western Balkan nations remain significant for some key reasons: One, it is a sphere where Russia can compete against the West and influence the states by using a divide and rule policy. Unlike the EU, which focuses on its normative influence or an 'incentive based' policy, Russia focuses on using the existing divisions and instability between the states to increase its own influence (Bechev, 2018). The other reason being, the Balkan region is important for the energy supply



route, which gives Russia a leverage (Szpala, 2014). Russia's movements in the Western Balkan region is highly driven by realpolitik ambitions. Unlike a steady policy, Russia believes in taking advantages of the ongoing political cleavages, and considering the already fragile state of the region, there's little Russia would have to do. From the 1990s, Russian energy firms have been prominent in the Balkan region, which makes the states dependent on Russia for economic reasons. Russian energy giants like Lukoil and Gazprom have their strong presence in the Balkan region. It also uses political and economic relations as a channel to carry its strategies towards the states. For instance, in 2008, Gazprom took over Serbia's NIS, and got a major hold over the energy sector. Another example would be that of the Belgrade-Moscow FTA, against the EU's CEFTA (Central European Free Trade Agreement). However, CEFTA remains the biggest partner for Serbia (Szpala, 2014).

In recent years, Russia has managed to increase its influence over Serbia. The Russian-Serbian dynamic is almost like a love affair, with Serbia relying the most on Russia's support in the international community to veto Kosovo, while the Kremlin plays on its strategies through Serbia. Although Serbia declares its intention to join the European Union and adapt to the norms in the *acquis communautaire*, its allegiance is highly disputed. At the other end, Russia has a special place for its European ally Serbia, which helps it control the regional politics. It manages to strengthen its hold in Serbia through its soft power diplomacy. Russia aims at creating a positive image of itself in Serbia and has so far succeeded in creating institutions or instruments which would help attain this goal. For example, in 2013, Russia set up a cultural centre in Belgrade and Russian Institute of Strategic Research. In the year 2014, Russia Today began broadcasting a program in the Serbian language, *Sputnik Srbija*, to influence the Serbians against the EU and its allies (Szpala, 2014). This shows that the Kremlin has already begun its strategies towards shifting the Balkans' mindset on Europeanising themselves. Influencing Serbia is a key to manipulate the shifting balance of power in the Western Balkan Region. In case of Kosovo, the Kremlin seems to have dual powerplay. First, Russia, as discussed, has played a significant role as a UN permanent member who has veto powers against Kosovo, mainly because it relates Kosovo's attitude to that of Crimea. A second side to it is that by maintaining a deadlock between Serbia and Kosovo, it hampers both the states' entry into the European Union, as resolving conflicts is one of the pre-requisites of the membership criteria. Thus, by rejecting Kosovo's legitimacy in international politics, the Kremlin is not only creating a blockage for both the countries, but also keeping NATO away from entering these Balkan states.

In case of Bosnia-Herzegovina, the Kremlin has been a partner to Serbia, and supported the Serb minority in Bosnia, and indeed *Republika Srpska*. Moreover, it has been encouraging the latter's independence. For a significant amount of time, Russian interests in the BiH were directly linked to the those of Milorad Dodik, a very significant name in the politics of Bosnia and Herzegovina



(Mujanovic, 2017). By asserting this very influence on a pro-Serb entity of *Republika Srpska*, Russia succeeds in asserting its influence in Bosnia. Moreover, Bosnia-Herzegovina, like its neighbours is equally dependent on Russia when it comes to the Energy sector. For instance, in *Republika Srpska*, the refineries of oil are led by Russia (Bierri, 2015). A very significant sign of a strong allegiance for Russia, further lies in the fact that the *Republika Srpska* is against moving towards a membership to NATO, also called as the *NATO Membership Action Plan, or the MAP*. Additionally, the fact that Dodik has had strong ties with Moscow, shows how easily Russia has succeeded in implementing its *Realpolitik* and keeping the opposite influences at bay⁵. Thus, like Serbia and Kosovo, the state of Bosnia-Herzegovina, also proves to be a chessboard in the hands of Russia, where it becomes significantly easier for the Kremlin to manipulate the geopolitics of the region, thereby emerging as an active threat to the EU's ambitions.

From the above arguments, it is evident that Russia's moves in the region have been very tactful. Furthermore, this rising Russian revisionism would easily exploit the enlargement fatigue of the EU, if it does not overcome its structural challenges. It is in fact in the EU's biggest interests, to strengthen its hold on these 'minimalist states', to save its backyard from a future geopolitical crisis. One of the major challenges of the Union is the power and effectiveness of political conditionality. Although it is a very successful tool used in the previous enlargement of Central and Eastern European Countries (CEEC), its usage in the Western Balkan enlargement may not be sufficient enough for the countries to meet the pre-accession requirements. In 2017, the European Union expressed its concerns regarding an increasing influence of Russia, which is responsible for destabilising the region (Galeotti, 2018). This would imply that, other than the funding and guidance these states have received under the SAP, the EU needs to focus even more on acting as a negotiator or working on the internal disputes, in the absence of which, the region could become a geopolitical battleground between the Kremlin and the EU. Moreover, a rising Russian intervention would directly pose a huge threat to European security. Russia's influence causes some important concerns in the region. First, Russia has been mediating in the internal affairs of the Western Balkan region, which would destabilise the states, as it supports Serbian separatist groups in BiH and Serbian minorities in Kosovo. Second, a growing power of Russia could also be dangerous for NATO. But even more difficult for the EU states as the EU doesn't have its own army. If Russia gains back its strength in the backyard of EU, it could get a leverage in the EU-Russia strategic relations. Russia is the EU's primary energy partner and their dynamics depend on the geopolitical situations with respect to each other. In a situation where Russia takes over the Balkan region, it would not only hamper EU's interests strategically, but could also affect the energy supply to European countries. Lastly, amidst the

⁵ Read more at <https://www.euractiv.com/section/enlargement/news/bosnian-serb-leader-i-have-dear-friends-both-in-moscow-and-brussels/>.



political chaos caused by the Brexit negotiations, external sanctions, elections and other such international issues, the European Union cannot ignore the Enlargement of the six candidate and potential countries and must strengthen its credibility towards accession procedure.

Conclusion

The EU in today's times is behest with numerous challenges with democratic backsliding in some of its member states and institutional weaknesses that have crippled the region. The Western Balkan enlargement poses and will continue to pose challenges to the European Union and it would be worth observing how EU as an organisation will address the membership of these countries. Challenges include internal ethnic tensions, poor economic conditions, internal political pressures as well as influence of external actor in the region. Russia's growing revisionist foreign policy will continue to dominate the EU's integration project. It continues to exert itself as a dominant actor in the international politics of Western Balkans region which comes across overbearingly strong on EU's 'transformative agenda'. Moreover, the Western Balkan Enlargement challenges the framework of political conditionality, questioning the European Union's way to deal with a region with a terrible war history and ethnic conflicts.

As Europe sits at the crossroads of its future, there are clear hopes for future enlargement. This enlargement is in the interest of the EU as it would demonstrate its ambitious Common Foreign and Security Policy as well as secure the European Union's geopolitical interests in the region. The unenthusiastic approach of the EU towards Balkan enlargement has also resulted in producing varying perception towards the EU in the Balkan countries. These perceptions hold significant importance because, "*credible perspective of the membership creates a powerful incentive for fundamental reforms in the society*" (Cameron, 2004). It is indeed imperative that the EU does not shy away from its previous commitments.

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JUNCKER'S RESILIENT DISCOURSE REGARDING EUROPEAN SECURITY CHALLENGES

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Abstract

With this new configuration of the world stage, the meaning of security has changed. Entire areas are hit by states tension, lability and conflict, poverty and frustration that give birth or favor proliferation of new risks and threats. The aim of this paper is to analyze different evolutions of security from a comparative perspective. The main objective is to show the progress stage of security from the beginning of Juncker's Commission mandate to the end of the legislative and what are the directions of this subject in the future. As a methodological outline, is used a comparative approach with emphasis on the historical evolution of 'security'. There are used specific instruments such as: official documents, statistical data, private documents, data already available from others studies and press materials. Findings of the study may help the policy makers to increase the citizens' confidence in action instruments of the European Union by focusing on the minuses of the Common Security and Defence Policy.

Keywords: European Union, security, challenges, cooperation

Introduction

Nowadays, Europe is facing many challenges coming from inside and outside of the continent. The most important factor of change, which affected Europe both positively and negatively, is globalization. This phenomenon has seen a continuous intensification due to the progress of technology.

The concept of security and its component parts have suffered essential changes over time, as well as the attitude of states towards the ways of transposing life, in relation with the changes taking place internationally.

The European Commission headed by Jean-Claude Juncker, during the actual mandate, has had a resilient discourse on the topic of security challenges. They are optimistic regarding the fate of the European Union, considering that the actual crises are just developmental stages of the construction. They have taken over from the previous European Commission, a hard portfolio with much more responsibilities. Actual legislative mandate has a difficult role because they have to deal with strong issues such as Brexit, the intensifying of terrorism, the rise of Euroscepticism and the loss of citizens' trust in European values.

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The aim of this paper is to see from a comparative perspective, different evolutions of security. In addition, understanding the security evolution it can help us finding solutions for the actual problems that security is confronting with.

The main objective of the paper is to show the progress stage of security from the beginning of Juncker's Commission mandate to the end of the legislative and in which way this matter is going to evolve.

The objectives of the present research are both fundamental and evaluative. First category helps us gaining new knowledge and developing new theories. The second category is oriented to determine the effect of different actions.

This paper discusses the major security challenges because discourses on the future of the European Union are based on this problematic. There are some research questions targeted on this paper such as: how the issue of European security evolved under the mandate of President Juncker? Did European Commission succeed in offering citizens what it promised at the beginning of its mandate? Is European Commission responsible for all of the actual deficiencies of the European Union? All the security dimensions will be analyzed and the actual tendencies and vulnerabilities will be derived from this analysis. Actual political and economic dimension of European security will also be highlighted.

As a methodological outline, is used a comparative approach, with a predominantly descriptive style, that places more emphasis on the historical evolution of the term. In the field of public and European policies, the comparative research is used as a distinctive methodological approach with the aim of providing a wider context and the identification of general patterns.

Moreover, it will be used a discourse and a content analysis. Discourse analysis will help us to outline the approach of the Juncker's Commission to the development of European security issue and content analysis will have as main objective the highlighting of some key concepts that will guide us during the research.

There are specific instruments used for the present research such as: official documents, statistical data, private documents; data already available from others studies and press materials.

For our analysis, I will use five documents of the European Commission: the inaugural speeches of the 2014, July 15 composed by the *Opening Declaration of European Parliament Plenary Session* and The political guidelines for the future European Commission, the document of the European Commission - *State of the Union 2015: Time for Honesty, Unity and Solidarity*, the document of the European Commission - *State of the Union Address 2016: Towards a better Europe – a Europe that protects, empowers and defends*, the document of the European Commission - *State of the Union Address 2017* and the document of the European Commission - *State of the Union 2018*.



1. European security challenges

This subchapter will approach the problematic of European Security challenges, trying to define the concept and its applicability in the field of international relations. We will talk about the history of European Security, emphasizing all the dimensions of this concept and we will discuss the actual tendencies and vulnerabilities.

1.1. Security – definitions

The term *security* comes from Latin “*securitas*” and “*securitatis*” which express both, the absence of danger and a state of calm and peace (Irimia, 2015). Security also means “protection, defense” (Kolodziej, 2007). Essentially, security is “that state of affairs that secures every external and internal danger a community or any state, following specific measures, that are adopted and which ensure the existence, independence, sovereignty, territorial integrity of the state and respect for fundamental interests” (Afases, 1977).

There is security when “states estimate that the danger of suffering a military attack, political pressures or economic constraints is null and, for this reason, they can follow free development” (Desarmement, 1986).

Foreign, military and economic policy of states, the point where they meet in exchange and displacement areas, as well as the general structure of relations, are all considered as aspirations to ensure national and international security. Before the emergence of economic and environmental concerns over the years 70, the concept of security was rarely treated in others terms than political particular interests of the participants and even by the end of the 80' the discussion still had one strong military accent.

The term security enters the current vocabulary of the international community after the year 1945 and was imposed in the mid-1970s.

The term security is used especially in the field of international relations system and others disciplines which had accepted this concept with reference to the protection of states. There are many authors who wrote about this subject and the following lines will describe the most important theories and definitions with reference to the meaning of term ‘security’.

Krause and Joseph Nye noted that “neither economists nor political science professionals have not paid sufficient attention to the complexity of the concept of security, including its instrumental role in the amplification of other values” (Afases, 1997).

One of the most well-known and old definitions of security belongs to Arnold Wolfers who said that “security, in an objective sense, measures the absence of threats on acquired values, and in one subjective sense, the absence of fears that these values will be attacked” (Wolfers, 1952).

In the terminology used by the United Nations, the concepts of security are equivalent to the resources that states and international community, as a whole, is leans on ensuring its security. Among these concepts we mention: the balance of power, discouragement, collective security, neutrality, non-alignment, peaceful coexistence, common security.

Another definition of security is found in the paper *Religion and Security in 21st Century Europe – Glossary of terms*, where is considered that security “means the situation in which a person, a group of people, a state, the alliances, following specific measures taken individually or in agreement with others actors, gains the certainty that their existence, integrity and fundamental interests are not endangered” (Buța, 2007, p. 217).

In the early 50s, researchers and theoreticians have talked about the ‘security dilemma’ which was defined as “a notion of structure in which attempts to self-help states to secure their security needs, indifferent of intention, lead to an increase the others’ insecurity, whereas each of them interprets their own measures as defensive, and others as a potentially threatening (Buzan, 2000, p.16).

The security dilemma, also referred to as the spiral model, is a term used in international relations and refers to a situation in which, under anarchy (Herz, 1950, pp. 157-180), actions by a state intended to heighten its security, such as increasing its military strength, committing to use weapons or making alliances, can lead other states to respond with similar measures, producing increased tensions that create conflict, even when no side really desires it (Jervis, 1978, pp. 167-174).

Robert Jervis tries to build such a dilemma, pointing back to the unintentional elements and interdependence between international relations. Ken Booth, Leonard Beaton, Stanley Hoffmann and Joseph Nye are among those who claim that the notion of security restricted to the individual level of states and of the military issues it is inadequate.

Ken Booth stressed the idea that the new security game can be characterized as a utopian realism and this perspective is, unlike the traditional realist perspective, holistic in character and non-statist in approach (Booth, 1991, p. 313). He added that security is apparent that issue areas like economic collapse, scarcity, overpopulation, environmental degradation etc. which lie outside the scope of traditional security thinking must be included in the new security agenda (Booth, 1991, p. 313).

For much of contemporary history, and certainly since World War Two, the concept of international security has been equated with the use of force between nations, with a particular focus on the role of great powers. This reflected the view that international security involved territorial integrity of nations and the greatest threat to such territorial integrity was posed by wars between states, and particularly great powers (Nye, Lynn-Jones, 1988, pp. 5-27).

“Security is taken to be about the pursuit of freedom from threat and the ability of states and societies to maintain their independent identity and their



functional integrity against forces of change, which they see as hostile. The bottom line of security is survival, but it also reasonably includes a substantial range of concerns about the conditions of existence. Quite where this range of concerns ceases to merit the urgency of the “security” label and becomes part of everyday uncertainties of life is one of the difficulties of the concept” (Buzan, 1991, pp. 432-433).

Barry Buzan’s theory regarding to security concept is a bit more complex than other definitions. He thinks security in terms of freedom, independence and integrity of states. Being an Emeritus Professor of International Relations at the London School of Economics, he tried to tackle the security from a structural-realistic paradigm. So, for this reason he tries to be a little pragmatic defining security and I adhere to his idea.

It is certain that the international security environment is in a continuous transition. The classical meaning of security has changed over the years and today, security means much more than it did in the past. Barry Buzan’ analysis security from five perspectives: political, military, economic, societal, and environmental.

The limits of his definition are related to the globalization’s evolution in a quickly way, a proliferation of new risks and threats that intensify the issues of uncertainty and insecurity of the global environment.

We can draw a few conclusions at the end of this sub-chapter. There have never been so many elements in the modern history of mankind uncertainty. Despite the many assumptions issued in recent years, just few of them are able to predict what will happen in the medium or long term, and their assumptions are truthful. The rising values of the components of the new security equation lead to the conclusion that we have entered an era of strategic insecurity.

I strongly believe that the new threatens at the security obligates states to deeply cooperate for the defense of the common values of democracy, security and freedom. To meet the challenges of the 21st century, political is required, as well as significant financial and military efforts on the part of all.

1.2. History of european security

Defense is an instrument left up to the states. They choose how they use defensive instruments and they have the authority to control the national security concepts. For this reason, Europeans have noticed that Foreign and Security Policy is difficult to be coordinated. The cooperation in this field has gradually developed often on the spur of some external events which brought inconsistencies to light. The structures and hypothesis that today underpin in the shaping of public policies in this field, are marked by previous efforts regarding balance between national sovereignty and real capabilities (Giegerich and Wallace, 2010, p. 364)

National political cultures are significantly different with reference to the role of defence in the international policy and the projection of power beyond the

national borders. But the chance occurs progressively and there are some institutions which help states to understand the idea of Foreign and Security Policy.

European Economy Community brings up an interest to defence by the help of United States of America, Nord Atlantic Treaty being the proper structure of military cooperation at that time. Defense European Treaty was signed in 1952 for creating Defense European Community as a structure of military cooperation between the six founder members (Giegerich and Wallace, 2010, p. 365). Five years later, French President de Gaulle, chose the cooperation in the field of external policy for relaunch the ambitions of the European Economic Community. In February 1961, a conference took place in Paris, bringing together the heads of state, head of Government and foreign ministers for discussing a strong cooperation. Their plan was called Fouchet Plan - named by the French diplomat Christian Fouchet - but Holand and Germany objected to this proposal. All attempts of the foreign policy of European Union have developed gradually what we call today as PESCO (Giegerich and Wallace, 2010).

In December 2003, the European Council adopted the the European Security Strategy. There were established, for the first time, principles and clear objectives for promtion the EU's security interests based on our core values. It has a comprehensive approach and remains fully relevant (Consiliul Uniunii Europene, 2009).

The European Security Strategy identified a series of challenges for Europe and for the European Union such as: the proliferation of weapons of mass destruction, terrorism and organised crime, cyber security, energy security and climate changes. At the beggining, these challenges were clasified different because over the years priorities have changed and Europe is facing with others new situations. If before we were talking about security in teams of violence, nowadays, we are threatened by cyber security and climate changes which caused natural disasters.

On 13 November 2017, as the first formal step towards setting up PESCO, Ministers signed a common notification on the PESCO and handed it over to the High Representative and the Council. The notification sets out a list of 20 more binding common commitments in the areas of defence investment, capability development and operational readiness. It also contained proposals on the governance of PESCO and its principles (PESCO, 2018).

In the evolution of military forms of cooperation, we have to remaind Common Security and Defence Policy. It was disscussed in 1998 at the Saint Malo Summit between France and Great Britain and it was fully operational together with the European Security Strategy, in 2003. The growth of effectiveness, visibility and the impact of Common Security and Defence Policy must be observable in civilian and millitary missions.

Based on this notification, on 11 December 2017, the Council took the historic step to adopt a decision establishing PESCO and its list of participants. A total of 25 Member States decided to participate in PESCO (PESCO, 2018).



PESCO is a treaty-based framework and process to deepen defence cooperation among EU Member States who are capable and willing to do so. The aim is to jointly develop defence capabilities and make them available for EU military operations. This will thus enhance the EU's capacity as an international security actor, contribute to the protection of EU citizens and maximise the effectiveness of defence spending (PESCO, 2018).

The difference between PESCO and other forms of cooperation is the legally binding nature of the commitments undertaken by the participating Member States. The decision to participate was made voluntarily by each participating Member State, and decision-making will remain in the hands of the participating Member States in the Council. This is without prejudice to the specific character of the security and defence policy of certain EU Member States (PESCO, 2018).

1.3. Dimensions of Security

The end of the Cold War has brought with its change the common individuals perception on security threats of human nature. Thus, problems related to the nonmilitary dimensions of security have replaced the military one without eliminating them.

There are various studies which analyses these changes and how the international arena has changed. Some authors like Edward Kolodziej consider that the new concept of security and the new security environment is due to the disappearance of bipolarity on the international arena, a structure which seems to offer a new global order which is apparently stable and adamant (Kolodziej, 2007, p. 24), and in the same time it undermines all the problems which humanity is confronted with for according a primordial importance to the relations between the two powers at the global level arguing over their supremacy – The United States of America and USSR.

Other authors haven't ignore the disappearance of bipolarity, but they believe that the most important factor of the security complexity is the process of globalization. Giddens believes that the intensification at the global level of social relations so that events from a part of world are influenced by events taking place in remote areas (Giddens, 2000, p. 64).

There are authors who extended the notion of security to many sectors than we were used. In his article "New Patterns of Global Security in the Twenty-First Century", Barry Buzan analyses how five sectors of security (political, military, economic, societal, and environmental) might affect the "periphery" based on changes in the "center". The five sectors of security are an important concept to understand Buzan's studies.

Military dimension of security is related to the mutual influence between offensive and defensive military capacities of states and their perceptions towards others (Frunzeti, 2006, p. 99). As I mentioned before, this dimension of security was the only one considered the most relevant for a long period of time and

nevertheless today is still the most important. And now that I have it, we can remind the today's military threatens are related to weapons of mass destruction, conflicts in the Middle East, organized crime, nuclear weapons, military disputes, all our problems demonstrates that military power continues to be present in our lives. The most important military problem at the present time is terrorism.

Moreover, military threats can affect all components of the state. It can put into question the very basic duty of a state to be able to protect its citizens as well as have an adverse effect on the "layers of social and individual interest" (Buzan, 191, p. 119).

The political dimension of security is aimed at both the relation between state and its citizens and between the international relations of that state (Sarcinski, 2005, p. 13). From this point of view, political dimension can be analyzed on two-tiered structure: the internal good or bad government, and the international one on international security and international law (Sarcinski, 2005, p. 14).

Political threats represent a constant concern for a state as well; however, they can be more ambiguous and difficult to identify in relation to military threats. As the state is, itself, a political entity, a political threat with the purpose of weakening that entity can be considered to be on par with a military threat. They can take the form of competition amongst ideologies, or an attack to the nation itself. However, it is important to distinguish between intentional political threats and "those that arise structurally from the impact of foreign alternatives on the legitimacy of states (Buzan, 1991, p. 120).

Economic dimension of security is identified with the access to resources and the basic infrastructure for insurance of a decent level of prosperity and power of the citizen and of that state (Buță, 2007, p. 115) and it has a specific significance because it indicator determinates the military power of a state. The significance is even more important because as neo-Marxism literature says that the economical factor is the leading cause of international conflicts. The most important factor from the economical category is the differences between richer and poorer people and sometimes the spread of poverty is also a factor of conflict.

From a social point of view, security assumes the protection of collective identity, a national specificity and national cohesion (Frunzeti 2006, p. 102). Among the issues in the field social issues include: migration, degradation of the educational environment and poverty as problems of present times.

The environmental sector also proves difficult to define and can be considered the most controversial of the five sectors. When thinking of possible ecological threats, one often thinks of the "struggle humans have with nature" such as earthquakes and hurricanes. These events, in themselves, are impossible to control. The more recent issues of human impact on the planet that are resulting in phenomena such as global warming, pollution, and the ozone layer to name a few, is where we can see more clearly a controllably variable in relation to the environment. If these issues come to the forefront in years to come, the ecological sector will be getting more attention (Buzan, 2000, p. 187).



Energy dependence is a particular concern for Europe. Europe is the largest global importer of oil and natural gas. For this reason, was proposed the Energy Union instrument to reduce the dependence of European states from Russia. Energy Union “gives hope for resolving a major paradox of EU energy policy - the inherent tension between national sovereignty over the energy sector and a solidarity – based on Community perspective and cooperation on a scale by-scale basis Europe” (Szulecki, 2015, p. 2).

2. Juncker's discourse regarding to European security challenges

In the previous subchapter we discussed about the security in general, pointing some definitions of this concept, dimensions of security and a short history of the European Security. Now, it is time to turn attention back to the President of European Commission, Jean-Claude Juncker and his discourse regarding to European Security challenges.

This subchapter tries to respond to the following research questions how evolved European security under the mandate of President Juncker? Did European Commission succeed in offering citizens what it promised at the beginning of its mandate? Is it European Commission responsible for all of the actual deficiencies of the European Union?

For analyzing his discourse, we will use the Critical Discourse Analysis. Norman Fairclough is the one who thought about this type of discourse analysis, it is based on a critical analysis of the analyzed object, especially on inequalities, power relations and ideologies outline influence groups.

Jean-Claude Juncker was elected by the European Parliament to be the President of the European Commission in 2014, 15 July. He is the successor of the President Jose Manuel Barroso at the leadership of the European Commission.

He started his mandate with his popular speech from Strasbourg, 2014, 15 July. His opening declaration at the opening plenary session at the European Parliament was entitled *A new beginning for Europe*. At that time, elected president of the European Commission presented the proposed guidelines for his mandate and speak about “the necessity to meet their expectations, and addressing their concerns, their hopes and their dreams, because in Europe there is a place for dreaming” (European Commission, 2014). What he means by his statement is that during his mandate, Jean-Claude Juncker wants to restore citizens' confidence in EU values and mechanisms. He also wants to rebuild decks in Europe after the crisis, for regaining the trust of European citizens, to focus on our policies the key challenges for economy and our societies must deal with and to strengthen the democratic legitimacy on the basis of Community method (European Commission, 2014).

At this moment, I can say that President Juncker did predict wrongly the evolution of European Crisis. He didn't succeed in restoring the citizens' confidence in EU values. Even more, we can say that citizens' confidence in EU

has decreased dramatically from year to year. This truth is recognized by the President Juncker, in his discourse about the state of Europe, in 2018, when he said that “sometimes history goes haggard, sometimes it's headed elsewhere than we would like or pass quickly next to us” (European Commission, 2018, p. 1). Juncker stressed the boundaries of his commission saying that a five years mandate is too short for changing radically the course of things (European Commission, 2018, p. 1). Still here, he adds that he will continue to work for the perfection of the European Union and although there are a lot of imperfect things in the European Union and in his mandate, at the final review, he wants to stress the developments of the actual European Commission.

Returning back to the opening speech, in 2014, President Juncker proposed in the official document entitled *Political guidelines for the future European Commission*, ten lines of action for a better organization of the Commission's activity. There ten lines of action are: A New Boost for Jobs, Growth and Investment, A Connected Digital Single Market, A Resilient Energy Union with a Forward-Looking Climate Change Policy, A Deeper and Fairer Internal Market with a Strengthened Industrial Base, A Deeper and Fairer Economic and Monetary Union, A balanced and progressive trade policy to harness globalization, An Area of Justice and Fundamental Rights Based on Mutual Trust, A New Policy on Migration, A Stronger Global Actor and A Union of Democratic Change (European Commission, 2014).

Based on the annually discourse of President Jean-Claude Juncker, we will see if initial priorities can be found at the end of his mandate and what stage has been reached in the implementation of these proposals. Even if, we have some clues from the *Jean-Claude Juncker's Discourse about the State of the European Union*, in 2018, September 12 that they could many more progresses, we will see what the evolution of these actions' line was, regarding to the security challenges.

In the beginning discourse, Juncker reminded citizens about the importance of doing progress. He said that in his mandate, he is going to avoid ideological debates in favor of a pragmatic approach. He wanted to focus their efforts on achieving tangible results which benefit all Europeans. *Let us not try the public's patience by indulging in institutional debates which prevent us from focusing on what really matters - the people of Europe. And I call on governments to try harder to resist the temptation, when they address their national electorates, to criticise decisions that they actually took together in Brussels* (European Commission, 2014, p. 16).

For our analysis, I will use five documents of the European Commission: the inaugural speeches of the 2014, July 15 composed by the *Opening Declaration of European Parliament Plenary Session* and The political guidelines for the future European Commission, the document of the European Commission - *State of the Union 2015: Time for Honesty, Unity and Solidarity*, the document of the European Commission - *State of the Union Address 2016: Towards a better Europe – a Europe that protects, empowers and defends*, the document of the European



Commission - *State of the Union Address 2017* and the document of the European Commission - *State of the Union 2018*.

At first glance we can observe that every discourse starts with a desideratum. The first discourse - the *Opening Declaration of European Parliament Plenary Session* - begins with the desideratum - *A new start for Europe* – which suggests that they propose a new agenda for the European Union, making it stronger than in the past and capable to meet the challenges. The key point of this discourse is the renewal of the European Union on the basis of an Agenda for jobs, growth, equity and democratic changes (European Commission, 2014).

The second discourse - *State of the Union 2015* - begins with the desideratum *Time for Honesty, Unity and Solidarity*. This desideratum suggested the key topic of his discourse, the refugees and President Jean-Claude Juncker explicitly launches the idea that “We Europeans should remember well that Europe is a continent where nearly everyone has at one time been a refugee” (European Commission, 2015, p. 2).

The third discourse - *State of the Union Address 2016* - proposes a new desideratum, different from the previous one, *Towards a better Europe – a Europe that protects, empowers and defends*. This time, discourse it's about the interests of citizens, about the protection in face of dangers like cybernetics one, travel security or terrorism phenomenon. Security is the key concept of this discourse and European Commission numbered more than 30 terrorist attacks in Europe (European Commission, 2016, p. 4).

The forth discourse - *State of the Union Address 2017* - has the desideratum - *Wind in our Sails*. These were three principles invocated in the Juncker's discourse: freedom, equality and the rule of law – must remain the foundations on which we build a more united, stronger and more democratic Union (European Commission, 2017).

The fifth discourse - *State of the Union 2018* - proposes a new desideratum *An Imperative Obligation of Action and Viability*. He talks about their obligation to continue reforms until the end of their mandate. Juncker talked about a convincing perspective for the future of the European Union.

It's easier to follow the advances in the field of security by separately taking each dimension of security. In that way we will respond if European Commission did succeed in offering citizens what it promised at the beginning of its mandate. The analysis will start a reverse order than it was presented in the first chapter, starting with the energetic dimension of security. As an instrument of cooperation between the states in the field of energy, was developed the Energy Union for diversifying energy sources and for reducing the high dependency of our states from external sources. Another purpose of the European Union in the field of energy is to significantly improve energy efficiency beyond the 2020 target, especially for buildings, and support an ambitious and binding target for this purpose, which will continue the current energy efficiency pathway (European Commission, 2014, p. 7). Along this mandate, European Union insisted on the idea

that the reduction of CO₂ emissions by the year 2030 will protect our planet. Juncker added that “we did not hesitate to defend the Paris Agreement regarding to the climate changes because we want to leave a clear planet to the next generations” (European Commission, 2018, p. 2). Energy imports still remain a problem because of the purchase price.

From the point of economic security, the European Union made some progresses. At the beginning of his mandate, Jean-Claude Juncker proposes a renewable European Union on the basis of an *Agenda for jobs, growth, equity and democratic changes* (European Commissions, 2014). In 2018, the economic situation of the European Union has significantly improved. For 21 consecutive quarters, Europe’s economy is on a sustained growth path. The unemployment situation has improved, with almost 12 million new jobs created since 2014 so far (European Commission, 2018, p. 3). From statistics a problem remains on the youth unemployment rate which has a high level of 14.8%, but despite this fact, it hasn’t been lower than this percent since the year 2000 (European Commission, 2018, p. 3).

The unresolved problem remains the disparities between the regions of states. Growth and competitiveness are different between East and West and from this reason Europe operates multispeed. Growth is greater in the Western Europe and the quality of life is better there than in other parts of Europe. Those disparities still generate conflicts and a considerable number of grievances against the European Union, because citizens accused it of neglecting those issues. Thus this is the way in which it appears a lack of confidence in the European mechanism and this aspect favors the populism phenomenon. Skeptical leader in the European Union’ values take the advantages of these tendencies and they promote an anti-European trend, making the European Union being vulnerable in face of these attitudes.

Regarding the social field of action, the European Union struggled in the last few years with the migrants and the problem of granting asylum to political refugees. Here, the evolution of this problematic is quite critical. There have been setbacks during the parallel negotiations in Brussels, between states and the European Commission. The flow of refugees is only going to increase, the imposed cotes were strongly contested by states and the points were not showing up where you would expect. For some Member States was difficult to achieve this result and for this reason a plea agreement hasn’t been reached. It is the case of Great Britain where those sensitive problems have further embedded the distrust in European institutions. It is well-known the fact that the problem of refugees was one of the facts that caused Brexit.

From the politically point of view, European Union has failed in the negotiation with the United Kingdom. It has reached a kind of threshold tipping point of the relations between the European Union and the United Kingdom because they haven’t found a compromise for the negotiations. The traditional parties have lost their popularities in front of populist ones. Policy failures have further embedded distrust of citizens in traditional parties and in the values of the



European Union. The obvious example is the Brexit Party of Nigel Farage which wins the European Parliament election in Great Britain. Same political figure has succeeded in convincing citizens to vote for a Brexit in the referendum which took place in 2016. So, from this point of view, the European Commission has fallen away in terms of political security. It is true the fact that Jean-Claude Juncker hasn't expected this dramatic evolution although he predicted that policy is a strength point for the European Union security.

Last but not least, from the point of importance is military security. Very considerable progress is being made in this field of action, but it seems that there weren't enough for eradicating this phenomenon. Juncker stressed the idea that "Europe to get off the side-lines of world affairs. Europe can no longer be a spectator or a mere commentator of international events. Europe must be an active player, an architect of tomorrow's world (European Commission, 2018, p. 12).

I left this dimension at the end of our discussion because I consider it being the most important. Although, the European Commission tried to make major leaps forward, the evolution of conflicts was hard to be anticipated correctly. There had happened conflicts that changed the conception about security. The most important achievement in this field was the founding of the Permanent Structured Cooperation during the mandate of President Jean Claude Juncker. He encouraged states to cooperate because he considers that cooperation is the key for the survival of the European Union. He also adds that moving forward together as a Union is the key for all of the scenarios regarding to the future of the European Union (European Commission, 2017, p. 15).

The European Commission proposes a series of actions for completing the NATO mission. One of them is the European Army, a controversial project both sustained by some European states and contested by other states. We have the example of President Emmanuel Macron who sustains this structure because he considers that it would be a plus for the European Union. When he pleaded for defense, he stressed clearly that our objective must be to give Europe the capacity to act autonomously, in complementarity with NATO, adding that the European Defence Union is a necessity for the success of the European Union (European Commission, 2017, p. 7).

What is clear is the fact that security has changed and nowadays its impact on Europe is bigger than it was in the past. Terrorist actions are becoming more frequent due to high extent of technology and dependence on new technologies. Terrorism affects the safety of the population, international system is being overcome to numerous changes and crises (Bosoancă, 2019, p. 6). Europeans need an organization which can protect them and gives them the sense of security. It is less important for citizen which is about NATO or European Army.

At the question *is European Commission responsible for all of the actual deficiencies of the European Union?* President Juncker answers to our question in the final discourse, in 2018, September 12.



I cannot accept that the blame for every failure – and there have been a few – is laid solely at the Commission's door. Our proposals are there for all to see. They need to be adopted and implemented. I will continue to resist all attempts to blame the Commission alone. There are scapegoats to be found in all three institutions – with the fewest in Commission and Parliament (European Commission, 2018, p. 6)

His presumption is right because, it is easy to evaluate the mandate of the European Commission as being unsuccessful, but we can't forget that it is a trilogies of work, and not just the European Commission is responsible for an evolution or a devolution, it's about all of the involved actors. Several times it turns out that the blame for the situation belongs to states because they cannot implement efficiently the European policies and for they reason The Member States are not making progress.

It is clear the fact that the European Commission made some great steps in consolidating their institutions but there were some events that falling confidence among citizens in European values. It will be difficult for the following European Commission to regain the trust of citizens in Europe, but not impossible. The European Union needs to improve its instruments and to be close to their citizens.

Conclusions

In conclusion, we can point out some remarks regarding to President Jean-Claude Juncker discourse and about the evolution of his mandate in the field of security.

First conclusion regarding Jean-Claude Juncker is the fact that his discourse is a resilient one. He has still believed in the force of the European Union to pass over difficulties and he encourages citizens and states to cooperate for a better Europe. Despite the fact that the European Commission recognizes the minuses of their legislative, he is still confident that the European Commission did important steps in the evolution of the European Union.

Secondly, the President of European Commission encourages us to be pro-Europeans because “We are all responsible for the Europe of today. And we must all take responsibility for the Europe of tomorrow” (European Commission, 2018, p. 12). He thinks that the European Union' values are stronger than the anti-European convinces and the only one thing which can help Europe to move forward is the citizens' trustworthiness in the European Union' values.

“As the French philosopher Blaise Pascal said: I like things that go together. In order to stand on its own two feet, Europe must move forward as one. To love Europe, is to love its nations. To love your nation is to love Europe. Patriotism is a virtue. Unchecked nationalism is riddled with both poison and deceit. In short, we must remain true to ourselves” (European Commission, 2018, p. 13).

President Juncker did predict wrongly the evolution of European crisis. He didn't succeed in restoring the citizens' confidence in EU values, even more than



we can say that citizens' confidence in EU has decreased dramatically from year to year. But if we start now to rebuild Europe, we can succeed in restoring the citizens' confidence.

It will be the following European Commission duty to learn from the failures of the actual Juncker's Commission and to consolidate the future speech and actions for a better Europe.

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FOREIGN TRADE AND THE PROSPECTS OF REGIONAL INTEGRATION OF THE REPUBLIC OF MOLDOVA

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Abstract

The main purpose of the research is to identify the strategic options of the Republic of Moldova, whereby foreign trade and economic integration could become genuine engines for a sustainable economic development. One of the objectives of the article is to submit to the analysis the current state of the Moldovan external trade; its commercial relations with other countries and economic blocs and to identify the potential alternatives, that Moldova has for a deeper regional economic and political integration. In addition, we are looking to assess Moldova's economic complexity, diversification and competitiveness within the regional and global frameworks. Using statistical data on trade dynamics and layout and observation as a research method, we were able to identify that, there has been a swift shift in Moldova's strategic directions and also, small changes in economic structures that might affect its future development.

Keywords: foreign trade, regional integration, economic integration, economic relations

Introduction

Admittedly, the paper treats Moldova's case from a broad number of perspectives, starting from a trade dynamics dilemma and ending with economic and political integration. Although, these subjects are no novelty for the academic society, it does spark an enough amount of interest when it comes to less developed countries and the problem of their functional economic inclusion into the global and regional frameworks.

The main goal of the research is to identify the strategic options of the Republic of Moldova that would allow foreign trade and economic integration to become the engines of its future development. This would firstly require us to analyze Moldova's trade dynamics and structure, based on its main trading directions and types of goods and services the local economic agents buy and sell abroad. Another objective would be to assess how complex Moldovan economy is and if that shows a great deal of diversification and specialization when it comes to

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producing, trading and being competitive on the external markets. At the same time, we hope to outline how well-integrated the Republic of Moldova is in the global and regional markets, if it had fulfilled any of its trading potential, or, there is still room for improvement in this regard. Last but not least, we consider it appropriate to try and distinguish the main vectors that the Moldovan authorities could opt for when it comes to economic and/or political integration.

In order to be able to achieve all of the objectives above, we structured the research into four distinctive parts. In the first section, we try to outline the general framework of the subject, where does it fit theoretically and practically. This also implies bringing up a literature review of the main concepts of foreign trade, economic integration and competitiveness. We paid special attention to books and other studies that treated these topics in strong correlation with Moldova's case or the cases of other developing countries.

In the second part, we concentrate on the trade dynamics of the past decade and a half. This means collecting data on Moldovan commercial flows and their main directions inward and outward. This is necessary in order to understand the role of the Republic of Moldova within the global economic context, how well its economy functions and which are its main trading partners. This allows us to recognize a great change in Moldova's preferences when it comes to trading goods and services abroad.

In the third section of the research, we tried to pinpoint the economic sectors that proved to be the most competitive for Moldovan producers. At the same time, it is important to identify the areas where they have a comparative advantage in relation to third parties and which are the sectors with a major export orientation. It is also essential to know the partnership agreements that the Moldovan authorities have signed in the field of trade and what are the strengths of the Moldovan economy, as well as the difficulties the country faces on the international trading arena. We consider it appropriate to try and outline how competitive Republic of Moldova might be, based on the analysis of its commercial activity and its economic structure, in order to assess if there is a great deal of economic diversity which could lead to a more competitive economy.

In the last part of the study, the topic gives us the opportunity to identify the choices that Republic of Moldova has when it comes to a deeper economic integration within the regional framework. In essence, Chisinau's policy is at the confluence between the Russia - Kazakhstan - Belarus - Armenia - Kyrgyzstan Economic Union and the European Union. Moldova is part of a Free Trade Agreement as a result of being a member of the Commonwealth of Independent States (CIS), while with the EU, it has already signed an Association Treaty and adopted a special regime through which Moldovan producers have been granted access to the EU market. It is important to be able to determine the effects all of these had on the Moldovan economy and its commercial capabilities and then, maybe to attempt and develop, in future papers, a set of functional strategies for a more consistent economic integration of the Republic of Moldova. However, we



should also be aware that there is a possibility where a country like the Republic of Moldova might develop even better if it opts not to deepen its regional integration process, in order to avoid potential dependencies on its bigger trading partners and external markets.

Finally, using a qualitative research design, we will try to establish if there is a relationship between the collected statistical data and scientific observation on the matter and see if the numbers correspond to the reality of Moldovan economy. Also, we would like to be able to answer some of the questions, which concern both academia and public opinion. Is Moldova's economy diversified enough? And if not, what are the main difficulties it faces? How high is its degree of integration within the global and regional economic frameworks? What are the prospects for economic growth in the context of the latest events and what are the opportunities it has for regional economic integration?

Methodology

The methods to be used in the research correspond to the purpose and objectives set. These include the previously written works on the subject and statistical data analysis. The statistical data is the most important part of the research and comes from several sources, however, we have mainly opted for online databases with specific economic and trade related information, such as the World Bank, the World Trade Organization and, last but not least, the National Bureau of Statistics of the Republic of Moldova and the National Bank. In order to treat the subject of economic structure's diversity we used The Atlas of Economic Complexity reports. We chose these sources in particular for the veracity of the data. It is noteworthy that most databases do not provide statistical data on the Transnistrian region.

Within this paper, we will concentrate on the 2005-2017 timeframe, since this period of time seems to provide the most relevant data on Moldova's actual economic situation - starting a few years after the recession of the 1990s, but before the 2008-2009 financial crisis. The main focus regarding the data was on trade dynamics and structure. Apart from the values of Moldovan imports and exports, we also calculated the EU and CIS shares, in order to identify the main trading directions. At the same time, we compared Russia's and Romania's shares in Moldova's trade, to determine if the tendencies are similar when it comes to trading with particular countries that are members of the two distinctive economic blocs. Strong commercial ties with one partner or another could also mean a higher possibility for a more extensive economic or/and political integration in the future within that specific union.

Ultimately, we conducted an observation on the imports and exports structures, hoping to get an idea on how complex and diverse Moldovan economy is and also, which are the main goods that make up its commercial flows. A high share of a specific type of goods could denote a lower economic complexity, but at

the same time, we have to take into consideration if those goods are lower or higher on the production chains. That could be the difference between a well-developed economy and a vulnerable one, with an inferior level of income.

1. General framework

Nowadays, no country, no matter the size or riches, can provide all the products it needs from its own production only. As a result, each country has to use foreign trade as a tool, in order to obtain what it needs. The process of globalization has given rise to the development of international production chains. The global markets' integration around the world have strengthen the international trade and its importance for the countries that seek economic growth and development. Even if the developed countries are still dominating the global arena, the consolidation of the new regional unions like EU or NAFTA, lead to an increasing relevance of the developing economies and undeniably created wealth. But in order to efficiently participate in the global trading framework, countries need to specialize in producing the goods they are better at.

Looking at the structure of the exports and imports, we can definitely discover a strong correlation between the development level of a country and the goods and services which it trades in and out. Countries with big exports of raw materials, cereals, fruits and vegetables, clothing and other low manufacturing technology products tend to be less developed. The added value on the chain of production is rather low, and therefore the economy grows slower (Stamule, 2017). At the same time, the more developed countries, usually import and export goods and services with a higher degree of processing as a result of a greater use of high technology. Another factor that influences the degree of trade development is how well a country is integrated within the regional and global economic frameworks. Through a process of trade creation, small, developing countries can drastically change their economic structures and growth potential (Moser, 1997).

The reasons behind the regionalization process vary from one region to another. The lack of a unique model of integration is due to the various circumstances which the states of different regions of the world find themselves in. For this reason, the way in which regional integration is approached varies. The inclusion of the developing countries in the regional economic structures has a great effect on the policy-makers. For example, the members of the EU or the potential EU candidates are most likely to be required to adopt a free-trade agenda and to reform their economic and justice structure, in order to converge with the European norms and values. The less developed countries also may use regional partnerships to get help from other countries. Over the years, many governments and international organizations have encouraged regional economic integration among developing countries and set up special budgets to promote regional projects. The best example is the European Union, which, through numerous projects, has shown itself enthusiastic in supporting regionalism in other countries



around the globe. Thus, the business environment in these countries is gaining not only from the improved power ratios, but also from the possibility of obtaining financial support. Regional trade agreements can improve the credibility of national economic, legal and normative reforms and thereby increase the attractiveness to foreign investors (Rodrik, 1997). Even if some states have a range of natural resources, some might not have the necessary infrastructure or the necessary capital to put them to better use. Free circulation of production factors may also lead to externalization of production by large companies, which would again attract investment (Ethier, 1998).

At the same time, specialization and free-trade are not the only factors that can change economic structures. It is important for countries, especially developing ones to try and diversify their output. Being dependent on a small number of products and services is quite risky. Price changes may make certain economies very vulnerable and also reduce their competitiveness long-term. We do not have to look too far to see examples of countries that suffered as a result of falling prices. Russia and Venezuela are just two of them, where the gains have reduced after the shrink in oil prices.

Another issue is that of the economic dependencies between small and big countries. The main risk is associated with the fact that the bigger country may use its economic power in order to achieve its geopolitical objectives. The imposing of sanctions on states, because of political problems has been often used as a tool to put pressure on smaller economies, and it shows the risks of high economic dependencies. In the case of Moldova, Russia regularly imposed sanctions on strategic goods imported by the Moldovan companies. Good examples are the wine embargos from 2008 and the wine, meat and fruits embargos from 2013, prior to the EU Treaty signing (Ciochină, 2018).

The situation of Moldova is quite unique, although still part of the Commonwealth of Independent States, its economic focus is more on the European Union (Stamule, 2017). The signing on the 27th of June 2014 of the Moldova - European Union Association Treaty was a clear sign of the direction the country was trying to adopt and has greatly improved the trade relations with the EU. This might be seen as a strategic change regarding the development of the Moldovan economy, which now focuses more on developing trade routes to the West rather than to the East. The access to the European funds, together with the implementation of some European-like norms and reforms come to strengthen the relations between Moldova and the EU. Even if, its market is rather small and the level of industrial development is low, Republic of Moldova has great potential that bridge between the East and the West, as a result of its cultural similarities to Romania and to the CIS countries.

2. A comparative analysis between the overall trade of Moldova with the EU and CIS.

As a result of the deepening economic relations of Moldova with the other countries, including the two main European poles (the EU and the CIS), a lot has changed in terms of trade directions and economic structures. If we analyze the evolution of the exports from Moldova towards the two unions, we see a very strong improvement of the EU position. Contrary to the popular opinion, the EU was always an important trading partner for Moldova and the share has only increased between 2005 and 2017. We could argue that the output grew in general, looking at the fact that now Moldovan exports are 2,5 times greater in value than they were in 2005. But if we take a look at the exports towards the CIS countries, the value actually decreased and the share now is more than 2 times lower in comparison to the EU's share that increased by around 25%. At the same time, we can observe a slight shift towards the other countries of the world as well. The reasons for this might vary. At the time, Russia's embargos on meat, fruits and wine, determined Moldovan entrepreneurs to seek other routes for their products, while the access to the global market was facilitated by the growing relations with the EU and other countries like China and the United States of America.

If we analyze the imports, the situation is similar, although, the change is not so drastic in the case of the EU countries, while the imports from the CIS countries seem to fall continuously. Besides the reasons we presented previously, we could draw the conclusion that Moldovan people are looking for more sophisticated products, ones they can usually find in the EU, rather than in the East. It's important to notice that almost half of the imports are coming from the European Union and even if the total value of the incoming products decreased as a result of the 2008-2009 global crisis, the trends in terms of presence on the Moldovan market remained the same.

Analyzing the evolution of the trading relations between Moldova and the two main partners (Romania and Russia) is another good way to understand that Chisinau's strategic direction have changed in the last decade or so. In terms of export, Romania has become the main destination for the Moldovan products and services with a share of around 25%, while Russia's importance as a partner has decreased drastically. Once again, we can easily observe that 2013 was a turnaround point, because of the economic sanctions imposed by the Kremlin on Moldovan goods, while the relations with the West were rapidly evolving.



Table 1. Evolution of exports from Moldova towards different groups of countries (2005-2017)

Year	Exports (thousands \$USD)			Share (%)		
	CIS	EU	Others	CIS	EU	Others
2005	551,227	443,184	96,507	50.53	40.62	8.85
2006	423,647	536,910	89,805	40.33	51.12	8.55
2007	548,889	678,930	112,232	40.96	50.66	8.38
2008	622,994	820,072	148,047	39.15	51.54	9.30
2009	490,415	667,339	125,227	38.22	52.01	9.76
2010	624,003	728,939	188,545	40.48	47.29	12.23
2011	919,265	1,083,006	214,544	41.47	48.85	9.68
2012	928,120	1,013,418	220,342	42.93	46.88	10.19
2013	923,220	1,137,286	367,797	38.02	46.83	15.15
2014	735,648	1,245,980	357,902	31.44	53.26	15.30
2015	492,295	1,217,587	256,956	25.03	61.91	13.06
2016	414,185	1,331,898	298,527	20.26	65.14	14.60
2017	462,820	1,596,840	365,312	19.09	65.85	15.06

Source: Authors' own computations, based on data from the National Bureau of Statistics, Moldova

Table 2. Evolution of imports towards Moldova from different groups of countries (2005-2017)

Year	Imports (thousands \$USD)			Share (%)		
	CIS	EU	Others	CIS	EU	Others
2005	905,208	1,038,777	348,307	39.49	45.32	15.19
2006	1,020,781	1,218,507	453,896	37.90	45.24	16.85
2007	1,333,698	1,680,983	674,844	36.15	45.56	18.29
2008	1,737,261	2,105,264	1,056,237	35.46	42.98	21.56
2009	1,141,783	1,421,186	715,301	34.83	43.35	21.82
2010	1,256,852	1,704,240	894,197	32.60	44.21	23.19
2011	1,713,416	2,256,292	1,221,563	33.01	43.46	23.53
2012	1,623,721	2,318,614	1,270,594	31.15	44.48	24.37
2013	1,672,308	2,472,112	1,347,974	30.45	45.01	24.54
2014	1,449,246	2,567,695	1,300,018	27.26	48.29	24.45
2015	1,018,111	1,954,251	1,014,459	25.54	49.02	25.45
2016	1,027,442	1,973,712	1,019,203	25.56	49.09	25.35
2017	1,206,052	2,389,160	1,236,124	24.96	49.45	25.59

Source: Authors' own computations, based on data from the National Bureau of Statistics, Moldova

Table 3. Evolution of exports from Moldova towards Romania and Russia (2005-2017)

Year	Exports (thousands \$USD)		Share (%)	
	Russia	Romania	Russia	Romania
2005	347,361	111,607	31.84	10.23
2006	181,932	154,940	17.32	14.75
2007	232,707	210,899	17.37	15.74
2008	313,692	335,810	19.72	21.11
2009	286,492	239,626	22.33	18.68
2010	403,978	246,409	26.21	15.99
2011	625,509	376,397	28.22	16.98
2012	655,132	356,717	30.30	16.50
2013	631,932	411,090	26.02	16.93
2014	423,718	434,042	18.11	18.55
2015	240,649	446,370	12.24	22.69
2016	233,177	513,035	11.40	25.09
2017	254,535	600,608	10.50	24.77

Source: Authors' own computations, based on data from the National Bureau of Statistics, Moldova

Table 4. Evolution of imports towards Moldova from Russia and Romania (2005-2017)

Year	Imports (thousands \$USD)		Share (%)	
	Russia	Romania	Russia	Romania
2005	267,835	257,330	11.68	11.23
2006	417,020	345,952	15.48	12.85
2007	498,632	449,050	13.51	12.17
2008	666,137	590,781	13.60	12.06
2009	374,513	311,739	11.42	9.51
2010	586,477	386,720	15.21	10.03
2011	822,961	574,273	15.85	11.06
2012	816,882	620,571	15.67	11.90
2013	788,041	722,129	14.35	13.15
2014	717,221	803,088	13.49	15.10
2015	535,691	555,137	13.44	13.92
2016	535,201	551,499	13.31	13.72
2017	571,704	694,523	11.83	14.38

Source: Authors' own computations, based on data from the National Bureau of Statistics, Moldova



In terms of imports, the fluctuations are quite mild and are similar to the situation we saw, analyzing the imports from the EU and the CIS as a whole. While the importance of Romania has still increased as a source of goods for the Moldovan people, Russia holds strong positions as well, but has been slightly decreasing in the last five years.

Another interesting aspect of this particular data is that the Romanians seems to have little interest in accessing the Moldovan market, but are eager to buy goods that are coming from the former soviet republic. The ever-present discourse about the West that is damaging the local entrepreneurs, by dominating the market seems to be more of an exaggeration. Moldova's economic dependence on Russia found little proof in the collected data and represents more of a Moldovan collective psyche of the 90s, as a result of the rich soviet past. In the economic realities of the last decade Russia remains an important partner, but we see a great shift towards the EU, export and import-wise as well.

3. Moldova's economic complexity and trade competitiveness

Moldova's economic complexity and the lack of diversity seem to be a real issue. The World Bank reports on the matter, state that the economic structure of the Moldovan system is not sufficiently developed for several reasons, which would slow down the economic growth process quite a bit.

Normally, an increase in the industrialization of the economy could easily lead to increased living standards due to new jobs, but at the same time competition from the international market may be too much for the producers in Moldova, which could lead to a social decline due to low wages or lower paid jobs at home than abroad, which has already brought Moldova to the brink of a social crisis and lack of acute skilled labor who chooses to emigrate in the search of a better life.

Secondly, a more complex structure of exports often denotes a higher level of education and training for the workforce, but also a higher degree of know-how and the ability to produce more sophisticated products, than in the economies based on simplistic products with low added value (Hidalgo, 2015).

Last but not least, because of the latest developments in which economic power often feeds political power, states such as the Republic of Moldova, which generally relies on a reduced range of resources, are easily exposed to the risk of becoming captive states, both economically and politically. Since 2014, the "captive country" status is increasingly attributed to Moldova in the local and international press after the disappearance of one billion euros from the banking system, made possible by the political circumstances and corruption.

According the World Bank, the performances of this small state depend very much on the trade relations it has and the competitive capacity it demonstrates. The recent developments of the bilateral relations with the Russian Federation and with the European Union, due to the signing of the Association Treaty and the Deep Free Trade Agreement (DCFTA), have had a substantial impact. At the same time,

according to the data, it seems that the Republic of Moldova is a better integrated state compared to similar states whose GDP per capita is relatively the same, such as Georgia or Albania (World Bank, 2015). Moldova's main issue remains the fact that it did not fully exploit the commercial potential it had more than a decade ago. Although, Moldova has witnessed a major integration into the global trading system, mainly due to intensified relations with third parties through the vast increase in imports a considerable part of its trade deficit was mainly funded by remittances and, to a lesser extent, by foreign direct investment (FDI). Moldova's export performance was comparatively weaker than that of its regional colleagues.

At the same time, Moldova has experienced a significant diversification of its export range, but much of it remains dominated by only a few products, especially in the agri-food sector. Although the number of countries exported to the Moldovan state has increased practically twice in the last 15 years, such an exports' structure leaves indigenous exporters very vulnerable to economic and financial shocks similar to those of 2008-2009, but also in the face of economic sanctions from other states or groups of states. According to the data, the need for diversification of exports and markets shows that the economy has grown more on exports of new products in new markets than the quantitative increase of traditional exports to existing markets.

Table 5. Moldova's exports, by groups of goods (2017)

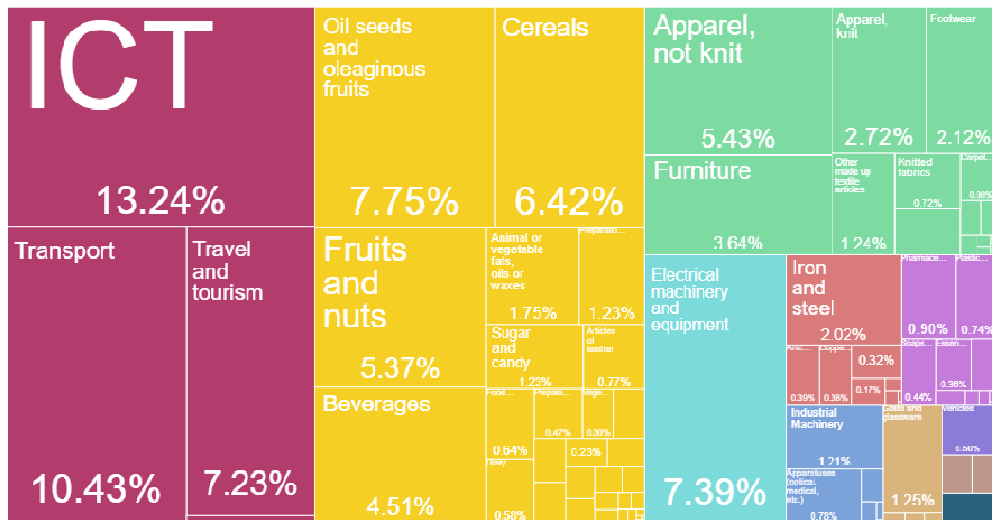
	(%)
I. Live animals; animal products	1.94
II. Vegetable products	27.32
III. Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	2.22
IV. Prepared foodstuffs; beverages, spirits and vinegar; tobacco and manufactured tobacco substitutes	15.16
V. Mineral products	1.18
VI. Products of the chemical or allied industries	4.07
VII. Plastics and articles thereof; rubber and articles thereof	1.38
VIII. Raw hides and skins, leather, fur, skins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of animal gut (other than silkworm gut)	0.86
IX. Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto or of other plaiting materials; basket ware and wickerwork	0.43
X. Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard; paper and paperboard and articles thereof	0.54
XI. Textiles and textile articles	14.30



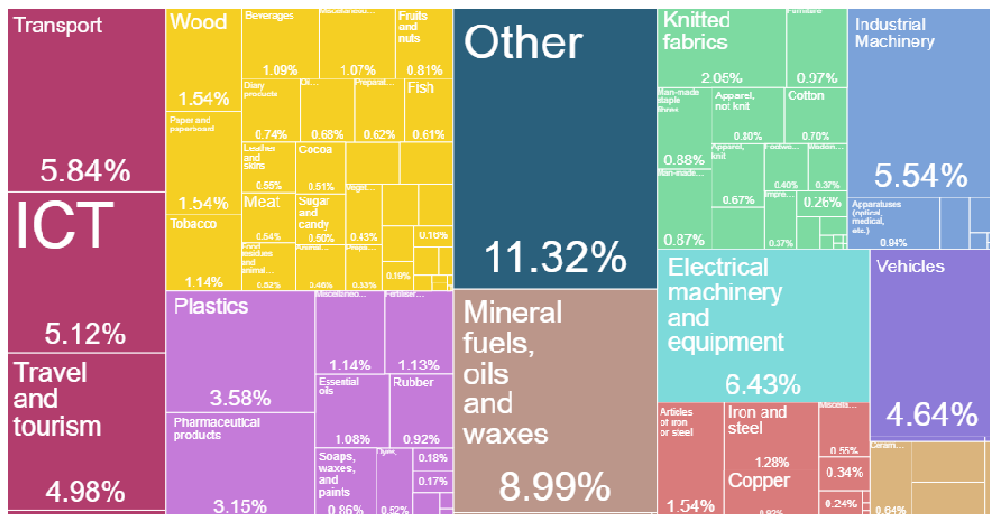
	(%)
XII. Footwear, headgear, umbrellas, walking sticks, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair	1.40
XIII. Articles of stone, plaster, cement, asbestos, mica or similar materials; ceramic products; glass and glassware	1.74
XIV. Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewelry; coin	0.05
XV. Base metals and articles of base metal	1.99
XVI. Machinery and mechanical appliances; electrical equipment; parts thereof; sound recorders and reproducers	16.07
XVII. Vehicles, aircraft, vessels and associated transport equipment	1.71
XVIII. Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; musical instruments; parts and accessories thereof	1.27
XX. Miscellaneous manufactured articles	6.37
XXI. Works of art, collectors' pieces and antiques	0.00

Source: Authors' own computations, based on data from the National Bureau of Statistics, Moldova

Analyzing the trade structure that Moldova has is a challenging thing. Apart from all the positives, the lack of diversity is worrying. Moldova exports are mainly focused on agricultural production, which represent a third of the country's exports. Oil seeds, cereals, grapes and nuts are the main components from this branch. Putting so much pressure on the primary sector, involves many risks, such as the climate change and the weather variation. At the same time, having tight relations with the EU, might not be enough to cover the partial loss of the CIS market, because of the quota system of the EU, which prevents the non-member countries from exporting too much. The emphasis that Moldovan economy has put on the agricultural exports, denotes a less developed economy. Even if, there are more sophisticated products that may come from the primary sector, like tobacco, wine or spirits, the added value is still low. Having a high share of the exports covered by textiles and textile articles is also very typical for a developing country.

Figure 1. Moldova's exports by groups of good and services (2016)

Source: The Atlas of Economic Complexity

Figure 2. Moldova's imports by groups of goods and services (2016)

Source: The Atlas of Economic Complexity



4. Regional integration perspectives

It is also attractive for the foreign brands of clothing because of low wages and the close proximity to the external markets. This industry will remain high, as long as the wages are low. Even if it contributes to a lower unemployment rate, the added value in the production chain is not great. When it comes to machinery and equipment, Moldova has a similar problem, as the main objective of exports from this group of goods is consisted of wires. A more optimistic overview comes from the fact that the ICT market is rapidly growing and evolving. It does provide a lot of working opportunities and, even if, the wage levels are still lower than in other countries, the people working in this sector are paid relatively good money. Tourism on the other hand has a supply issue. Moldova has no shortage of historical and cultural sites, despite its small size, but a lot of the potential remain unexploited, as a result of bad governing and slow growing private sector.

When it comes to imports, the situation is a little bit different. It is quite normal for a developing country to bring in more sophisticated goods with a higher added value. Although, there is nothing wrong with that, the long-term effects of this practice should be balanced by capital investment and imports of high technology and “know-how”. Looking at the structure from above we can see a lack of such goods, but a great share of consumables.

In essence, the Republic of Moldova has two better-known opportunities for an eventual regional economic integration. On one hand, we have the Economic Union between Russia, Kazakhstan, Belarus, Armenia and Kyrgyzstan. On the other hand, Moldova has already signed the Association Agreement Treaty with the European Union and enjoys preferential treatment from its member countries. However, taking into account the latest developments in the region, like the conflict in Ukraine and the never-ending Transnistrian dilemma, the economic and strategic priorities of the Republic of Moldova may change from one day to another.

The basis for a successful regional cooperation exploits the comparative advantages of all member countries, which enables them to present themselves globally as part of a whole, thereby protecting their common interests. At the same time, regional integration facilitates the transfer of capital between members in order to improve their economic productivity. It can be said that without a functional regional integration, neither the globalization paradigm would work.

Integration into the Eurasian Economic Union is closely linked to the collapse of the bipolar world and the collapse of the Soviet Union. At the same time, many authors point out that in the first years after the former Socialist Republics gained independence, economic integration tendencies were very volatile, with some states, such as the Baltic ones, whose ties to Russia have never been very tight, oriented towards integration into the European Union and the others, which ended up forming the Commonwealth of Independent States



(Hartwell, 2013), which is mainly sought by Russia and the Central Asian countries.

At the same time, the fall of the USSR was a clear sign for the European Union to change its strategy of maintaining the status quo into an expansion. At the end of the 1980s, after a period of stagnation, the process of European economic integration restarted, and besides the idea of creating a monetary union, the idea of extending to Central and Eastern Europe appeared, given that the regimes in the former soviet countries went through changes and the European values became increasingly more attractive to them.

A particular advantage for countries in the former Soviet space, such as Moldova, is the common past and the common knowledge of a unifying language (Russian). Besides, there is a high level of economic interdependence between Moldova and its soviet „sister” regarding the development of GDP. Their economies are still closely linked through very intense relations, despite the collapse of the USSR, although political and economic relations between them are not exactly ideal (Benešová and Smutka, 2016).

The main geostrategic feature of the Republic of Moldova is the role of a buffer zone between two the political-military groups: NATO and the CIS military alliance. With the wave of NATO enlargements in the last period, the conflict between them has intensified, and the interest in the space between the Prut and the Dniester rivers has increased. This further divided civil society on geopolitical criteria and led to the interloping of the political class in Chisinau. It is obvious that Moldova started its new phase of state independence very poorly and the future seems momentarily uncertain.

From an economic point of view, the advantages of regional integration are obvious. On the one hand, the European integration of the Republic of Moldova would open up new markets and would urgently increase the implementation of reforms in the tariff and non-tariff areas. The intensification of trade with the EU has helped Moldova practically reduce the effect of economic sanctions imposed by the Russian Federation, and some economic agents have even given up completely on the Russian market and redirected their efforts mostly towards the Western market. On the other hand, the disadvantages claimed by some belong to the cultural side. Many Moldovans consider the cultural difference as an impediment, as the young generation advocates for an intensifying interaction with the so-called „civilized world” of the West, while the elder one is quite resistant to changes like that. As far as economic risks concern us, a lot is being said about the costs that various economic agents, will have to pay in order to comply with the environmental standards required by the European Commission. Usually, the disadvantages of the European integration are related to the costs that both, the state and its citizens will incur. These are the public costs that will be covered from the state budget, the private costs that will be borne by private companies, but also individual costs of the citizens. At the same time, the idea of a possible labor force exodus towards the West is widespread in the public space and, last but not least,



the idea of monopolizing the local market by foreign economic agents, which could lead to a price increase, although the data proves otherwise. Apart from this, the civil society often criticizes the exclusivity dialogue between the European authorities and the Moldovan government and is denouncing the weak relations with the NGOs, especially when it comes to supervising the use of European funds as corruption remains one of the main issues (Rouet, 2016). This also brings up the need for more relevant, technical assistance from the EU, not only in terms of volume. In case of Moldova, Romania might prove to be a valuable asset in order to ensure a more transparent reform process (Drăgan, 2015).

On the other side of the barricades, the Eurasian Union comes with far more “varied” advantages. The Republic of Moldova is often lured with the idea of cheaper gas, Moldovan products that would again invade the Russian market and, last but not least, a solution to the Transnistrian problem. All of these seem to be enough for a lot of Moldovans. However, the risks of adopting the Eastern vector are obvious. The constituent states of this Union are spreading alarming signs when it comes to freedom of expression or freedom of the press, since they all have leaders with dictatorial ambitions, officially or unofficially. At the same time, based on the example of Belarus, we can see that more gas will be obtained at a certain price, in the case of Lukashenko, it was the control over the pipelines, while in the case of Moldova, the national supplier is already under the control of Gazprom, following the acquisition of the majority stake of shares from MoldovaGaz. The Kremlin avoided speaking publicly about the solution to the Transnistrian problem. The reintegration of the left bank of the Dniester river might be expensive, and the majority may not want it anymore. Last but not least, the reopening of the Russian market for Moldovan products is very good news for Moldovan producers, but many of them have lost confidence in the Russian authorities and are cautious in resuming negotiations with former Russian partners, because a new wave of sanctions could always reinitiate if Russia’s geopolitical influence in the region is to be threatened in the future.

Even if European integration is an economically attractive perspective, the risk of deteriorating relations with the Russian Federation may be too high. The definitive integration of the country into any of the two blocks will probably take place very late or will never actually happen, because the Republic of Moldova is essentially forced to choose between the economic advantages of the European market and national security and the settlement of the Transnistrian problem.

It is equally important to know if the EU is actually interested in a deeper regional integration with Moldova or not, because Russia had always had great geopolitical interest in the region. The EU, most likely, wants stability and security in the area. Being an economic power and not so much a military one, security at its borders seems to be a very important factor. The financial and political assistance given to some states like the Republic of Moldova actually comes to ensure the two factors. The problem of the former Soviet socialist republics in the East is that, right after independence, they were seriously behind when it comes to



economic development and political reforms. Perhaps a much stronger economic and judicial system in Moldova would be the first step in solving the Transnistrian conflict and assure security.

Surprisingly, but today we find ourselves in a situation where the European Union does not seem to be interested in its prospects for enlargement to the East, but countries like Moldova continue to see European integration as the most obvious and perfect way to ensure an internal long-term development. The Ukrainian conflict brought Russia and the EU very close to a direct conflict and plagued the region with insecurities again (Alexandrova-Arbatova, 2016), adding the Brexit and the migration problem to the mix, might very much change the integration objectives or at least put them on hold. Thus, the EU is not concerned about the membership of these countries in an economic bloc or another, but considers that its normative policy and its core values such as democracy, respect for human rights, free economy and equality of opportunities assured by a good governance are the right way that would provide these countries with a lasting internal development and with it would bring stability and prosperity throughout the European space.

Conclusions

It is safe to say that Moldova has taken some huge steps towards a better economic integration in the new global production chains, and the trade with the rest of the world increases. Being a developing country, it is generally attractive for the potential investors as well, because of the cheap factors of production. The fact that Moldova is a part of the Commonwealth of Independent States and also has a common border with the European Union is a great advantage when it comes to trading easy with the West and with the East. This is further assured by the signing of the Association Treaty with the EU and the Free Trade Agreement. Furthermore, the data proves that the EU, and in particular, Romania are the direction of choice for Moldovan exports and also are the origin of at least half of the imports. The CIS, led by Russia, remains one of the main trading partners for Chisinau, but its importance has drastically diminished in the last decade. From the perspective of economic complexity and export diversification, the economic structure is still weak and mostly uncompetitive, with no high added value products, and a high dependency on agricultural goods. This is risky for the economy, because the output can be affected by uncontrollable factors. On the other hand, the textiles branch and the ICT sector show great potential for an eventual inflow of foreign investment. While Russia's importance for Moldova is decreasing, it seems that Chisinau is interested to adopt the Western vector more than it used to, at least economically. Besides that, a full economic and political integration within the EU seems almost impossible in the current situation. The Kremlin still applies great pressure, by using the Transnistrian issue and Europe's dependence on its energy, in order to consolidate its positions in the Eastern European region. At the same



time, the EU seems completely uninterested in expending its territory to the East and prefers to use soft-power just to assure stability and peace at the border. It does however try to help countries like Moldova develop economically and judiciary, this way promoting the European norms and values even further.

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AFFECTS, PERCEPTION AND EUROPEAN CITIZENSHIP. REGARDS IN POLITICAL PSYCHOLOGY

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Abstract

This study underlines the relation between political emotions and the citizens' perception of the European citizenship. This complex and ambivalent model of the EU identity generates a "soft" perspective of EU citizenship. The lack of the legal framework both in EU and in States Members creates premises for a volatile model of the citizenship without duties. This research aims to develop a quantitative design for analyzing the functional relation between political cognition (beliefs and political emotions), dimensions of the political socialisation, political identity and possibilities of explaining the dynamics of the EU citizenship. As research method the article uses the comparative case studies for shaping the differences between political identity and perspectives for EU citizenship in Eastern post-communist countries and Western democracies. Quantitative data are collected from the official statistical reports of the Eurostat. At the empirical level the first quantitative result reflects that economic factors are related to the attachment for EU in post-communist countries. In the same context, political and social values are predictors for the attachment of EU in Western political systems. Another empirical finding presents the human rights as vector for shaping both political attachment and political identity in EU sphere. The third empirical finding stresses the fact that for Eastern citizens a high level of EU attachment is related to a weak level of the rule of law. Several historical patterns specific for this geographical area could explain this negative relation between variables.

Keywords: political psychology, political cognition, European citizenship, political culture, attachment for EU values

Introduction

This paper underlines the relation between individual values and the attachment for EU. We analyze several social, cultural, political and economic factors which determine both the attachment for EU values and European citizenship. At the methodological level we use the comparative case studies between Eastern and Western democracy. The main research question is "which is the impact of the political values, emotions and preferences in creating perspectives for EU political identity?" In this respect, we test the relation between political

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cognition (beliefs and political emotions), dimensions of the political socialisation, political identity and possibilities of explaining the dynamics of the EU citizenship. The inquiry strategy is quantitative, being based on regression equations for identifying predictors for EU political identity. Empirical findings emphasize the role played by personal values, economic factors and the respect for human rights in creating premises for EU citizenship. At the cognitive level we have observed several differences and cognitive errors which could be integrated in the sphere of the cognitive dissonance and logical errors. Although, most part from the statistical sample demonstrates the preferences for democracy, in Eastern countries we could identify differences between personal political beliefs about EU values and political attitudes and behaviours.

The main vector for configuring political attitudes and behaviours is represented by individual psychological process for computing and signifying information from social and political environment. Thus, political cognition and sophistication could be seen as a key-concept in the field of the political psychology. Both the biological and sociological factors are relevant for analyzing individual cognitive mechanisms. A synthetic definition of the cognitive processes stresses the fact that “cognition refers to all the processes by which the sensory input is transformed, reduced, elaborated, stored, recovered, and used. It is concerned with these processes even when they operate in the absence of relevant stimulation” (Neisser, 1967, p. 4). But, this process should be analysed through social environment. One of the most important pieces in the cognitive process is represented by the interaction between individuals and society. In this context, psychological processes are based on socialization. Regarding political cognition we can stress the fact that political socialization plays the role of the catalyst in shaping political beliefs, attitudes and behaviours. “But social cognition should properly be seen as the emergent property of the system when these more fundamental cognitive processes are applied explicitly to social contexts. There is an implicit sense that individuals of those species that have this capacity are especially sensitive to social contexts, and that this context brings into play a specialized suite of cognitive mechanisms not normally used in more mundane physical world contexts” (Dunbar, 2011, p. 25).

This approach emphasizes the role played by the cognitive or emotional factors in creating premises for EU citizenship. If political socialization is the most important variable in shaping political cognition, emotions or models of sophistication, we are interested, in a comparative manner, to analyse this relation in Western and Eastern Europe. Beyond political socialization, we agree the cultural thesis of the cognitive process. In this respect, social and political culture could generate different ways to act and understand social world. Parochial culture is specific for authoritarian political order, subject culture for post-authoritarian political regimes and participative culture for democratic political systems (Almond and Verba, 1996; Almond *et al.*, 2004; Inglehart and Welzel, 2005; Beck, 2007; Dahl *et al.*, 2003; Pattie *et al.*, 2004; Martin, 2002). Thus, this paper will

focus on the importance of the cultural factors in generating patterns for political cognition and different ways for expressing political attachment for the EU values. Political history and the common political past (with differences between Western democracies and Eastern post-communist countries) are relevant for understanding cultural variables and rational or emotional political participation both in national and transnational systems.

1. Political cognition and affects. Social environment and behavioural responses

The key concept for understanding political behaviour both in national and transnational political systems could be reduced to political cognition. Why is important to study political attitudes through cognitive perspectives could be an important research question for social or political scientists. The answer to this question is structured on two different academic fields of research: on the one side we can stress the role played by the psychology and the recent works from social neurosciences and, on the other side we analyze the impact of the cultural geography, which shapes common political beliefs and attitudes for individuals which share the same cultural and geographical area. The academic literature emphasizes the role played by the brain architecture in configuring personal beliefs about physical or social world. But, beyond this biological architecture as social beings individual are interested in generating meanings or significances related to reality. In this context, we can underline several limits of the human knowledge. One of these limits could be related to the social infrastructure which could interfere with personal beliefs about reality. Moreover, in the academic field of the social cognitive psychology we observe the fact that personal beliefs are strongly associated with emotional or subjective influences (Houghton, 2009; Deutsch and Kinnvall, 2002; Cottam *et al.*, 2004) Generally speaking, personal cognitions are seen as models for “mental short-cuts”. “In politics as in other spheres of life, beliefs help determine what we see; they help us define the nature of the situation we are facing (diagnosis), as well as the kind of options or solutions we find appropriate (prognosis). From a cognitive psychological perspective, beliefs can be considered a kind of mental *short cut*; individuals develop beliefs in order to help them make sense of the world. Beliefs are one way of sorting through signals and information that would otherwise be overwhelming to our senses” (Houghton, 2009, p. 106).

In correlation with all these perspectives from cognitive psychology we intend to stress the fact that political beliefs results from the interaction between social world and individual action. In this respect, political attitudes and beliefs are learned by the social actors when they are involved in different social situations or interactions. Thus, personal beliefs and attitudes are learned both in a conscious or unconscious manner. “Except for elementary reflexes, people are not equipped



with inborn repertoires of behaviour. They must learn them. New response patterns can be acquired either by direct experience or by observation. Biological factors, of course, play a role in the acquisition process. Genetics and hormones affect physical development which in turn can influence behavioral potentialities. The dichotomy of behavior as either learned or innate has a declining number of proponents as knowledge of behavioral processes increases” (Bandura, 1977, p. 16). All axiological, practical or idealistic beliefs are transferred through social interaction and social learning. Individuals are predisposed to learn normal or abnormal beliefs, attitudes or behaviours if they are socially exposed (Grusec, 1992; Perry *et al.*, 1990; Pratt *et al.*, 2010; Shannon, 2015).

The strong influence played by the social environment in shaping political beliefs is related to the work of Lazarsfeld in the middle of the XX-th century. Thus, through quantitative tools and questionnaires, Lazarsfeld and his research team had demonstrated the influence played both by social environment and mass-media in generating political cognition (Lazarsfeld *et al.*, 1944). If individuals are exposed to political stimuli we can identify several transformations in their political perception and axiological system. In this case, political stimuli are transferred from social environment to individual perception through mass-media. Thus, mass-media could be seen as a catalyst for transferring both political information and beliefs. Social environment and emotional factors are responsible for electoral decision. Both society and media are seen as perceptual filters in political cognition (Campbell *et al.*, 1960; Russel, 2000; Antunes, 2010). Moreover, social environment could be reduced to the image of the social system, being based on a complex set of mutual correlations between components. In this respect, we can observe a high rate of interactions between the idealistic system (social or political opinions and beliefs, religious faith, artistic expression etc.) and the material structure of the social system. In this connectionist perspective, the idealistic and symbolical dimensions are strongly influenced by the social proximity and reality. Social proximity generates models and methods for understanding the world. Geographical proximity shapes the same manner for expressing the vote or the same manners for behave in different political situations. Small geographical areas are more predisposed to social and political interactions. In several empirical studies, scholars have observed that demographic density and geographical magnitude are related to social thinking, social communication and social interaction. In all the cases we can underline strong positive correlations with $r > 0.7$ and $p < 0.05$ (Pascaru, 2012, pp. 114-160).

A particular case of the social environment is represented by the familial context. Primary political socialisation influence directly electoral decision. In the quantitative terms, researchers have estimated the impact of proximity in shaping vote decision. Through Markow statistical models researchers have estimated the impact of the physical proximity in generating electoral decision. They observed with $p < 0.01$ that political attitudes are constructed symbolically in social and geographical proximity. When people vote, they have already set their political or

electoral options (Rowden *et al.*, 2014). Moreover, social stratification and social division have an important impact in political attitudes and cognition. People who are included in the same professional or social category are more predisposed to vote in the same manner. For example, workers are more predisposed to vote with socialist or social-democratic ideologies than other professional categories. Political message is structured to their own possibilities of understanding and explaining social and political world. Social, economic, professional and religious values are positive related to political attitudes and electoral decision (Lipset, 1999, pp. 3-9; Manza, 1995; Elff, 2009, pp. 304-305; Laver, 2001; Laver and Garry, 2000; Elff and Roßteutscher, 2017, pp. 12-34). Also, the cognitive aspect is related to the educational level and rate of social interaction between individuals (Moscowitz, 2001).

If social proximity and environment plays an important role in social and political cognition, we have to underline the importance of emotional or affective disposition in generating political beliefs and attitudes. One of the most important thesis in social cognitive psychology, strongly related to neurosciences, refers to the emotional impact in political decision. In terms of the „Theory of Minnd”, the recent findings from neurosciences try “to explain behavior in terms of the activities of the brain. How does the brain marshal its millions of individual nerve cells to produce behavior, and how are these cells influenced by the environment, which includes the actions of other people?” (Kandel, 2000, p. 5) However, the biological infrastructure could interfere with social or political behaviors. The ideological perspectives are related to different mental processes and different biological structures.

Academic studies and researches demonstrate that a political response for liberals is different from the political responses of the conservative people. In this meaning, studies based on functional magnetic resonance imaging demonstrated in different ways that there are two different brain areas involved in political decision. “Behavioral research suggests that psychological differences between conservatives and liberals map onto the widely-studied self-regulatory process of conflict monitoring. Conflict monitoring is a general mechanism for detecting when one’s habitual response tendency is mismatched with responses required by the current situation, and this function has been associated with neurocognitive activity in the anterior cingulate cortex (ACC). For example, in the Go/No-Go task used in our study, participants must quickly respond to a frequently presented Go stimulus, such that the ‘Go’ response becomes habitual. However, on a small proportion of trials, a No-Go stimulus appears, signaling that one’s habitual response should be withheld. Hence, a No-Go stimulus conflicts with the prepotent Go response tendency. Such response conflict is typically associated with enhanced ACC activity, measured using functional magnetic resonance imaging or event-related potentials (ERPs). We proposed that differences in conservatives’ and liberals’ responsiveness to complex and potentially conflicting information relates to the sensitivity of this general mechanism for monitoring response conflict”



(Amodio *et al.*, 2007, p. 1246). Other empirical studies demonstrate that this different biological areas are responsible for two different cognitive processes: an emotional process based on reactions at the level of the cerebral amygdala and an rational process based on reaction at the prefrontal cortex. In many cases, political cognition combines this two types of psychological activities (both emotion and rationality), generating, in practice, a model of “playground cognition” (Fowler and Schreiber 2008). Empirical findings suggest that there are significant differences between party members and novices in political activity. Thus, for democrat or republican club members researchers have observed a high neural activity in limbic system (emotional system). Then, for novices in politics, researchers have observed an intense neural activity in prefrontal cortex (rational system) (Fowler and Schreiber, 2008, p. 914).

Synthesising, both in theory and practice we can underline two main perspectives for understanding and predicting political cognition and behaviour: sociological perspectives and neuropsychological differences in political activity. Social environment has an important influence in shaping connections and beliefs about social or political world. Neuropsychological differences are evident when individuals are faced to political ideologies or political stimuli. In this situation we can underline the model based on “hot cognition” (Arcuri *et al.* 2008). This model of political cognition is seen as a hybrid model being based both on emotion and rational political beliefs.

2. Political socialisation, identity and perspectives for EU citizenship

An important issue, in the field of the political psychology, related to identity and political citizenship is represented by socialisation. Political socialisation, both primary and secondary levels, facilitates the internalisation of the political roles and knowledge. Social reality is the symbolically product of the individuals interaction. This interaction is realised at the symbolical level through a mechanism based on “sharing reality”. This type of interaction involves opinions, beliefs, and attitudes, cultural or political values. All these symbolical elements are transferred through personal social interaction in a “social network”. Social networks represent the sum of all particular “nexus” between individuals (Rouquette, 2002, p.60). At this level, the nexus could be defined as common emotional nodes for the individuals from a social or political group. Moreover all these nodes are characterised by the lack of the rational or logic thinking. The cognitive nodes are shared by all the members of the community. These nodes are used both for creating differences (in and out group) and generating abstract or ideological perspectives of the political environment and reality. Political reality is analysed and understood through emotional patterns. All these significances, both rational and emotional, are determined by the social interaction and political socialisation. In this respect, we can underline the role played by the learning theory for understanding the role played by political socialisation. In general terms,



“political socialisation is the process through which we learn about politics. It concerns the acquisition of emotions, identities and skills as well as information. The main dimensions of socialisation are what people learn (content), when they learn it (timing and sequence) and from whom (agents). Most studies of political socialisation derive from the primacy model- the assumption that what we learn when young provides a lens through which we interpret later experience” (Hague *et al.*, 1998, p. 64). Political socialisation could be seen as the process for transferring political culture. In this context, in political socialisation are transferred attitudes, values and beliefs about politics, whether they are conscious or unconscious, explicit or implicit (Newton and van Deth, 2010, p. 171). Political socialisation is strongly related to political activity in different social or political groups and to civil society. In this case, “voluntary organisations and associations, clubs and social movements play an enormously important role in social and political life, and are said to be one of the main foundations of modern democracy. Politically active groups voice the demands of their members and defend their interests in the political arena, as any peaceful group in a democracy is entitled to do. Many groups play a direct role in the consultative machinery of government” (Newton and van Deth, 2010, p. 198).

Political socialisation is the main catalyst for political identity. “The concept of a political identity can best be understood as an inner narrative of one’s political self. Identity is the story that we tell ourselves and others about who we are, who we were, and who we foresee ourselves to be” (Gentry, 2018, p. 19). Although it is very difficult to create quantitative and objective measures for political identity we agree the fact that: “political identity is focused on the individual and his or her internalization of a sense of self; political identity does take into account social interactions of the individual: the focus is on how individuals create their understanding of themselves and redefine themselves according to expectations from the outside world” (Gentry, 2018, p. 19). One of the most important theories in the field of the social psychology which could be applied in the sphere of the political identity refers to the approach developed by Tajfel in terms of *social identity theory*. The relation between in-group and out-group could create a good guideline for understanding personal political identity. Although, scholars argued the importance of this theory for understanding political identity, in practice we can identify several limits and critics (Huddy, 2001, p. 128).

Beyond the traditional aspects of the political identity we can stress the fact that political identity is produced by the continuous interaction between media and personal beliefs. The personalization of the politics is the new way for creating political identities. “Among the most interesting aspects of this era of personalization has been the rise of large-scale, rapidly forming political participation aimed at a variety of targets, from more traditional parties or candidates, to direct engagement with corporations, brands, and transnational policy forums. These mobilizations often include a multitude of issues brought into the same protests through a widely shared late modern ethos of diversity and



inclusiveness” (Bennett, 2012, p. 21). Political identity refers to the public identity of the individuals. In this respect, we have to stress the strong relationship between public identity and citizenship. In relation with the political community, “political identity is, first, the set of social and political values and principles that we recognize as ours, or in the sharing of which we feel like ‘us’, like a political group or entity” (Cerutti, 2013, p. 27).

Beyond the sociological dimension we have to complete all the conceptual assumptions with historical perspectives. “Political identity is both a social and a historical construct. As a social construct, it reflects the institutional nature of the political community. As a historical construct, its emergence and consolidation is bound up with historical contingencies and with the way in which competing narratives and ideologies shape the self perception of the members of the community” (Castiglione, 2009, p. 29). The common historical past is a good political indicator for understanding political identity. Historical experiences and past play the role of the catalyst in transferring different patterns of political culture. In this respect we can understand two model of political identity in EU space: Western democracies and Eastern post-communist political systems. In Western Europe we can identify the same historical manner for constructing the democratic order. The XVII-th and XVIII-th century are characterized by several social movements and revolutions for creating the premises of the democratic order. The central figure in this type of approach is represented by the French Revolution (1789) for independence, liberty and equality. Other social movements from Western Europe are relevant for shaping the same political values and practices. In contrast, Central and Eastern Europe is characterized by the incidence of the communist and authoritarian practices. Moreover, after the World War II, the common political past in Eastern countries could be reduced to a single concept: soviet influence. This practices and social values had developed a particular type of political culture, based on the hybrid between parochial and subject culture. Thus, through these examples we can illustrate the significance of the historical past in shaping different patterns of political culture and political identity.

Starting from these theoretical perspectives we aim to create the nexus between European political identity and perspectives for EU citizenship. It is very difficult to define in a single concept EU political identity and we agree, metaphorically speaking, that “the image of Europe as a shining city perched on the hill of perpetual peace, social welfare and inalienable human rights is replaced with the cry of *Europe for Europeans*” (Checkel and Katzenstein, 2009, pp. 1-2). As a complex economic and political structure, EU is based on the continuous interactions between social structure, economic free market, rule of law, bureaucratic mechanisms and institutional design for preserving social order and political interactions between national political groups, parties and ideologies. “A full understanding of Europe’s ambivalence, refracted through its multiple, nested identities, lies at the interaction of competing European political projects and social



processes” (Checkel and Katzenstein, 2009, p. 2). EU political identity should be seen in a “soft” manner, being based on the dynamics of multi-level governance, historical construction, political institutionalism, political functionalism, and principles of federalism. The solid structure of EU identity should be realized through the process of politicization (Checkel and Katzenstein, 2009, p. 9). In practice EU identity is quite volatile and related to the ambiguity of the EU political project. The main political differences between Western democracies and Eastern post-communist countries could be a historical impediment in constructing a strong model of social and political identity. In social psychology, the problem of identity should be analyzed through two elements: *identification* with the members of the group and the *differentiation* between individual and other members of the group or community. In this context, EU political identity has to be created through the isomorphism between personal values and practices and trans-national political, social or economic values and perspectives. In practice, scholars observed a high level of the volatility in the axiological framework which define European cultural heritage. In this case it is possible to create conflicts between individual, national and European social and political values. “Under such conditions, European political identity cannot be constructed on the basis of putative European values but must be supported by the more conflictual mechanisms of democratic politics and inter-institutional balance” (Castiglione, 2009, p. 30).

This complex and ambivalent model of EU identity generates a “soft” perspective of EU citizenship. The difference between classical perspective of national citizenship and attachment creates a specific model of “EU citizenship without duties” (Kochenov, 2014). The classical perspective refers to the strong relationship between duties and rights. From the judicial perspective “citizenship plays an important role at both EU and national levels. This is mostly due to the concept of rights and is not disturbed by whatever is going on with the duties of citizenship. Consequently, approaching the matter empirically, there is no correlation between duties and citizenship” (Kochenov, 2014, p. 491). The lack of the legal framework both in EU and in States Members creates premises for a volatile model of citizenship without duties.

Another perspective related to EU citizenship create the nexus between EU values, political culture, historical identity and citizenship. This manner of understanding and predicting EU citizenship is based on affective or emotional factors. Both personal attachment and political emotions and rhetoric are involved in describing identity and citizenship. “This account links Union citizenship to the promotion of a European identity based around common cultural values and political symbols that parallel and could possibly supersede the national identities of citizens. It seeks to develop an affective relationship among Union citizens towards the EU and their fellow EU citizens similar to that felt by co-nationals towards each other and their state, thereby legitimizing the development of greater competences at the EU level” (Bellamy, 2008, p. 597). During this paper we intent to extent this perspective and to stress the psychological relation between political



cognition and affects, the perception of the EU values and EU citizenship. In this sphere we agree the fact that psychological factors could be related to a model of cosmopolitan citizenship. “Instead, they contend EU citizenship should form a component of some kind of post-national cosmopolitan citizenship grounded in the moral entitlements we have as human beings and the obligations we owe each other to secure them in an increasingly interconnected world” (Bellamy, 2008, p. 597). Bellamy demonstrates the normative dimension of the EU citizenship. He uses citizenship as a belonging model to European Community, as a model for preserving human rights and a strategy for civic engagement (political participation). The critics of Bellamy regarding EU citizenship consists in this fact: “moreover, the EU would appear to show that a politics where rights and participation are detached from any sense of belonging is likely to be hard to sustain and potentially have perverse effects. Consequently, the formal status of EU citizenship as dependent on and complementary to national citizenship seems more normatively attractive than is often supposed” (Bellamy, 2008, p. 609).

One of the main limits theorized regarding EU citizenship refers to the normative approach. In political practice is very difficult to identify a strong model of EU citizenship. This inner limitation derives from the “space state” (Shaw, 2012). In this context we can observe the legitimacy and supremacy of the national identity. Both judicial factors and national attachment are relevant for stressing the empirical limitations of the EU citizenship. The outer limits of the EU citizenship include Treaties, secondary legislation and territorial limitations (Shuibhne, 2009).

Beyond all these judicial and normative limitations, scholars reinforced the concept “flexible citizenship” for filling the sphere of EU citizenship. “Within the European Union in particular, there is a return to citizenship in the city as well as the transnational institutions of the EU” (Benshabib, 2005, p. 675). The main differences between classical citizenship and EU citizenship could be reduced through public autonomy (Benshabib, 2005, p. 675). This type of public autonomy is more closer to cosmopolitan democracy and citizenship. Through the sphere of human rights EU could emphasize public autonomy and axiological attachment for common European values. “The nation-state is the home of the modern citizen. The reconfiguration of citizenship beyond nation-state boundaries is necessitated by developments which themselves undermine the nation-state, even if they are blindly promoted by it as well” (Benshabib, 2005, p. 676). This flexible model for understanding citizenship is, also, related to freedom of movement across country borders in EU space (Bauböck, 2010).

Synthesizing, we can stress that the functional relationship between political identity and citizenship should be mediated by judicial norms and factors. One of the main limitations of the EU citizenship consist both in inner and outer limits, generated by the Treaties and secondary legislation. Moreover, an optimistic scenario should emphasize and practice the idea of “flexible citizenship” quite closer to a model based on public autonomy.



3. Research Methodology

In accord with the theoretical framework this research aims to develop a quantitative design for analyzing the functional relation between political cognition (beliefs and political emotions), dimensions of the political socialisation, political identity and possibilities of explaining the dynamics of the EU citizenship. Thus, this research has several **research objectives**: 1. *to observe the correlation between the subjective feeling of the citizen of the EU and the main cultural, axiological and economic factor for create the feeling of community*; 2. *to explore the feeling as a citizen of the EU in accord with individual values*; 3. *to measure the impact of the perception of the EU as a model for democracy for shaping political attachment and citizenship*. The main research questions in our approach are based on: “what is the impact of the individual values in creating the feeling of EU citizenship?” and “could be based EU citizenship on individual political emotions and preferences?” For answering to all these questions we want to test the research hypothesis: *h₁: The symmetry between individual and EU political values generates attachment and the feeling of EU citizenship*.

At the methodological level we use, as research method, the comparative case studies for identifying several differences at the cognitive and emotional level between Western democracies and Eastern post-communist countries in shaping both political identity and the feeling of the citizen of the EU. The tool of research is represented by a standardized Eurobarometer. All statistical data were collected from official statistical reports of the Eurostat¹.

The research design is focused on the recent public opinion regarding European Citizenship from Standard Eurobarometer 89, Spring 2018. We use both descriptive and inferential statistics for describing and explaining the dynamics of the feeling of the EU citizenship both in a time series and in cross-national analyses. Research variables are presented by:

Y₁= Feeling as a citizen of the EU

Y₂= Attached to the EU

X₁= Attached to national state

X₂= Feeling as a citizen of the national state

X₃= Factors for create the feeling of community (Culture; Values; Economy)

X₄= EU as a mechanism for preserving peace

X₅= EU as a model of democracy

X₆= EU as a model for preserving peace

X₇= EU as a model for equality

X₈= EU as a model for individual freedom

X₉= EU as a model for the rule of law

¹ See <http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Survey/index#p=1&yearFrom=2007&yearTo=2018>, accessed on March-April 2018



X_{10} = Individual/ Personal social and political values (Peace; Human Rights; Democracy; Individual Freedom; Equality; Rule of Law)

The entire research variables are quantitative, measured on a scale between 0-100 percent. The quantitative values reflect the percent of the respondents from EU28 to each item of the Eurobarometer regarding European Citizenship. The empirical findings reflect a cross-national statistical analysis only for the year 2018. If we compare data from 2007 with samples from 2018, we can observe the fact that in EU27 there is an optimistic approach regarding political trust and attachment in EU. Thus, 48% of the citizens' tend to trust in EU and 35% tend to trust in national political institutions². The recent political events (BREXIT) associated to economic imbalances have determined an increased level of attachment for national political institutions (average= 46,5%) and a decreasing rate of trust and attachment for EU transnational institutions (average = 28%). Through this type of approach we are interested to observe the realistic situation regarding European citizenship through a transversal analytical design.

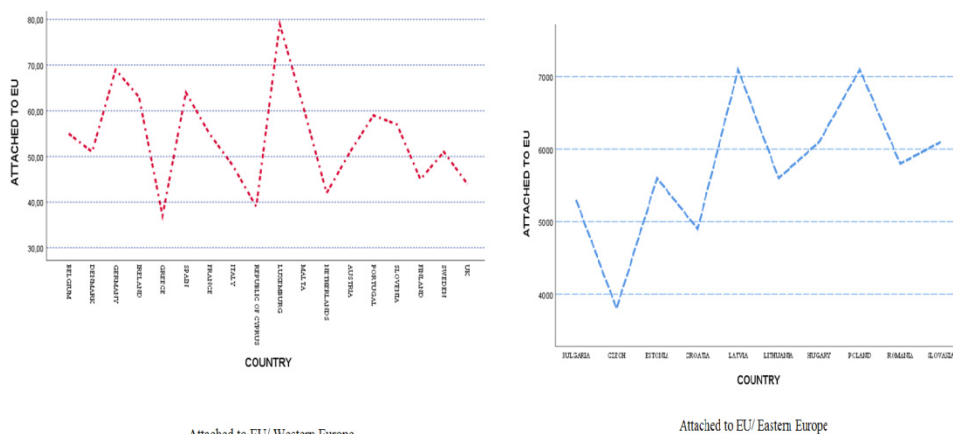
4. Empirical findings. Attachment, Democracy and perspectives for European Citizenship.

Starting from these methodological premises, the empirical research is focused on the comparison between Eastern political systems and Western democracies. In this respect, regarding the attachment for EU we can estimate several differences between Eastern and Western countries. Thus, at the descriptive level we can estimate the mean of 57,4% the level of attachment for the EU in Central and Eastern Europe. In this context, we estimate $\sigma = 9,81$, Skewness= -0.309 and Kurtosis = -1.185. Thus, the distribution of attachment for EU has left asymmetry, with confidence level among [50,38; 64,41]. The most probable repartition of the values with $\alpha = 0.05$ has values among [50,38; 57,4]. If we compare means we can observe that there are no significant differences between Central and Eastern Europe and Western democracies. In Western industrial democracies we can estimate the mean of 53,88 with $\sigma = 10,89$. In this context we can observe normal and symmetrical distribution with Skewness= 0,504 and Kurtosis =0,184. The most probable repartition of the values with $\alpha = 0.05$ has values around the arithmetical average. Comparing the level of the variance and standard deviations we cannot register significant differences in the variance of the phenomenon. Regarding the possibilities for EU citizenship we have to observe that in Eastern Europe the average is 60,5%, with mode =55,00%. For Western countries the average of the feeling of the EU citizenship is 64,38% with mode= 61.00. In this context we have to underline that in Western democracy we have several distances and differences

² Read more at https://ec.europa.eu/commfrontoffice/publicopinion/archives/eb/eb68/eb68_first_en.pdf, accessed on March-April 2018

regarding the feeling of EU citizenship. In both countries we estimate normal statistical distributions with Skewnes= [0.3;0.6]. Thus, comparing the attachment for EU and the feeling of EU citizenship between Eastern Europe and Western Europe we can observe, in both cases, a relative symmetry with cosine= 0.955. In the figures below (figure 1 and 2) are represented in a comparative manner the values for EU attachment and the feeling of the EU citizenship.

Figure 1. Comparative evolution of the EU attachment in Eastern and Western Europe



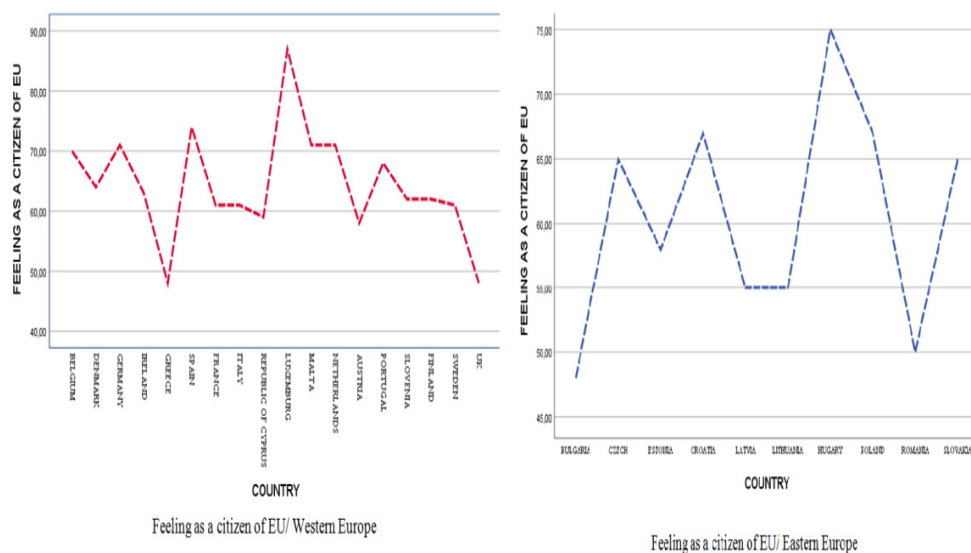
Source: author's representation³

For the first research objective of the empirical study we test the statistical relationship between attachment to EU, feeling of EU citizenship and factors as: culture, axiology (values) and economy. In this context we have identified differences between Eastern and Western European countries. Thus, in ex-communist political systems we have estimated negative correlations between European values and attachment for EU with $r = -0.604$, $p < 0.1$. In the same context, the attachment for EU has a weak but positive association with the economical factors, with $r = 0.387$, $p > 0.05$. In the category of Western democracies there are no statistical positive or negative significant coefficients of correlation.

³ The figures and tables represent the authour's statistical estimation and representation.



Figure 2. Comparative evolution of feeling as a citizen of EU in Eastern and Western Europe

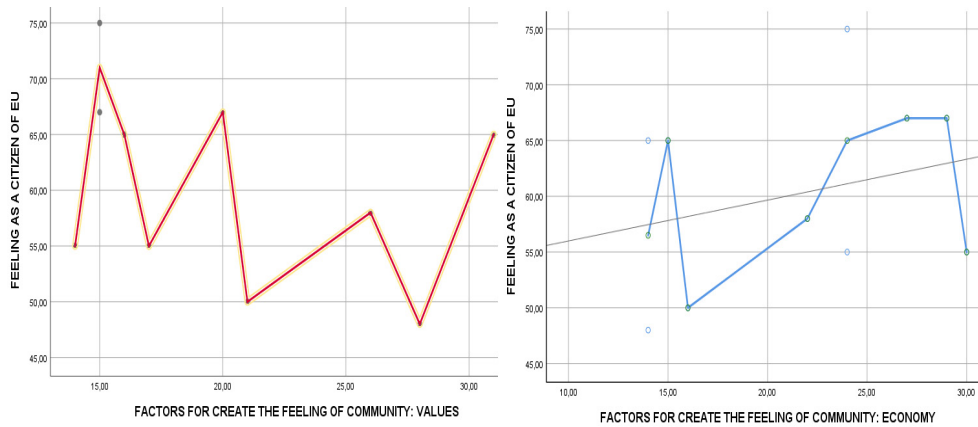


Source: author's representation

Cultural values, economic determinants and the feeling of the EU community

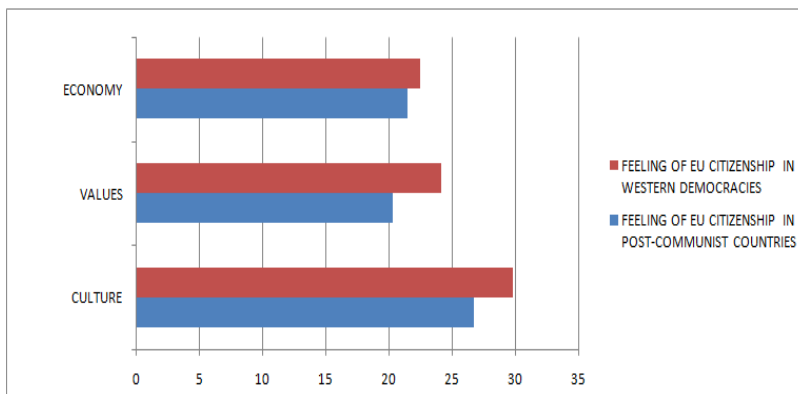
At the comparative level, Western democracies are characterised by axiological framework and political culture. For 29,83% of the EU citizens culture is very important in shaping political identities and perspectives for EU citizenship. In addition to this observation we have to stress that for 24,16% of the respondents values are important or very important for political identity and citizenship. In contrast with this perspective, as we have estimated through linear correlations, in ex-communist countries the economic factor could predict for 21,5% of the respondents the correlation with political identity and citizenship. In the figure no.4 are represented both perspectives from ex-communist countries and industrial democracies regarding to the factors involved in generating the feeling of the EU citizenship.

Figure 3. Correlations between feeling as a citizen of EU, social values and economy



Source: author's representation

Figure 4. Differences between factors which are important in shaping EU citizenship



Source: author's representation

Thus, starting from all this factors which could create premises for the feeling of the EU citizen we can distinguish two main models: 1. a model based on political culture and values specific for Western societies and 2. a model based on economy, which is specific for ex-communist countries. Moreover, for Eastern Europe, political identity could be seen in terms of economic equality, economic development and economic stability. This type of approach is specific for protected democratic transitions based only on economic welfare.



Individual political values and perspectives for EU citizenship

The second research objective of this paper aims to create the nexus between the feeling as a citizen of the EU and individual and personal values. In Eastern Europe the attachment of EU is strongly positive associated with human rights with $r = 0,716$ and $p = 0.02$. In the same context, the feeling as a citizen of EU is strongly positive related with democracy with $r = 0,697$ and $p = 0.025$. These statistical significant associations reflects the fact that for ex-communist citizens the main values around which is crystallized EU political identity are represented by the respect of the human rights and democratic order. In the case of the Western countries, a single variable predict the feeling of EU citizenship: attachment for EU values with $r = 0,778$, $p < 0.001$.

Table 1. Pearson linear correlations between individual values and the feeling as a citizen of EU

Individual/ Personal Values	Feeling as a citizen of EU (Western Europe)	Feeling as a citizen of EU (Ex- communist countries)
Peace	-0.109	-0.230
Sig.	0.668	0.523
Human Rights	-0.125	0.716
Sig.	0.621	0.020
Democracy	-0.02	-0.277
Sig.	0.931	0.438
Individual freedom	-0.09	-0.358
Sig.	0.723	0.308
Equality	-0.233	0.09
Sig.	0.353	0.804
Rule of Law	-0.212	-0.138
Sig.	0.398	0.703
Attachment for EU	0.778	0.000
Sig.	0.000	1.000

Source: author's representation

If we test the whole data, both from Eastern and Western countries we can observe that the feeling as a citizen of EU is related with democracy ($\beta = 0,392$, $t = 2,286$, $p = 0.033$) and the affective sphere reflected in attachment for EU values ($\beta = 0.682$, $t = 3,653$, $p = 0.002$). Thus, generally speaking, the perspectives for EU

citizenship depend on the emotional disposition of the citizens (attachment for EU values) and the importance of the democratic order.

Table 2. Linear Regression Model for predicting the feeling as a citizen of the EU

		Coefficients		Standardized		
		Unstandardized Coefficients		Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	14,103	22,280		,633	,534
	PERSONAL VALUES:	,444	,275	,350	1,613	,122
	PEACE					
	PERSONAL VALUES:	-,437	,215	-,365	-2,027	,056
	HUMAN RIGHTS					
	PERSONAL VALUES:	,417	,182	,392	2,286	,033
	DEMOCRACY					
	PERSONAL VALUES:	-,050	,193	-,051	-,260	,798
	INDIVIDUAL FREEDOM					
	PERSONAL VALUES:	,393	,270	,341	1,454	,162
	EQUALITY					
	PERSONAL VALUES: RULE	-,162	,266	-,113	-,608	,550
	OF LAW					
	ATTACHED TO EU	,587	,161	,682	3,653	,002

a. Dependent Variable: FEELING AS A CITIZEN OF EU

Source: author's representation

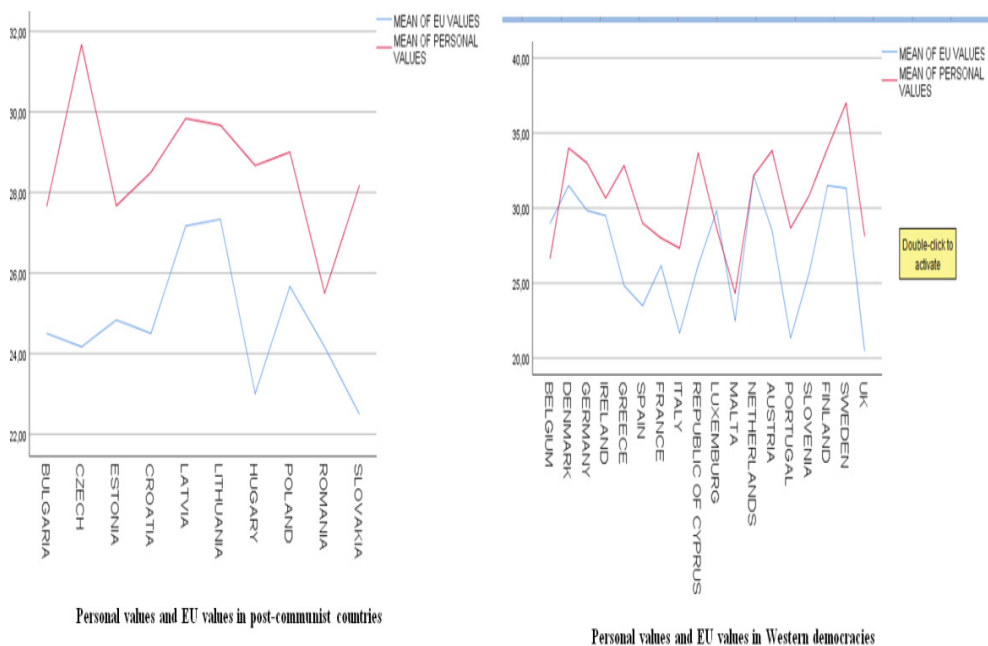
EU - a model for preserving peace and human rights

The last research objective is focused on creating associations between the perception of EU as a strong democracy and the feeling of EU citizenship and attachment. At the cognitive level we can observe that there are no significant statistical correlations between the perception of EU as a model for peace, democracy or equality and the attachment for EU values or the feeling of EU citizenship. But, empirical evidence suggested for Eastern ex-communist countries a negative association with the rule of law ($r = -0,483$, $p > 0.05$). For Eastern citizens a high level of EU attachment is related to a weak level of the rule of law. Several historical patterns specific for this geographical area could explain this negative relation between variables. For Western countries we should underline the recurrence of the EU attachment in shaping premises for EU citizenship.



Regarding the relation between personal beliefs about political values and the perception of EU as a political model for preserving democratic values we can stress the fact that there are several significant differences. For post-communist countries the correlation coefficient between the average of the personal values and EU values reflects the lack of symmetry between citizens' beliefs and political perception and cognition ($r = 0.311$, $p > 0.1$). In Western democracies we can note a positive association and relative symmetry between personal values and EU values ($r = 0.629$, $p = 0.005$).

Figure 5. The dynamics of the mean of the Personal/ Individual values and EU values

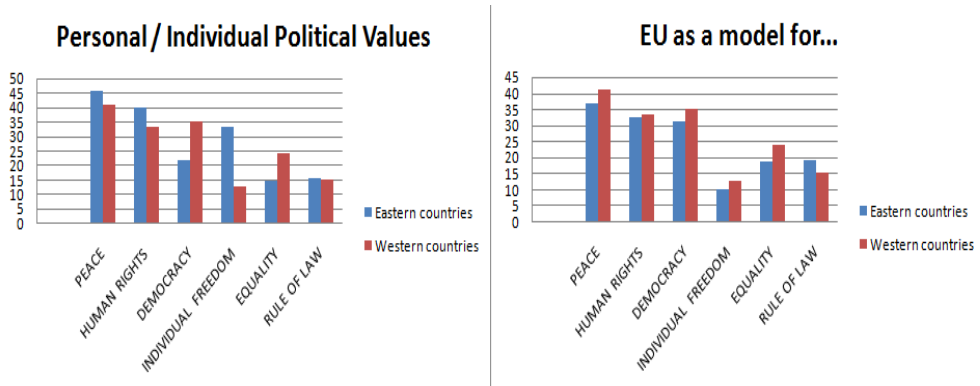


Source: author's representation

The most important individual values for citizens from Eastern Europe are represented by: peace (45,9%), human rights (39,9%), individual freedom (33,1%) and democracy (22,1%). In the first quartile we can integrate equality (14,9%) and rule of law (15,9%). For Western societies the most important values are represented by peace (45,5%), human rights (43,94%) and democracy (28,16). A constant value for individual perception is represented by the rule of law (17,72%). In this regard we can stress the fact that the most important individual values are represented by peace and the protection of the human rights and political liberties. The same political values are perceived as part from EU construction: preservation

of peace (40% in Western Europe and 36,7% in Eastern systems), human rights and civil liberties (in both geographical areas 33%), and democracy (35,2 in stable democracies and 31% in fragile post-communist countries).

Figure 6. Individual political values and EU as model for....



Source: author's representation

Synthesizing, empirical results demonstrates the existence of a “dual-level” citizenship. This flexible model for understanding EU citizenship is affected by axiological and cultural sphere for Western democracies and by the economic factors in ex-communist countries. This type of political identity is based on emotional factors as political attachment for the EU values only in the consolidated democracies. Moreover, here we can stress the fact that EU political citizenship should be crystallized around democratic order and legal practices for preserving human rights and civil liberties. Statistical differences between East and West explain the gap between personal values and EU values in ex-communist states. In this context, we have to stress the role played by the historical factors in generating models for political identity and political behavior. A European space based on peace and protection for human rights should be a good way for creating, during the time, beyond judicial implications of the Treatises, premises for EU citizenship.

Regarding the further research direction of this topic we intend to explore the sociological perspectives of the citizenship. Thus, we intend to collect empirical data from several post-communist countries from relevant statistical samples for observing the link between social environment, social behaviors, social networks and the judicial perspectives of the EU citizenship. Moreover, this kind of approach will stress, beyond the psychological aspects, the role played by social environment and secondary socialization in creating premises for European political identity.



Conclusions

This paper emphasized the role played by emotional factors (political attachment) and individual cognitive and axiological sphere in generating premises for EU citizenship. Although the academic literature presents EU citizenship from the judicial perspectives, in correlation with the European Treatises and secondary legislation, this approach is focused on several psychological implications for shaping an adequate model of EU citizenship. However, we observed, from empirical findings, two different ways of understanding the EU political identity and citizenship.

These ways are specific for the classical geographical cleavage between Eastern and Western political systems. In this respect, democratic consolidated countries emphasize the role of cultural and axiological variables in generating a common approach of the political identity. Moreover, these political systems are interested in preserving both democratic order and protection for human rights and civil liberties. The second model involved in creating premises for EU identity is based on economic factors. This model is specific for ex-soviet countries. Beyond these strategies for generating models of political identity, this paper reflects the main differences between personal/ individual and EU values. The main feature of the EU citizenship consists in flexibility. This “dual-level” model supposes the balance between national identity and citizenship and EU political identity. The cognitive level, personal values and emotional factors are relevant from the psychological perspective in the field of EU political identity and citizenship. In conclusion, the issue of political identity and citizenship should be analysed in a deep manner from the psychological and socio-anthropological perspective. Beyond civil duties and rights, citizenship is a complex political construction based on historical factors, cultural dimensions, anthropological perspectives, sociological interactions and psychological manner for computing and signifying information from national or trans-national political environment.

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ANALYSIS OF EUROPEAN AND RUSSIAN STRUCTURAL APPROACHES TO MITIGATION OF EXTREMISM AND TERRORISM RISKS

Andrey KOSHKIN*, Natalya DENISENKOVA **,
Andrey NOVIKOV***

Abstract

The article analyzes the European and Russian structural approaches to countering the processes of radicalization, as well as the emergence of extremism and terrorism. The results of a survey held among 539 respondents were analyzed to study the Russian practice of countering extremism and terrorism. All the risk mitigation methods should be divided into three levels, according to which countermeasures are ranked from soft to more severe, depending on the degree of radicalization of an individual. Each type of countermeasures is most efficient at its level. The study of the available contribution provides an opportunity to start developing more efficient measures to mitigate the risk of extremism and terrorism and to develop a comprehensive strategy.

Keywords: extremism, terrorism, counteraction programs, EU, Russia

Introduction

Today, the European Union and Russia face manifestations of extremism and terrorism. The threat to public safety is expected to increase in the coming years. The state is particularly concerned with jihadist terrorism. An alarming phenomenon has developed when militants who fought for terrorist organizations are returning from Syria, Iraq and other conflict zones. However, jihadist terrorism is not the only problem; the modern society is also threatened by the growing violence of right-wing and left-wing extremists, as well as single terrorists (Europol, 2016).

These trends increasingly enhance the need for efficient countermeasures. In Russia, as well as throughout Europe, various types of measures, such as new anti-terrorism laws, and increased security controls are being developed and

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implemented in response to the growing threat. Measures are also being taken to prevent and counter radicalization and recruitment by increasing the resilience of individuals and risk groups. The first row of practical experts are being better informed. Extremist narrative is being discredited, “exit” programs for members of extremist and terrorist groups aimed at de-radicalization and disengagement of extremist groups are being implemented (European Commission, 2014).

These types of measures are commonly referred to as countering radicalization and combating violent extremism. While anti-extremist programs are being actively developed in Europe and Russia, the assessment of these preventive measures efficiency is still far behind compared with the forceful response to specific crimes of a terrorist nature. In fact, after more than a decade of anti-radicalization policy and the adoption of the above-mentioned programs, the assessment of their impact seems to be insufficient. The following question is still relevant: “What has actually worked in the fight against violent extremism?”

1. Definitions of violent extremism

The problem of social consciousness radicalization and, as a result, increasing manifestations of an extremist nature, lies, to a greater extent, in its definition. The “radical” initially means striving to get to the root of a social problem and completely solve it with the most decisive measures and as quickly as possible, also resorting to violence. Today, radicalization is defined as a process of developing extremist ideologies and beliefs (Borum, 2011).

Violent extremism and terrorism differ from radicalization as the former relate to certain actions. While radicalization is a process that takes place on the conceptual and ideological levels. Terrorism is different from violent extremism and radicalization in its tactics. This is illegal, politically motivated violence, which is purposefully carried out with the aim of causing harm (including through creating an atmosphere of fear) in a wider section of society than the target group or audience affected by the main attack.

Violent extremism refers to ideologically motivated violence to achieve political goals. The critical difference between violent extremism and terrorism is that the former causes less social harm than terrorism, because it is aimed at specific individuals and groups responsible for the alleged social ills. The boundaries between them are often vague, but the main demarcation line, however, remains. Terrorism is the most socially dangerous *part* of extremism. For example, while terrorism as a whole is an example of extremist violence, not all extremists use terrorist tactics. Table 1 provides additional explanations and examples of the differences between terrorism, extremism and radicalization.

Table 1. Terrorism, violent extremism and radicalization

Level	Notion	Definition	Examples
First level of counteraction	Culture medium	Many indirect factors contributing to the growth of discontent and protest sentiments	<ul style="list-style-type: none"> - injustice (real and perceived) - social, psychological and economic problems - various kinds of discrimination - partial deprivation
	Vulnerable individuals	Individuals and groups who, for various reasons, are the most exposed to radical ideology	<ul style="list-style-type: none"> - people exposed to radical ideology and ideological exaltation - refugees - migrants - religious fanatics
Second level of counteraction	Radicalization	The process when an individual develops extremist ideas and ideologies	<ul style="list-style-type: none"> - fascism - nationalism - Islamic fundamentalism - market (liberal) fundamentalism
Third level of counteraction	Extremism	Using ideologically motivated violence to achieve future political goals	<ul style="list-style-type: none"> - anti-globalist violence - violence in individual cases, such as demands of environmental protection or control over the circulation of weapons, etc.
	Terrorism	Unlawful, politically motivated violence, intentional harm (or intimidation) of a wider part of society than that targeted by the attacks	<ul style="list-style-type: none"> - violence against migrants - Terrorist attack on Dubrovka (Nord-Ost siege, 2002) - Terrorist attack in Beslan (2004) - A series of attacks in Paris (November 13, 2015)

1.1. Measures to Prevent Radicalization, Extremism and Terrorism

In the *Russian* scientific literature, activities on the prevention of extremism are divided by their focus into *general social* (general prevention), *special* (special prevention), *individual* (individual prevention) (Galahov *et al.*, 2015).

At the *general social* level, this is the solution of major problems in the functioning of society and, as a result, a decrease in the dynamics of extremism development, a change in its structure and the elimination of the causes of crime in general (Chudinov, 2016).



At the *special* level, it is the impact on specific social groups (microenvironment) in which conflict situations take place; preventive measures in relation to the types and forms of extremist behavior; prevention of extremism in certain areas of public life (in other words, criminological prevention).

At the *individual* level, this is a positional change in the value orientations system of a person, overcoming their antisocial views and attitudes; prevention of extremist crimes committed by a specific person who came to the attention of law enforcement agencies (which is also called individual criminological prevention).

If preventive activities at the general social level are carried out in the process of solving large-scale tasks facing the state as a whole, and should be a focus for all state and public structures, then the prevention at the special and individual levels should be conducted exclusively by state bodies and public organizations, whose scope of work includes fighting crime in general and countering extremist activities in particular (Agapov, 2017). The essence of such activities should include organizational and practical measures aimed specifically at preventing extremism and extremist crimes committed by specific individuals.

The traditional presentation of preventive measures as interconnected at different levels but united by a single set of elements (general social, special and individual prevention) largely determines their place in the anti-extremist activity.

General social prevention is a set of specific socio-economic, ideological, organizational, managerial and other measures, which together are intended to provide:

- qualitative improvement of the crime situation across the whole country and a particular region;
- increased level of protection and personal and property security of individuals and legal entities;
- creation of prerequisites for the stabilization of extremist activity and, in the long term, the reduction of its level and the mitigation of negative consequences;
- laying the foundations of the legal culture among the population and officials, including respect for the rule of law and readiness to assist in its protection;
- adequate conditions for the activities of law enforcement agencies and special services, government agencies and organizations in the area under consideration.

A comprehensive nature of the measures envisaged for general social prevention is one of the fundamental conditions for success in their implementation. They are not aimed at extremism directly, but rather indirectly - through general economic, legal, educational activities among those subject to extremist views, capable of developing into criminal actions.

Special prevention is directly aimed at eliminating the causes and conditions that determine extremist activity. The difference between these measures and the measures of general social prevention lies in the fact that the targeted solution of preventive tasks makes up the bulk of their content.

It is reasonably considered that comprehensive large-scale operational and preventive operations are the most effective measure of special prevention. The success of such operations accounts for their short-term nature, attraction of significant forces and means, specificity of the tasks to be solved during their implementation.

Individual prevention of extremism is recognized as a relatively independent area in preventive activities, having deviant behavior as its object. Individual preventive activity is usually associated with having a preventive impact on a particular person. In the course of such impact, causes and conditions that affect this person negatively are revealed. However, individual preventive activity will only be efficient when it is required, when the behavior of the person at whom the preventive measures are directed demonstrates the possibility of participation in extremist activity.

Amid modern conditions, manifestations of extremism can lead to a significant increase in particularly grave crimes. That is why one of the basic principles of countering extremism is the priority of measures aimed at preventing extremist activities and the inevitability of punishment for their implementation. According to the Federal Law On Countering Extremist Activities, the following main areas relate to countering extremism:

- “the adoption of preventive measures aimed at preventing extremist activities, including the identification and subsequent elimination of the causes and conditions promoting extremist activities;
- identification, prevention and suppression of extremist activities of public and religious associations, other organizations, individuals”.

Thus, the prevention of extremism is a purposeful activity on identification and elimination (blocking, neutralization) of the causes, conditions and other factors of extremist crime. The objects of preventive work include determinants of criminal punishable behavior, operating at the general (crime and extremism in general), separate (types of extremist crimes) and individual (separate extremist crime) level.

Although in Russia there are specific practices and programs for de-radicalization and prevention of extremism, a comprehensive system of counteraction has not yet been fully developed. At the same time, the Russian science is focused not on the study of de-radicalization processes and the development of preventive programs, but on the role of forceful opposition to extremist manifestations, which is accounted for by the criminological approach to the problem. Creating a comprehensive anti-extremist system is one of the priorities of the national strategy in countering extremism and terrorism.

2. Anti-extremism programs

In order to develop a new policy to counter violent extremism, it is necessary to consider a number of scientific studies and concepts that focus on the theoretical



foundations of extremism prevention. Some of the scientific studies, as well as assessments of specific anti-extremism programs, provide one of the first important lessons for developing these measures: the efficiency of an extremism prevention program largely depends on how it is interpreted. If specific groups and communities feel a disproportionately big influence and pressure of a targeted anti-extremism strategy, this will reduce its efficiency (Lindekilde, 2012). Research also shows that any form of anti-extremism policy must embrace the causes that lead to radicalization and violent extremism (Bigo *et al.*, 2014). For example, E. Bakker presents the model of Transnational Terrorism, Security, and the Rule of Law (Bakker, 2015). This radicalization model is a theory of change, including root causes (political, economic, and cultural), identification processes, network dynamics, relative deprivation, stimulating events, and personal factors (psychological characteristics and personal experiences). Any anti-extremism program should be comprehensive, so it should take into account all these issues. Similar, but less extensive models are also presented by the Youth Justice Board and in the study by D. Bigo (Hirschfeld, 2012; Bigo *et al.*, 2014).

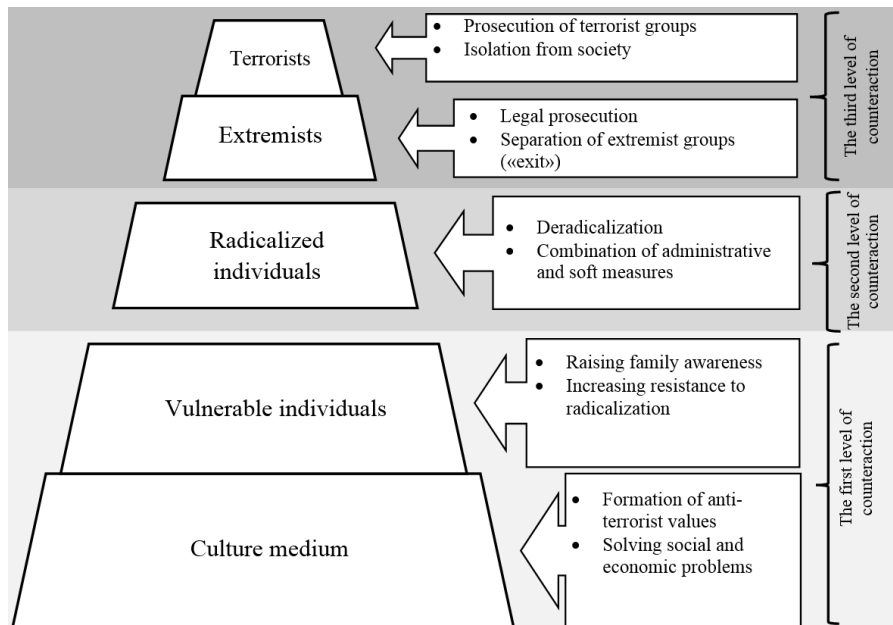
The American anti-extremism program, which was evaluated using mixed methods, belongs to the World Organization for Resource Development and Education - the organization of Muslim communities in the United States (Williams *et al.*, 2016). This anti-extremist program consists of three different foundations: education of community members, training of law enforcement officers in Islam and cooperation in social services, as well as volunteering and multicultural programming. The study claims that this is the first evidence-based program to counter extremism in the United States that can be efficient in other municipalities (Williams *et al.*, 2016).

Studying modern anti-extremism policies, Harris-Hogan differentiated three forms of preventive strategies that are based on a public health model (Harris-Hogan *et al.*, 2016).

1) The main anti-extremism initiatives are aimed at preventing radicalization, and also educating people about violent extremism and preventing the emergence of a culture medium for the radicalization of individuals. Also, these measures may include awareness-raising programs for practical experts working in the area of countering extremism.

2) Second-level programs include interfering with individuals who show signs of radicalization because they participate in an extremist social network or openly call for violence.

3) The third-level anti-extremism programs are aimed at working with extremists, facilitating the integration into society of those already considered extremists, helping them to get out of the extremist network and abandon cruel behavior. Such forms of prevention are also recognized as efficient in research papers based on European experience (Williams *et al.*, 2016; Korn, 2016; Cohen, 2016; Selim, 2016; Young, 2016).

Figure 1. Three-level anti-extremism model

Dutch programs of primary and secondary prevention of extremism implemented in the Netherlands and Europe were studied by scientist V. Lub, who assessed such measures (socio-ecological prevention, peer mediation, increasing self-esteem and intergroup contact prevention) in various areas (Lub, 2013). For example, these were areas of criminal behavior, education, or drug/alcohol abuse. He concludes that the scientific basis for developing mediation and improving the self-esteem of vulnerable individuals is currently weak, and the basis for a social ecological approach is also extremely insignificant. Thus, intergroup contact, on average, reduces prejudices against other groups, but the impact is usually little, and there is no evidence of its long-term effect.

2.1. Building resilience

Most studies on countering extremism discuss the concept of “increasing resilience” to extremist ideology and illustrate how this can be achieved. According to the model for the prevention of extremism, Stevan Weine developed in his study a public health-oriented approach (Weine, 2012). It also recognizes various target audiences: vulnerable persons, vulnerable subgroups, groups and communities. This study is mostly interesting for a brief summary of facts that have been already discovered by scientists about resilience and fight against extremism:

- a) you can have resilience to some risks, but not to others;
- b) resilience is formed both at an individual and a social level;



c) the family is the strongest buffer in preventing the development of the violent extremism risk;

d) in communities and groups, resilience is shaped by a combination of country experiences, refugee camps and core values of the country of residence.

The latest study emphasizes the importance of mental health professionals and community participation in anti-extremist initiatives. S. Weine argues that a multidisciplinary team should evaluate those at risk and provide them with support and treatment. At the community level, they must provide awareness-building and anti-extremist education (Weine, 2017).

An assessment of the British experience of increasing resilience at the individual level, including the use of mentoring programs for people considered vulnerable to various forms of violent extremism, was carried out in a study by B. Spalek and L. Davies (Spalek and Davies, 2012). The findings suggest that anti-extremist mentoring programs use universal concepts such as relationships, trust and confidentiality. However, these concepts take on a new meaning when faced with deeply rooted radical opinions and very different logics, as is the case with people who have adopted extremist views. This study also emphasizes that political and cultural contexts should be taken into account in mentoring programs.

The experience of Diamant, Dutch training on resistance to extremism, aimed at preventing radicalization provides valuable insights to increase the resilience of vulnerable groups (Feddes, 2015). Research shows that increasing empathy plays an important role in reducing support for the ideology of violence. This resilience training is considered a promising tool to combat violent radicalization. However, it has not yet been investigated whether Diamant training can be efficient not only for the secondary school, but also for de-radicalization of real extremists.

Schools are considered an important place in which young people's resilience to extremist ideology can be improved (Ghosh, 2016). However, European scientists argue about the best way to achieve this goal. For example, the educational strategy for the prevention of extremism in the UK is based on the promotion of British values, which, however, is often criticized. Some studies focus on improving resilience and recommend how to counter extremist messages and what alternatives can be implemented. McDonald shows that one should not try to resist dichotomies, such as "we"/"they" or "the West is at war with Islam", but rather promote the concepts of loyalty, belonging and duty (McDonald, 2011). A qualitative assessment of the results by Liht and Savage shows that such an approach can be efficient. The target group of their program was exposed to extremist discourse. Their theory is based on the concept of "value of complexity", in which extremist "values" compete and are even openly discussed in terms of their results. It was initially concluded that increasing the complexity of meaning is more efficient than promoting one-dimensional or secular values (Liht and Savage, 2013).

Aly conducted a qualitative assessment of the educational extremism prevention impact entitled "Beyond Bali Education Resource" (Aly, 2014). He



applied the theory of „moral liberation” to develop a preventive effect. Moral liberation is how people justify violence, dehumanize victims, ignore the harmful effects of violence, and free themselves from guilt. The program is specifically designed to build social and cognitive resistance to violent extremism by participating in sanctions and preparing students to challenge the ideology of violent extremism, which could lead, in the opinion of the authors and translators of this ideology, to moral liberation.

The study shows that the programs have achieved some success in building resilience by:

- attracting participants with the experience of violent extremism, as being unfair and inhumane;
- simulating a situation of empathy for the victims of violent extremism;
- developing a model of self-efficacy in countering the effects of violent extremism;
- responding to radical impacts in positive, productive ways, given the devastating effects of violent extremism.

Most studies focus on community participation in building resilience. In particular, studies on the negative outcomes and side effects of extremism claim that community participation programs led to the isolation of Muslim communities, stigmatization, polarization, and increased suspicion. Analyzing the results of these studies, one would think that community participation is an inefficient approach to the prevention of extremism, which should be abandoned. However, such conclusions should be considered premature (Briggs, 2010).

- First, communities can act as an early warning system for police and intelligence services.
- Secondly, communities can protect young people from the influence of violent extremist ideologies.
- Thirdly, communities can provide fast intervention that can solve real and perceived problems of young people.
- Fourthly, participation and agreement within the community helps prevent and overcome some of the negative side effects of more stringent measures aimed at individual members of the community.

Lamb discusses how communities participate in anti-extremist practices and uses a theory of change regarding community participation based on the concept of “three cups of tea”, namely 1) police cooperation with communities, institutions and local people; 2) gaining the trust of these communities, institutions and local residents; 3) carrying out actual communication with communities about terrorism, extremism and radicalization (Lamb, 2013). Moreover, using the practical experience of three European countries, F. Vermeulen illustrates the subtle differences in community participation programs (Vermeulen, 2014). Thus, the initiative to engage the Muslim community in interacting with the police was rated as successful (Dunn et al., 2016). In surveys, community members indicated that they consider the initiative successful because it led to direct contact, was publicly



available and included deep partnerships. However, even in this case, criticism was expressed against the “suspect” community.

Thus, most community engagement programs fighting against extremism are criticized, since Muslim communities are usually closed and isolated. The success of prevention lies rather in the application of feedback and interaction with as many diverse organizations as possible (Mirahmadi, 2016).

2.2. Exit programs

Studies highlight that exit programs are a trick to changing radical beliefs (de-radicalization), stopping violence (disengagement), socially reintegrating people who are potentially prone to extremism and rehabilitating violent extremists (Horgan and Braddock, 2010).

H. El-Said evaluated several exit programs around the world (El-Said, 2012). He gives an idea of the different contexts and forms of the “exit” results:

- prevention of further radicalization;
- rehabilitation and counseling for those who are already radicalized (government or individual initiatives);

- collective de-radicalization in prison or outside.

In terms of lessons learned, this study emphasizes:

- role of public support in combination with charismatic political leadership;
- role of families and civil society;
- role and quality of participating religious experts.

The political and creative power of the state is important. Finally, no single formula can address all cases of violent extremism, even within the same region. The fight against radicalization and de-radicalization must be adapted and take into account the culture, customs, traditions, history, norms and position of each country.

The importance of the context is also emphasized by F. Demant and B. de Graaf, but in a different way (Demant and Graaf, 2010). They believe that any de-radicalization policy implemented by the government should be properly understood, and anti-extremist discourse can have a profound effect on de-radicalization processes. Based on Turkish case studies, M. Bastug and U. Evlek illustrate how changes in public policy (from soft to hard measures) can affect disengagement and de-radicalization programs (Bastug and Evlek, 2016).

B. Schuurman and E. Bakker conduct a small assessment of extremism prevention, considering one specific target audience for an “exit”: the reintegration of extremists from among former prisoners (Schuurman and Bakker, 2016). This study is particularly useful because it illustrates the most important factors that influence the efficiency of the “exit” program, such as managerial support for testing service staff and improving cooperation with other stakeholders, such as municipalities. It also emphasizes that disagreements between stakeholders about program theory (“mechanisms”) can lead to the wrong choice of a program implementation direction, for example, with too strong emphasis on behavioral

aspects (disengagement) instead of applying cognitive preventive measures (de-radicalization).

Similar studies were also conducted by F. Demant, but already in combination with a theoretically oriented approach (Demant, 2008). T. Bjørge and J. Horgan distinguish between “pushing” and “pulling” factors to get out of violent extremist organizations (Bjørge and Horgan, 2008). “Pushing” factors are group dissatisfaction (for example, negative experiences, loss of faith in ideology or politics, etc.). “Pulling” factors consist of positive alternatives (for example, longing for a normal life and family obligations).

F. Demant prefers classifying factors leading to de-radicalization or disengagement based on *content* rather than *direction* (pushing/pulling) (Demant, 2008). He distinguishes between three factors:

- “normative” (ideological) referring to the failure of the adopted ideology. For example, the realization that the desired future is unattainable;
- “affective” (social) include dissatisfaction with a group or a subculture connected with it;
- “permanent” (practical) represent the impact on life circumstances, such as condemnation, external pressure and isolation.

Both studies reveal possible barriers to disengagement, such as socio-psychological dependence on the group and fear of legal sanctions. Alternatively, individual decisions to exit an extremist group can be facilitated by initiating encouraging events by others who prevent violence. In general, these studies are based on empirical data on voluntary withdrawal and provide an understanding of what opportunities and barriers should be taken into account when developing programs to counter extremism. Similar conclusions were also made in the study of Ferguson (Ferguson, 2016).

Based on interviews with former extremists, Demant also stresses the importance of an integrated approach to de-radicalization and disengagement (Demant, 2008). In his opinion, reactionary (based on a stimulus-response reaction) exit programs are too much focused on solving practical circumstances, while the ideological (normative) component is ignored. Programs for extremist Muslims, on the other hand, also focus too much on normative factors, concentrating on ideology and losing sight of affective factors. In general, these studies state that *European* and *Russian* programs for the prevention of extremism will benefit from a broader approach in which regulatory, affective and permanent factors will be considered in a combined way.

2.3. Family role, social and professional community support

The previously mentioned studies highlighted the importance of the family to increase resistance to extremist behavior (Weine, 2017). Moreover, El-Said emphasized the importance of the family for the de-radicalization process (El-Said, 2012). A. Gielen in his study discusses the importance of family support across the



spectrum of countering violent extremism (Gielen, 2015). In the early stages, family support can be provided to those at risk by solving their problems and maintaining a favorable family environment in which extremist ideas are discussed and alternatives are proposed.

If radical or extremist ideas lead to a departure to a foreign conflict zone, for example, Syria or Iraq, family support may be aimed at maintaining contacts with their children or relatives and creating favorable conditions for the relative's return home. Families can provide support while their relatives are in custody. They can then support the reintegration and rehabilitation process, since families are also a decisive factor in de-radicalization and disengagement. Moreover, family members of the dead militants constitute a risk group for violent extremism, since they are often exposed to propaganda while in a vulnerable state.

A family and a wider anti-extremist professional community (for example, school teachers) should allow experts to take action if they receive early warning signals and prevent the radicalization of other members or peers. Such measures can be quite efficient, since the death of violent extremists causes a lot of grief, anxiety, despair and frustration in families.

Research suggests that the focus of counter-extremism measures should be concentrated not only on families, but also on peers who are in a better position to notice early signs of radicalization and extremism (Williams *et al.*, 2016). Moreover, these results show that peers are reluctant to turn to certain anti-extremist networks (for example, family members or experts), because they fear possible negative consequences. This study also discusses the potential creation of a fact- and evidence-based, anonymous, text-based anti-extremist hotline.

Williams assessed Muslim programs to counter the spread of extremism which included the training of peers, “gatekeepers” (Williams *et al.*, 2016). High school students were trained to recognize manifestations of radicalization and help peers who feel isolated, have experienced a personal crisis or cyber-bullying. The study concludes that “gatekeeper” experts are likely to intervene when the situation becomes serious, therefore collective training of “gatekeepers” is recommended as part of a scientifically based anti-extremism policy development.

Moffett and Sgro (2016) also confirm the benefit of the peer participation method describing the Peer to Peer: Challenging Extremism initiative. The main idea of this initiative is that students around the world oppose extremism among their peers and in their communities by developing and implementing social or digital initiatives, products or tools designed to empower their peers and oppose hatred.

2.4. Counter-narrative communication

Steven and Neumann (2009) in their study emphasize that counter-communication can take various forms, such as online counter-communication or radio programming. D. Aldrich's (2012) research shows how expanding access to radio programs promotes tolerance and civic participation, and, as a result, many



citizens criticize the use of violence by Al-Qaeda and motivate people to see the EU and the United States fighting against terrorism rather than Islam. However, this data is highly context dependent, for example, which is illustrated by different results for men and women. Moreover, these studies confirm the findings of other programs in Africa, such as reconciliation, peace and tolerance programs: they cannot change higher, abstract beliefs, but they can change both norms and behavior.

Therefore, one should not focus only on the availability of online extremist content (for example, implement prohibitive measures on the Internet). Approaches that will deter producers of extremist materials, encouraging the Internet community to self-regulate, which will reduce the attractiveness of extremist messages and encourage positive messages are needed.

Recently, the narrative approach has been widely criticized. There is little evidence that the impact of violent extremist content also leads to participation in violent extremist activities (Ferguson, 2016). The assumption that extremist narrative can be countered by providing an alternative or counter-narration remains unproven. Davies researched the content of six online anti-extremism programs and concluded that these programs do not have a theoretical basis and do not affect the mechanisms underlying the radicalization process, such as contextual factors or personality problems (Davies *et al.*, 2016).

3. Survey findings

In this regard, it is quite interesting how Russian society reacts to a certain set of measures to counter extremism and terrorism. To achieve the objectives of the study, the authors conducted a sociological survey on the ideas of the Russian youth about the features and efficiency of the antiterrorist policy in the Russian Federation. The survey was conducted in the form of an online survey in VKontakte social network and in three forums in September-October 2018. The survey involved 539 persons. Gender composition of respondents: 53% are men and 47% are women. The age of the respondents ranged from 15 to 30 years, the weighted average age was 26.03 years. Age groups of the respondents: 1) 15-19 years old - 24%; 2) 20-24 years old - 33%; 3) 25-30 years - 43%.

Perception of the anti-terrorism policy main characteristics. Based on the studied social perception of the Russian anti-terrorism policy main characteristics (Figure 2), it can be concluded that the most efficient and strong side of Russian anti-terrorism policy, according to young people, is the “pro-activity” of its implementation (60%). At the same time, the weakest side is the low positive perception of the policy “adaptability” (27%), i.e. its flexibility and ability to adapt to changing situations.

At the same time, the main characteristics that have significant potential and the possibility for improvement are social ideas about: justice (50%), legality (50%) and efficiency (49%) of the Russian anti-terrorism policy. As can be seen,



almost half of the respondents consider the parties represented to be quite efficient at the moment.

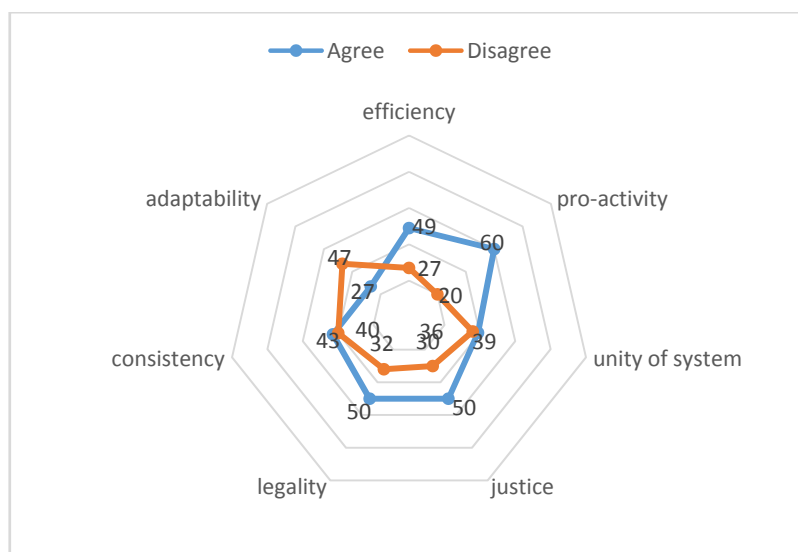
The main threats to positive perception in public consciousness are such fundamental characteristics as the “consistency” in counteraction against extremism and terrorism (43%) and the “unity of the counteraction system” (39%).

Apart from that, 58% of the respondents described the main focus of the existing Russian antiterrorist measures as “forceful.” At the same time, only a little less than a quarter (22%) said that Russian countermeasures are “soft” (or not forceful) while 20% of the respondents think that the current anti-terrorism policy is balanced, i.e. simultaneously combines these two directions.

Perception of terrorism prevention efficiency. It is worth noting that, according to the social perceptions of young people, this area of antiterrorist policy is the least efficient among those presented. It should be particularly noted that in the prevention of terrorism ideology, the government effectively cooperates only with the mass media (53% - figure 2). At the same time, cooperation with religious organizations (38%) and civil society (35%) has the below-average efficiency.

Also, according to respondents, the situation with countering the spread of extremist ideology (37%) and eliminating the causes of its occurrence (33%) is not resolved very efficiently. The existing preventive measures are also not highly efficient (34%).

Figure 2. Perception of the Russian anti-terrorism policy main characteristics



Source: Authors' calculations based on own survey conducted on 28 September 2018

The respondents disagreed mostly with the statement that the state is striving to carry out the prevention of terrorism by improving the socio-economic situation in the country and regions (24%). This social perception is the most significant threat to the positive perception by young people of the goals, objectives and priorities of the Russian anti-terrorism policy and requires efforts to change it.

Perception of forceful anti-terrorism measures efficiency. According to Russian youth, the forceful fight against terrorism is being implemented with insufficient degree of efficiency. At the same time, there is a very positive perception that the number of arrested and convicted terrorists has increased significantly in the past few years (55% - figure 3). At the same time, only 41% of the respondents consider toughening of criminal penalties for terrorism and extremism as highly efficient, against half of those who consider such a measure to be ineffective and incorrect (48%). The result obtained is somehow inconsistent with the Public Opinion Foundation survey as of 2016 (62% of Russians consider this measure to be efficient against 29%), since this study deals with the population as a whole, without identifying young people as a separate population group (Public Opinion Foundation, 2016).

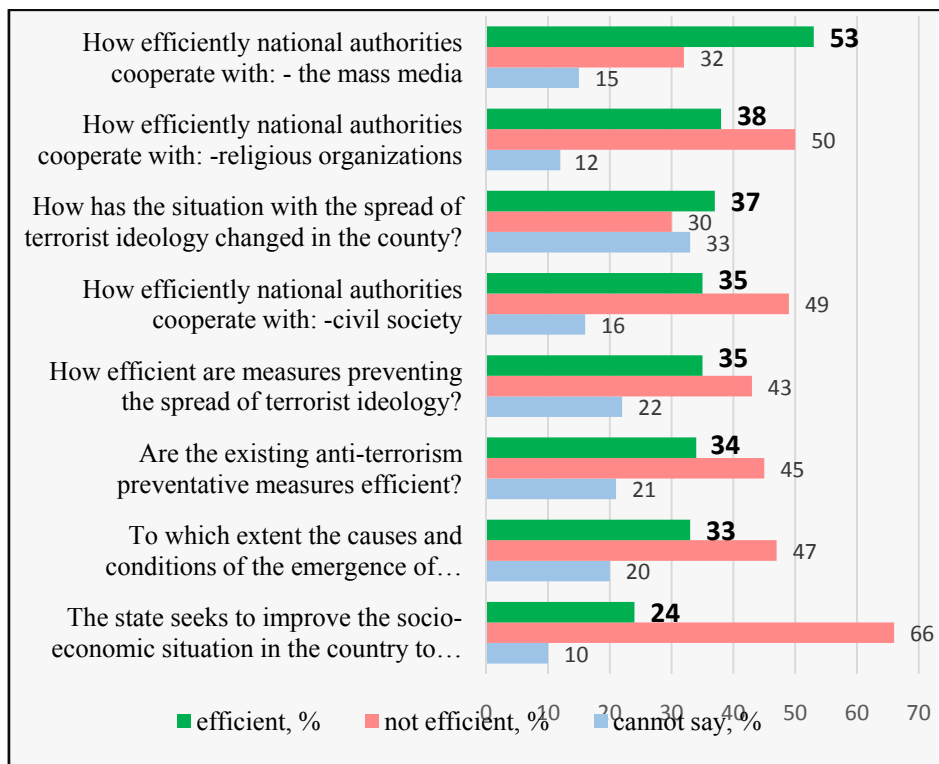
However, only 32% of young people consider the existing anti-terrorism legislation efficient. Moreover, more than half (53%) speak of its current inefficiency. This fact can have serious negative consequences for a potential improvement of the perception of the Russian anti-terrorism policy legality and fairness.

Also, only 27% of the respondents believe that a fairly common and proven to be reasonable (in Russia and the European Union) measure that allows mitigation or abolition of punishment to people who have voluntarily confessed having assisted terrorists, but have not committed serious crimes, is efficient.

At the same time, half of the young people (49%) consider such a measure to be extremely inefficient; therefore, it once again confirms the negative attitude towards the mitigation of anti-terrorism policy. This fact can adversely affect public support for preventive measures and the real efficiency of countering and preventing terrorism.

At the same time, only 22% consider the introduction of punishments for relatives of terrorists to be efficient, and 65% of the respondents consider such a measure to be extremely inefficient and unacceptable. This fact can generally have a positive impact on the perception of the legality and fairness of the Russian anti-extremism practice.



Figure 3. Perception of terrorism prevention efficiency

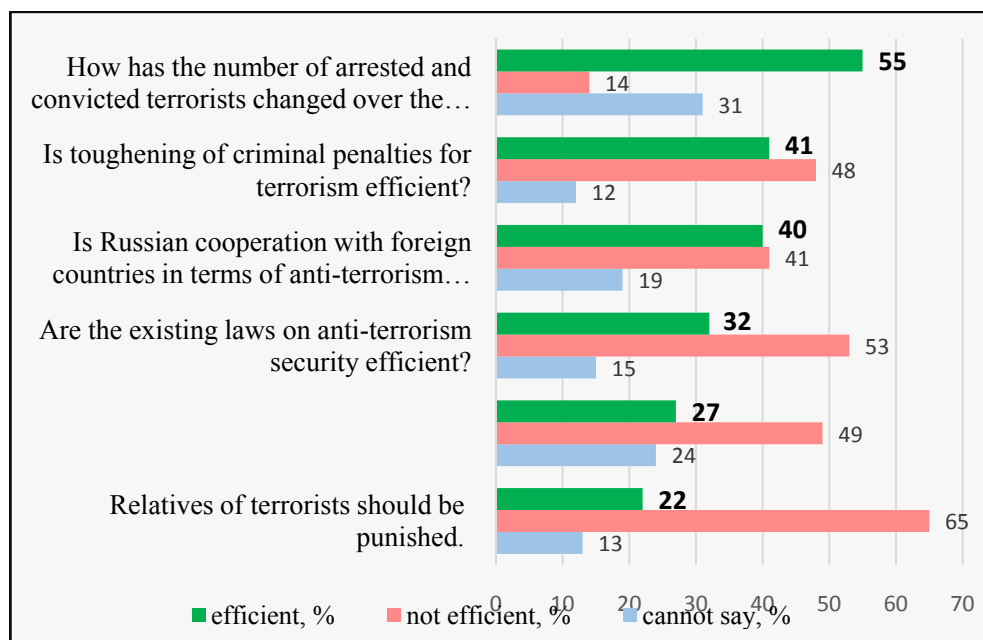
Source: Authors' calculations based on own survey conducted on 28 September 2018

Perception of threat. It turned out that only a quarter (23%) of the young people perceive terrorism as a direct threat to their lives (Figure 4). At the same time, almost half (46%) of the respondents say that terrorism does not directly threaten them. 71% said that in the near future, minor terrorist attacks may be repeated, and 48% said that major attacks could be expected in Russia. Thus, although young people understand the significance of the terrorist threat and the possibility of new terrorist attacks, the overwhelming majority do not believe that this could affect their lives personally.

Moreover, regarding their attitude to civil rights, only 39% of the respondents supported the opinion that the worst judicial error is the “condemnation an innocent person for terrorism” while half (48%) are more likely to allow a situation in which the worst judicial error would be to “release the perpetrator of terrorism”. According to a study on the attitude to anti-terrorism measures of Norwegian citizens, the answer to this question can serve to reveal not only a personal stance regarding civil rights, but also as an indicator in the dichotomous system of a “liberal - conservative” orientation with respect to shared political values (Rykkja *et al.*, 2011).

Thus, in public opinion, half of Russian young people demonstrate a clear tendency to support measures that restrict individual rights in countering the terrorist threat, for the sake of not leaving chances for terrorists to escape punishment. This trend can have a very negative impact on the perception of justice and the legality of Russian anti-terrorism policy in the long term. Moreover, following this social notion, the role of forceful counteraction to terrorism and the support of forceful measures, instead of prevention, increase significantly.

Figure 4. Perception of anti-extremism and anti-terrorism measures efficiency



Source: Authors' calculations based on own survey conducted on 28 September 2018

Support. A relatively high general support for Russian anti-terrorism policy among young people is worth mentioning. Almost half of young Russians support it (48%). However, a very large group of young people (35%) do not demonstrate such support.

The current policy is mostly supported by the older age group of young people (63%), while 30% support in the first and 39% support in the second age group. The largest number of those who do not support the policy is observed among the younger age group - 49% of young people aged 15 to 19 years old ($p < 0.001$). Thus, we can conclude that the older the respondents, the more they generally support the ongoing anti-terrorism policy of Russia.

Regarding the support of anti-terrorism *measures that restrict personal rights and freedoms*, measures that did not affect a person directly were most popular (Figure 5). Such measures as: tightening the procedure for providing

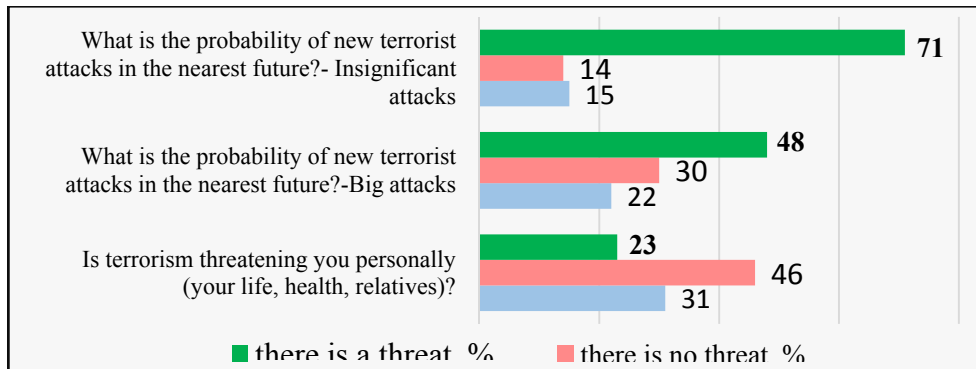


information on the income of non-profit and foreign agencies, religious organizations (75%); restrictions associated with the tightening of the counterterrorist operation regime (71%); as well as the random check of things in transport and in crowded places (62%) were mostly supported by young people. It is also worth noting that with regards to expanding the authority of law enforcement agencies, the number of supporters and non-supporters of this measure was divided equally (41% and 40% respectively).

As was expected, the least support was given to measures (especially preventive measures) that directly affect private life. Measures related to restriction of freedoms on the Internet (25%), the right to check personal calls and correspondence (30% and 27%), as well as a measure that directly violated the rights of terror suspects (29%), were not supported by the majority of respondents.

Thus, more than half of restrictive measures have a relatively low level of support among young people. Perhaps this fact is explained by a negative public reaction to the Yarovaya Law. In this case, it is particularly necessary to conduct a separate informational-political campaign, aimed at increasing the popularity and public approval of truly efficient government measures and necessary bills.

Figure 5. Perception of the existing terrorist threat by young people

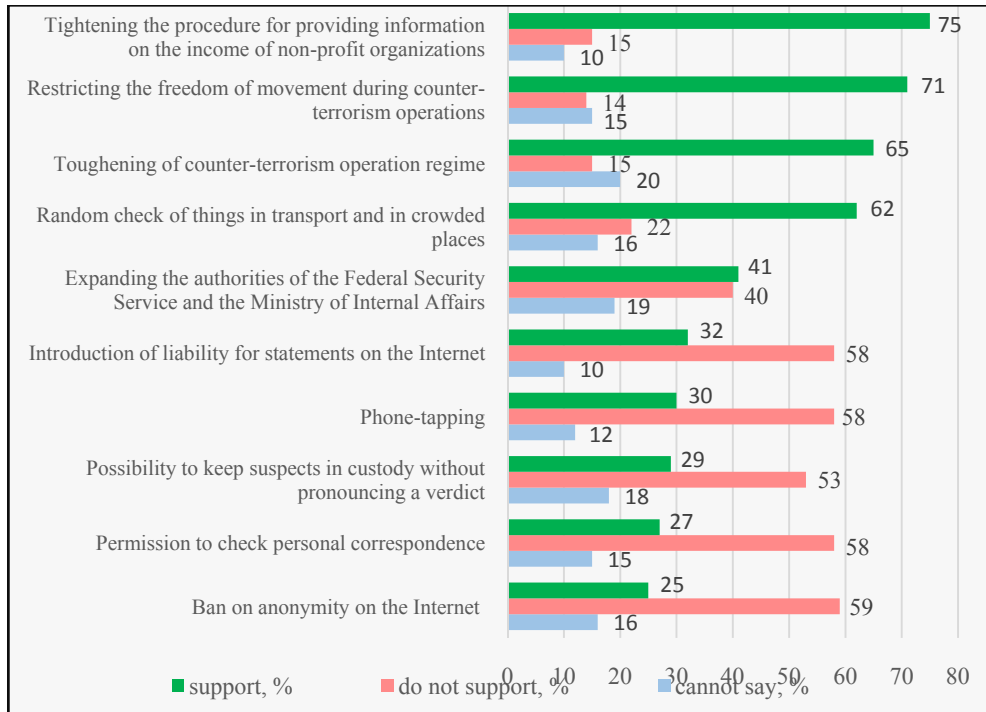


Source: Authors' calculations based on own survey conducted on 28 September 2018.

It is worth noting that the overwhelming majority of possible actions of a citizen, which can ensure the efficiency of anti-terrorism policies and reduce the threat of terrorism, were extremely highly supported (Figure 6). High support for actions on interaction with law enforcement agencies can be explained not only by trust in their actions to combat terrorism, but by the enrooted prosocial behavior that is transmitted to society through educational organizations and the mass media. For example, high willingness to report suspicious things and people in public transport can be explained by constant alerts in public transport, subways, trains, at the airport, bus- and railway stations to pay attention to suspicious persons and objects.

The lowest support was given to such socio-political actions as: providing material assistance to charitable foundations helping victims of terrorist attacks (29%); the possibility of joining anti-terrorism public organizations (25%). Also, the lowest support among all the measures presented was given to the possibility of raising taxes for strengthening of the counteraction system (12%).

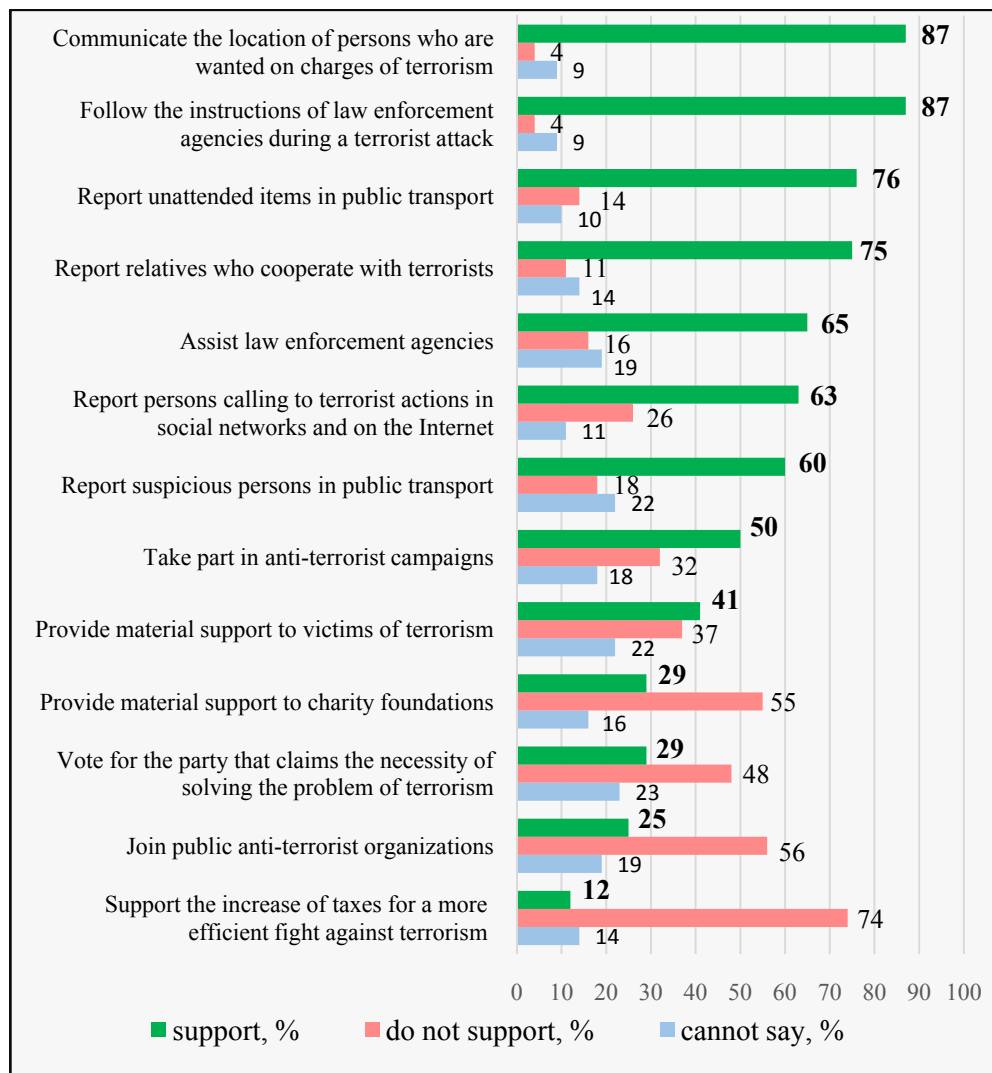
Figure 6. Support of restrictive measures for enhanced security



Source: Authors' calculations based on own survey conducted on 28 September 2018.

Thus, in terms of personal contribution to countering the terrorist threat, the overwhelming majority of socially useful actions have an extremely high level of public support. Although it is really difficult to determine which of these actions will be performed by an individual, it is obvious that in most cases the mass media information policy implemented in this area is very efficient. At the same time, Russian charitable foundations, NGOs and social and political anti-terrorist organizations need to influence public opinion among young people on this issue more actively through a wide coverage of their activities and achievements.



Figure 7. Support of general anti-terrorist measures

Source: Authors' calculations based on own survey conducted on 28 September 2018.

Conclusion

Russian and European scientific thought in the research of extremism is differentiated through the prism of evaluating the efficiency of measures and programs aimed at reducing the risk of extremism and terrorism. The study of the available theoretical contribution makes it possible to start developing more efficient measures to counter extremism (preventive, operational, administrative, judicial, etc.) and draft a comprehensive strategy. The set of methods for reducing

risk should be divided into three main levels, which are ranked from soft to more stringent countermeasures, depending on the degree of radicalization of an individual. Each type of countermeasures is most efficient at its level.

In general, reducing the risk of extremism and terrorism in the context under consideration is an activity aimed at preventing crimes by identifying, eliminating or neutralizing the causes, conditions and circumstances promoting extremist activity, providing preventive impact on individuals who are expected to commit crimes. In carrying out such activities, the subjects of the opposition, the law enforcement agencies in particular, face the task of carrying out comprehensive preventive measures aimed at eliminating the causes and conditions promoting the commission of crimes, and the preventive effect on those prone to their commission.

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METHODOLOGICAL OPTIONS FOR ANALYZING SHARED VALUE DURING CLUSTER DEVELOPMENT

Adriana PETRE*

Abstract

This paper revolves around the topic of shared value and will have the following objectives: (1) introducing the concept of shared value in literature, (2) analyzing quantitative and qualitative methods for operationalizing shared value, (3) operationalizing shared value during cluster development. As far as objectives (2) and (3) are concerned, we consider that among the presented methods, the case study, the interview, the questionnaire, the participant observation, the document analysis and the network analysis are the ones with the most frequent application in the literature of shared value. At the end of this exploratory research, the reader will find it interesting that shared value is a novel term in the microeconomics and still, it has a lot of potential to overcome its weaknesses.

Keywords: shared value, qualitative methods, quantitative methods, cluster development

Introduction

Creating social value is a multifaceted novel term which has been theorized by Porter and Kramer (2006, 2008, 2011, 2018) in their various papers and has stirred the attention of scholars and practitioners alike. It is defined as “policies and operating practices that enhance competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates” (Porter and Kramer, 2011), but it also has been seen from other perspectives, either related to environment, “creating organizational value while simultaneously adding value to society and to the environment (Dubois and Dubois, 2012) or with finances, “balance of social and financial value creation” (Pirson, 2012). The concept is debated in the literature especially by Crane *et al.* (2014) who offer a series of strengths and weaknesses for Porter and Kramer to reflect upon, being practically an open literature debate between the authors.

We are facing times when capitalism is reengineered and “a wave of innovation and growth” is unleashed (Porter and Kramer, 2011). Nowadays the big economic players who have adhered to the new big idea of shared value (Nestlé, Coca-Cola, GE, Google, IBM, Intel, Johnson & Johnson, Unilever, Wal-Mart) have understood that corporate social responsibility is not enough any longer. This era is dedicated to shared value, which creates “economic and social benefits relative to

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cost, involves new and heightened forms of collaboration, realigns the entire company budget” and it does not act just in response to competition, but fosters beneficial competition and profit maximization. These and many other advantages were made possible in regions where the government manifested a flexible attitude and adjusted regulation for the common benefit. However, as the authors state, “not all societal problems can be solved through shared value solutions”, but their final point is that the small steps have brought a more respectful image to companies in the communities they activate.

Porter and Kramer (2011) state that shared value is a very important engine for creating competitive advantages and for revolutionizing the business practice. Why is that?

According to them, “companies must take the lead in bringing business and society together” because they have shared value which “is not social responsibility, philanthropy, or even sustainability, but a new way to achieve economic success” (Porter and Kramer, 2011, p. 4). The authors consider that learning how to create shared value might legitimize business again.

Shared value is a new and controversial concept, which has been launched in 2006 by Porter and Kramer. The concept signifies economic and societal benefits relative to cost and is, according to its inceptors, a way to join the company value creation with the community value creation.

Porter and Kramer (2018) pass gradually from corporate philanthropy to corporate social responsibility and finally to creating social value, explaining how each of them is different from the other. While corporate philanthropy refers to donations to worthy social causes and volunteering, corporate social responsibility deals with compliance with ethical and community standards, good corporate citizenship and sustainability. The outcome of this indicator consists of mitigating risk and harm and improving trust and reputation. Lastly, creating shared value refers to addressing any social need through the business itself, with a business model, which leads to harnessing capitalism itself.

This article is divided into three parts. In the first part we introduce the concept of shared value to the reader, as it is perceived in the literature. In the second part, we present the definitions of four methods used in the shared value research, the case study, the qualitative interview, the participant observation and the questionnaire, respectively, along with other methods attributed to a new cluster existence, and in the third part we present a few cases when shared value was operationalized during cluster development.

1. Conceptualizing shared value

Shared value is a relatively new concept introduced in 2006 by Porter and Kramer and later defined by the same authors as “policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates” (Porter



and Kramer, 2011, p. 66). Shared value is also identified as “sustainable business practices” (Maltz and Schein, 2012, p. 56).

Dembek *et al.* (2016) made a selection of 402 articles related to shared value and applied content analysis to learn about the common and different sections of those articles. Starting with the definition of the term, the following table (Table 1) best summarizes the various definitions associated with the term shared value.

Table 1. Definitions of shared value

Definition of shared value	Studies
Policies and operating practices that enhance the competitiveness of a company while simultaneously advancing the economic and social conditions in the communities in which it operates	Group 1 Chatterjee (2012), Crane <i>et al.</i> (2013), Follman (2012), Hamann (2012), Hancock <i>et al.</i> (2011), Hartmann <i>et al.</i> (2011), Juscus and Jonikas (2013), Kapoor and Goyal (2013), Porter and Kramer (2011), Schmitt and Renken (2012), Sojamo and Larson (2012), Spitzeck <i>et al.</i> (2013) and Spitzeck and Chapman (2012)
A meaningful benefit for society that is also valuable to the business Creation of economic value “in a way that also creates value for society by addressing its needs and challenges” (Porter and Kramer 2011, p. 64)	Group 2 Aakhus and Bzdak (2012) and Porter and Kramer (2006) Athanasopoulou and Selsky (2012), Brown and Knudsen (2012), Cao and Pederzoli (2013) and Kendrick <i>et al.</i> (2013)
The ability to both create economic value and ... social or societal benefit simultaneously	Driver (2012)
Creating organizational value while simultaneously adding value to society and to the environment	Dubois and Dubois (2012)
Value that is mutually beneficial to both the value chain and society	Fearne <i>et al.</i> (2012)
A global commercial organization’s initiative to simultaneously create value for shareholders and the communities in which the firm operates, beyond the efforts required by law	Maltz and Schein (2012)
Consider the shared value of multiple stakeholders instead of focusing solely on firm value	Maltz <i>et al.</i> (2011)
Putting social and community needs before profit	Pavlovich and Corner (2014)
Balance of social and financial value creation	Pirson (2012)
Choices that benefit both society and corporations that arise out of the “mutual dependence of corporations and society”	See (2009)
The simultaneous creation of economic value for the firm and social and environmental value for the places in which they do business	Shrivastava and Kennelly (2013)
Creation of value not only for shareholders but for all stakeholders	Verboven (2011)
Shared value (i.e. concerning at the same time economic and social progress) [own translation]	Arjalie’s <i>et al.</i> (2011)

Source: Dembek *et al.*, 2016, p.236

Group 1 of definitions keeps the main idea of Porter and Kramer's definition, while Group 2 differentiates itself through other meanings attributed to shared value. Dembek *et al.* (2016) focus on solving the mystery about three domains, means, resulting outcomes and beneficiaries of the outcomes, as far as shared value can be considered a buzzword. This mystery, if solved, can bring light into the operationalization and measurement of the concept. Pftizer *et al.* (2013) claims that there is no universal approach to measure shared value.

Kaufeldt *et al.* (2014, p. 70) support the idea that there is not a "single, best way to optimize shared value" because this concept "is in its infancy" (p.72). Its inceptors were Porter and Kramer, who mentioned this term in various articles (Porter and Kramer, 2008; Porter and Kramer, 2011; Porter *et al.*, 2011) and differentiated three dimensions of it: reconceiving products and markets, redefining productivity in the value chain and enabling local cluster development. This paper will focus on the latter one.

The strengths of the concept according to Crane *et al.* (2014, p. 133) are: (1) the concept appeals both to practitioners and scholars, (2) it elevates social goals to a strategic level, (3) shared value articulates a clear role for governments in responsible behavior and (4) it adds rigor to ideas of "conscious capitalism" and provides an umbrella construct for loosely connected concepts like corporate social responsibility, non-market strategy, social entrepreneurship, social innovation and the bottom of the pyramid. As any new concept, it attracts criticism, and authors like Crane *et al.* (2014) address in their paper a response to Porter and Kramer's conceptualization of shared value by saying that the concept is (1) unoriginal, (2) it ignores the tensions between social and economic goals, (3) it is naïve about the challenges of business compliance and (4) it is based on a shallow conception of the corporation's role in society.

Table 2. The Strengths and Weaknesses of the Shared Value Concept

Strengths	Weaknesses
CSV successfully appeals to practitioners and scholars	CSV is unoriginal
CSV elevates social goals to a strategic level	CSV ignores the tensions between social and economic goals
CSV articulates a clear role for governments in responsible behaviours	CSV is naïve about the challenges of business compliance
CSV adds rigor to ideas of "conscious capitalism" and provides an umbrella construct for loosely connected concepts	CSV is based on a shallow conception of the corporation's role in society

Source : Crane *et al.*, 2014, p. 132

(1) Why shared value concept is unoriginal? Crane *et al.* (2014) considers that creating shared value is based on corporate social responsibility, stakeholder management and social innovation literature, thus being unoriginal and also,



according to Dembek *et al.* (2016), it is rapidly evolving into a management buzzword. Moreover, according to Mehera (2017), shared value articles are related either with (1) means to create shared value, or (2) resulting outcomes of shared value. This is another argument why shared value is perceived as an unoriginal concept, taking into consideration the variety of literature related to the term.

The Economist (2011)¹ sees shared value concept as “a bit undercooked” and it has not enough theoretical background according to Beschoner (2014). Crane *et al.* (2014) state that creating share value would have a purpose only in the case when companies would have a narrow view on creating value, only limited to the economic value. But nowadays companies are concerned on social and financial values and also on moral and political values, so the concept’s terminology does not bring a novel idea. Moreover, there is great similarity between shared value and blended value, Jed Emerson’s concept, in which firms seek simultaneously to pursue profit and social and environmental targets. There is also an overlap with Stuart Hart’s 2005 book, “Capitalism at the Crossroads”(The Economist, 2011). Moreover, the availability of win-win scenarios that seem to function according to Porter and Kramer (2011) are rather a disadvantage for the conceptualization of creating shared value.

The authors explain the other limitations of the concept as follows:

(2) As far as the second limitation is concerned, Crane *et al.* (2014, p. 137) claim that in their initial article, Porter and Kramer ignore the tensions between social and economic goals, and this is happening for all the three dimensions of creating shared value, reconceiving products, redefining productivity and enabling clusters. Porter and Kramer approach reconceiving products dimension by choosing shared value success stories in new markets, with little regard for the negative impacts of companies’ core products and markets (Crane *et al.*, 2014). As far as redefining productivity in the value chain is concerned, Porter and Kramer place significant emphasis. They focus on energy use, logistics, procurement, distribution and employee productivity. Research shows that shared value initiatives put in place with the intention to promote sustainability in supply chains for social and environmental gains only survive in economic terms (Crane *et al.*, 2014). Finally, there is the dimension of cluster development, Porter and Kramer claiming that cluster formation will create shared value (Crane *et al.*, 2014, p. 139).

(3) Porter and Kramer presume that company compliance with rules and regulations is implicit, however the actual state is not alike. They imply the following: “creating shared value presumes compliance with the law and ethical standards, as well as mitigating any harm caused by the business, but goes far beyond that”(Porter and Kramer, 2011). The concept of creating shared value is

¹ “Oh, Mr Porter–The new big idea from business’s greatest living guru seems a bit undercooked”, The Economist, available at: <https://www.economist.com/business/2011/03/10/oh-mr-porter>.

therefore, in the opinion of Crane *et al.* (2014, p. 139), biased because it is “built on the assumption that compliance with these legal and moral standards is a given.”

(4) Last, but not the least, Crane *et al.* (2014, p. 140) mention another limitation of creating shared value concept, that is based on a “shallow conception of the corporation’s role in society”. Crane *et al.* (2014, p. 140) claim that shared value model as it is presented by Porter and Kramer (2011) works against them because “Michael Porter’s own models of competitive strategy would need to be overturned in order for shared value to flourish”.

2. Qualitative and quantitative methodologies to operationalize shared value

Shared value is not a novel concept for scholars, but it may be one for the practitioners who are becoming more and more interested to gain experience on it. This chapter deals particularly with the operationalization of shared value through various qualitative and quantitative methods like case study, interview, participant observation and questionnaire and others.

2.1. Qualitative methods

The case study

Case study is a common research method used in the literature of social sciences “to build upon theory, to produce new theory, to dispute or challenge theory, to explain a situation, to explore or to describe a phenomenon or an object”(Krusenvik, 2016, p. 3).

A definition offered by Eisenhardt (1989, p. 534) points out how the case study is a “research strategy which focuses on understanding the dynamics present within single settings.” Moreover, case studies combine data collection methods (archives, interviews, questionnaires and observations) and the evidence may be qualitative (words), quantitative (numbers) or both (Eisenhardt, 1989, pp. 534-535). Another definition of case study takes into account the option of multiple case study: “The detailed examination of a single example of a class of phenomena, a case study cannot provide reliable information about the broader class, but it may be useful in the preliminary stages of an investigation since it provides hypotheses, which may be tested systematically with a larger number of cases” (Abercrombie *et al.*, 1984, p. 34). When talking about multiple case studies, one of the most important aspects is when to reach closure. Researchers might stop adding cases when theoretical saturation is reached (Eisenhardt, 1989, p. 545).

Krusenvik (2016, pp. 5-6) mentions a few advantages of case studies: the suitability of this method both for qualitative and quantitative research, they can be used to understand real-life situations that are unfolding in practice; the availability of both single-case and multiple case studies makes this method very valuable; also a lot of information can be discovered along the process in the situation of in-depth case studies; case studies are used when the investigator has little control over



events and when one is dealing with how and why questions. Last but not the least, case studies are very flexible and combine multiple kinds of data collection methods as documents, interviews, questionnaires and observations.

Apart from advantages, as any other method, case studies have disadvantages or limitations. Flyvbjerg (2006) argues that there are five common misunderstandings related to case-study research: one cannot generalize from a single case, theoretical knowledge is more valuable than practical knowledge, the case study is most useful for generating hypotheses, whereas other methods are more suitable for hypotheses testing and theory building, It is often difficult to summarize specific case studies and the case study contains a bias toward verification.

The Qualitative Interview

Qualitative interview can be structured, semi-structured or open and they are methods of data collection (Hopf, 2004, p. 203). Other classification refers to interviews as standardized, semi-standardized and unstandardized (Babbie, 2007).

Standardized interviews have a more rigid structure and do not allow the interviewer to change the order of the questions. In this case, they are similar to a questionnaire survey and generates predominately quantitative data (Ryan *et al.*, 2009) Semi-standardized interviews are more flexible than the standardized ones and they use open-ended questioning (Tod, 2006) in order for the interviewee to tell his/her own story and not necessarily answer to a series of structured questions (Ryan *et al.*, 2009). Finally, the unstandardized interviews do not have a certain framework for questioning. In this case, the interview guide comprises themes and not specific questions. It is a broader approach than the other two types because the hypothesis is that there is little knowledge about the topic of interest and they are generally used to supplement field work observations (Ryan *et al.*, 2009).

These types of interview can be performed as one-to-one interview (face to face) or as an online interview.

Face-to-face interviews have the following advantages: they are structured, flexible and adaptable; they are based on personal interaction and can be controlled within the survey environment. Respondent emotions and body language can be observed, but on the other side the disadvantages are related to the interviewer bias, the high cost per respondent, geographical limitations and the time pressure on respondents (Szolnokin and Hoffmann, 2013, p. 58).

The online interviews, on the other hand have as advantages a lower cost and a higher speed, they are visual, interactive and flexible and often busy people tend to answer more willingly to questions on their computers, so the geographical limitation disadvantage is solved. As disadvantages, relying on these interviews may lead to selective samples and nonresponse bias (Szolnokin and Hoffmann, 2013, p. 58).

The participant observation

Marshall and Rossman (1989, p. 79) define observation as „the systematic description of events, behaviors, and artifacts in the social setting chosen for study”. It provides the context for development of sampling guidelines and interview guides (DeWalt and DeWalt, 2002). Bernard (1994) defines participant observation as the process of establishing rapport within a community and learning to act in such a way as to blend into the community so that its members will act naturally, then removing oneself from the setting or community to immerse oneself in the data to understand what is going on and be able to write about it. He includes more than just observation in the process of being a participant observer; he includes observation, natural conversations, interviews of various sorts, checklists, questionnaires, and unobtrusive methods. Participant observation is characterized by such actions as having an open, nonjudgmental attitude, being interested in learning more about others, being aware of the propensity for feeling cultural shock and for making mistakes, the majority of which can be overcome, being a careful observer and a good listener, and being open to the unexpected in what is learned (DeWalt and DeWalt, 1998). As advantages of the method, DeWalt and DeWalt (2002, p. 8) signal that it improves the quality of data collection and interpretation and facilitates the development of new research questions or hypotheses.

From the point of view of the disadvantages, participant observation offers information that the researcher might not be interested in and one must rely on the use of key informants.

2.2. Quantitative methods

The questionnaire

The questionnaire is one of the most widely used method of data collection. Usually questionnaires are used in survey situations, where the purpose is to collect data from a relatively large number of people, between 100 and 1000, for example (Rowley, 2014). As advantage, there can be stated the following: it is not necessary to be physically present as a respondent to answer to a questionnaire, as in many cases online or telephone surveys have as basis the questionnaire, and it covers a large number of respondents.

One of the limitations is that you may not be sure whether the respondents have understood the questions or if they have taken the time to provide accurate data or answer to all the questions (Rowley, 2014). Recommendations given by the same author are the following: the questions should be as short as possible, the questions should not be leading or having implicit assumptions, do not include two questions in one, only exceptionally ask closed questions (with yes/no answers), the questions should not be vague or general, do not use double negatives, the questions should not be invasive or intrusive, do not invite respondents to breach confidentiality (Rowley, 2014, pp. 314-315).



In the cluster development literature, there are other qualitative and quantitative methods which indicate the existence of new clusters. While qualitative methods have a more bottom-up approach, the quantitative methods are more top-down oriented.

Table 3. Explanation of qualitative and quantitative cluster mapping methods

Qualitative method	Explanation
<i>Interviews</i> <i>Questionnaires</i>	The netwin guide for cluster development (netwin 2002) recommends interviewing regional opinion leaders to obtain an overview of the regional economy and information about persons with more information about the main business concentrations. The method can be used to identify small and potential clusters and to collect information about the competitiveness and develop first ideas for an action plan.
<i>Focus groups</i>	Cluster Navigators Ltd (2001: 16) emphasise <i>group discussions</i> and <i>cluster workshops</i> as successful tools for cluster identification. These kinds of discussions and workshops pull together “more than 100 people from across the community”, bringing together the Economic Development Agency with local bank managers, journalists, logistic companies and others. The variety of actors involved help to reveal in-depth information and are particularly suited to identifying niche clusters.
<i>Snowball method</i>	A special case of asking experts is the <i>Snowball method</i> . The sample selection of this method relies on the knowledge of questioned experts about further key informants. After experts are asked about clustering in a region they are asked about reference key actors of certain clusters and about experts who (should) know more about the cluster. The questioned persons are asked if they see themselves as belonging to a certain cluster, sub-cluster, etc. The “snowball” stops when no new references to other key informants can be given. The advantage of the method is that clusters and their connection to other clusters can be revealed (Andersen <i>et al.</i> , 2006).
Quantitative method	Explanation
<i>Spatial concentration</i>	Koschatzky / Lo recommend that “... the first step in each cluster identification is to determine a spatial concentration.”(Koschatzky / Lo 2007, p. 7).
<i>Localisation quotients</i>	<i>Localisation quotients</i> are a popular indicator for cluster existence (European Cluster Observatory, dti). For example, the quotient compares an industry's share of total employment in a given region to the industry's total employment share of the whole geographical area. If there is an agglomeration of an industry within a country, the

Qualitative method	Explanation
	location quotient has to lie significantly above one. The dti (2001) defines a localisation quotient above 1.25 as a necessary criterion for clusters. This means that the employment within that industry in the region lies 25 % above the national average. An alternative localisation quotient is based on turnover data for registered companies. The advantage of this method is that data is easily available from EUROSTAT, or national or regional statistical sources. On the other hand, localisation quotients are based on data sources oriented towards traditional industries and are highly dependent on the choice of borders. The difficulty is that some clusters might only be identified at a small geographic scale, while others require a larger geographic scale (Andersen <i>et al.</i> , 2006).
<i>Ripley's K-method</i>	<i>Ripley's K-method</i> is a rather technical approach to identifying clusters, circumventing the problem of choosing borders and the size of the region a priori. The method is based on the data of all distances between the locations of all companies in each industry. Comparing the geographical concentration with a benchmark distribution points out industries which are concentrated within the region. These industries can be considered as globally oriented. By optimising the distances between companies, the method identifies systematic co-localational patterns of companies in the pre-selected industry (Andersen <i>et al.</i> , 2006, p. 17). This new geographical method is not yet widely applied in cluster mapping. A problematic feature is the potential difficulty of obtaining detailed location data.
<i>Export data</i>	<i>Export data</i> can sometimes be used to identify clusters, but more often they are used to assess the global relevance of an industry. As identification criteria for global industries, the national share of a commodity can be compared to the average national share of exports, the world market share or the export growth. Because export data is usually only available on a national level the method is rarely used for cluster identification. The dti (2001) used the export data method to measure the global competitive performance of an industry.
<i>Graph analysis</i>	<i>Graph analysis</i> , founded in graph theory, identifies cliques and other network linkages between firms or industry groups. These methods give a more detailed picture of the cluster but are associated with higher costs. To yield valuable information, highly disaggregated data and interaction matrices from surveys are needed (DeBresson / Hu 1999).
<i>Input-output method</i>	The <i>input-output method</i> indicates the interactions between companies and the strength of these interactions. In a first step, industries are grouped based on export data or by focusing on the largest transactions, in relative terms, between industries. In a second step, the patterns of clustering are found by graph analysis. The weaknesses of the method are the absence of co-location as a criterion



Qualitative method	Explanation
	and the difficulty of getting input-output data at sub-national level (Andersen <i>et al.</i> , 2006 and Kiese 2008). For that reason, input-output analysis is difficult to perform at a regional level.
Network analysis	Rather than focusing on the interaction between industries, <i>network analysis</i> concentrates on the interaction between the different actors. In addition to trade or innovation-based input-output tables, surveys and other qualitative sources are used to identify the relationships. The data is analysed by matrices or graphical network analysis. The quality of interlinking can be assessed by analysing the concentration, the structural cohesion or the centralisation of the network. The usage of surveys for data collection allows a cluster mapping that includes the interactions with universities and other institutions. The disadvantages of this method are the high costs, the high dependence on the response rate and the constitution of the sample (Kiese / Schätzl 2008).

Source: Petersen, K., 2010, pp.17-18, pp. 20-21.

As far as the literature on shared value is concerned, we came across papers which depict the practical side of the shared value concept, by placing it in case studies in different regions. Our intention was to show how this novel concept faces the methodological challenges in cluster development. There is no preference between qualitative and quantitative methods while applying shared value in cluster development, as the studies already elaborated show both types of methods to be validated, together with their advantages and disadvantages.

3. Operationalizing shared value during cluster development

In this paper the purpose is to present methodological options found in the literature related with shared value to analyse the concept in clusters, especially along cluster development. Why clusters? We have chosen the dimension of cluster development because clusters are economic and social formations that contribute significantly to the economy of a country and furthermore they drive the competitiveness of an entire region. Moreover, clusters are influential poles that attract foreign direct investments and other financial resources. Clusters determine an improvement in the operational efficiency of the companies that are members of the cluster and also generate a welfare state to the satellite companies revolving around the members of the cluster. Clusters determine growth of employment and entrepreneurship. Last but not the least, clusters encourage the innovation flow and tacit knowledge sharing both inside the cluster and at the inter-cluster level.

Very few cases report the presence of shared value in clusters, while in most of the cases the focus is on the “organizational side of shared value” (Dambek *et al.*, 2016, p. 244). Even Porter and Kramer (2011, p. 16) state that “companies will

be less successful if they attempt to tackle societal problems on their own, especially those involving cluster development”. The key here is the collaboration among companies and their competitors to be able to create shared value in clusters. Literature review shows that shared value creation process is in most of the cases evaluated through qualitative methods like case study and interviews. Also, the majority of papers focus on the multinational company as unit of analysis and not on cluster, which constitutes a gap we would like to fill. Moreover, Dembek *et al.* (2016, p. 245) shows that shared value is analysed mostly at a project or initiative level.

We have developed an exploratory analysis on the methodologies used to operationalize shared value over cluster development. What the studies have shown is that the case study, used either as a qualitative method, or as a quantitative one is the most frequently preferred in such kind of studies. Case study functions as a method flexible for building a business model for shared value. In the examples provided above, the authors used either single or multiple case studies, exploratory case studies or in-depth.

The methods which were used to collect information more often were interviews and questionnaires, which were the basis for surveys. In our opinion, regarding quantitative methods, the authors are more prone to use the social network analysis, a method which focuses on the interaction of different participants. The advantages of using these qualitative and quantitative methods consist in their flexibility, in their ability to work together very well, as for example a case study cannot work independently from methods of collecting data such as a questionnaire or an interview or from document analysis or participant observation.

The disadvantage in the case of cluster development is the difficulty to properly identify the existence of a cluster or to validate an already existing cluster with these types of methods of collecting data. Shared value must work in collaboration with cluster development and for this to happen various studies have been described in a few words below.

There are some recent cases of companies and clusters which implement shared value in their frameworks. For example, Alberti and Belfanti (2019) use an exploratory case study and secondary data to describe an Italian cluster initiative in food waste prevention. Yelpeo and Kubelka (2019) use a cross-sectional, exploratory and multiple case study and data collected through semi-structured interviews. Spitzack and Chapman (2012) verify the concept of shared value through an in-depth case study, and semi-structured interviews, participant observation and document analysis as qualitative methods. In Michelini and Florentino (2012) shared value is created through a business model based on a multiple case study of 30 cases, and the data is collected through secondary sources. Moreover, Maltz and Schein (2012) develop a large-scale qualitative study to evaluate shared value, by applying the field interviews and phone interviews with more than 50 company managers from various B2B and B2C corporations. Porter *et al.* (2011) propose a framework to integrate shared value strategy and measurement through four steps called: (1) identify the



social issues to target, (2) make the business case, (3) track progress and (4) measure results and use insights to unlock new value. This type of framework mixes qualitative and quantitative methods.

On one side, there are the win-win situations (“A cases”) like Nestlé (Pfizer *et al.*, 2013, Porter and Kramer, 2008, p. 502), Coca-Cola, Novo Nordisk, Intel, InterContinental Hotels Group, Microsoft. On the other side, there are the win-lose cases (“B cases”) which are not so popular among the shared value authors, but are signaled by de los Reyes *et al.* (2016) as biases in shared value interpretation. As Dembek *et al.* (2016, p. 244) support, “presenting shared value on the basis of brief examples, without adequate data support and analysis, is unlikely to reflect the reality of the phenomenon more broadly.” For example, there is the case of Becton Dickinson, a medical technology firm from New Jersey which values shared value initiatives and reached the conclusion that “any shared value initiative required a rigorous business case and clear indicators of social impact”(Kramer and Mehta, 2018).

Conclusions

Shared value, designed as a “reconciliation between business and society” (Dembek *et al.*, 2016), becomes a concept with little basis on its theoretical and epistemological roots.

Crane *et al.* (2014) have mentioned some strengths and weaknesses of the concept creating shared value. On one side, this concept has the following qualities: it successfully appeals to practitioners and scholars, it turns social goals into strategic ones, it articulates a clear role for governments in responsible behaviour and it adds rigor to ideas of “conscious capitalism” and provides an umbrella construct for loosely connected terms.

On the other side, creating social value has some biases too because it is an unoriginal concept which disregards the tensions between social and economic goals. Moreover, it considers companies as having full compliance with the regulations, which would cancel the fervent and frequent NGOs efforts in this area and lastly, it is based on a shallow conception of the role of the company in society. Apart from that, shared value suffers from the challenge of measurement as well as any other new concept which deals with indicators of social impact, as one may well know that inside a corporation the social report of activity is more often considered inside the financial report, because of the impossibility of a proper way to quantitatively measure. If this does not happen, then it means the company has adopted a qualitative way of measuring the social contribution of the company to the corporate environment.

After unveiling a shallow facet of the term shared value, our question was how can it be operationalized among cluster development, as this is one of its dimensions along with reconceiving products and markets and redefining productivity in the value chain. Our research showed that there are some methods used to map cluster

existence and they can be qualitative and quantitative. The qualitative ones are interviews, questionnaires, focus groups and snowball method and the quantitative methods are spatial concentration, localization quotients, Ripley's K-method, export data, graph analysis, input-output method and network analysis.

The qualitative methods of interviews and questionnaires, focus groups and snowball method have the following advantages: they offer possible information about the regional economy, about persons with more information; they help identify business concentrations, small and potential clusters, information about competitiveness and ideas for action plans. Their limitations consist of being subjective and suffering from selection bias (Petersen, 2010, p. 16).

The quantitative methods have their strengths and weaknesses as well. The first method, localization quotients has the advantage of being easy to use, but on the downside it needs orientation on administrative borders and traditional industries. Ripley's K-method can be easily identified without setting borders, but the pre-selection of industries is still necessary and it remains as a limitation for this method. Export data provides identification of the national relevance of the industry, but, as a disadvantage, the disaggregated data are rarely available. The input-output method has the advantage of the quality of interaction, but the disadvantage of absence of co-location and data availability. Lastly, Network analysis has the strength of the quality of interaction and the weakness of the lack of data available (Petersen, 2010, p. 16).

Among the methods which are recognized to work well in cluster development phase and with shared value formation, there are the case study, the interviews, the participant observation, the questionnaire and the (social) network analysis, as the cases depicted from the literature have shown. We recommend these methods to be used in shared value studies and when encourage the elaboration of more such studies which deal with the methodological aspects of the controversial term of shared value.

We consider our study to be original through its exploratory purpose, as there are no such studies developed in Romania and we acknowledge the importance of foreign researching materials which made the basis of our documentation. Because shared value concept is still new in the literature we mention the limitation of the available sources for research and study for the literature review. Therefore studying shared value during cluster development in terms of methodologies represents an innovative topic and this can stir the curiosity of other authors who desire to elaborate studies on developing Romanian clusters. Not only the researchers but also the practitioners might be interested to study shared value in clusters because this could be an interesting subject of policy making. If more and more companies in Romania would adopt the creating shared value model, then societal and environmental needs would be included in the responsibilities of the stakeholders of those companies. Those companies would become pioneers in the work with shared value.



Some companies investing in Romanian economy like Nestlé, Coca-Cola, Enel or others have already implemented strategies that consist of applying creating shared value principles. But this is not enough. In our opinion, not only multinationals should use this modern concept, but also small and medium sized enterprises because change starts with small steps from the small community level. For an even more relevant impact, creating shared value should be introduced in the development policies of Romania for the government to incentivize small and medium enterprises to start developing shared value principles. For this to happen, proper methodology and measurement indicators should be introduced for the national level.

As a step forward we consider that a future quantitative analysis would be appropriate in order to set some lines of thought to the measurement of shared value. In their well-known paper on shared value measurement, Porter *et al.* (2011) state: “Despite the wide-spread embrace of the shared value concept, however, the tools to put this concept into practice are still in their infancy....Even the companies that are most advanced in pursuing shared value today lack the data they need to optimize its results.” Although lacking a proper measurement indicator is not a matter of concern for its inceptors, Hamilton and Preston (2018) dedicated a study to this matter and their results show how the rate of investment (ROI) is one of the indicators fitted to measuring shared value. Other attempts for measurement rely on proxy indicators and other economic models. Their conclusion in the study is that “the measurement regime adopted must speak to your management, core project partners and other major stakeholders you are endeavoring to satisfy” (Hamilton and Preston, 2018).

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FINANCING HIGHER EDUCATION. A CURRENT DEBATE

Diana VICOL*

Abstract

The problem of higher education funding is felt in different forms in developed countries. In Central and Eastern European countries, since 1990, demand for higher education has increased significantly and has been intensified with the accession of these countries to the European Union. The purpose of this article is to identify successful models in the financing of higher education applied in the Member States of the European Union, which could be a model for higher education in Romania. The question we want to answer is whether there is a link between the level of funding for education and the performance of education. In our approach, we will use the main component analysis method to see if the level of funding influences performance in education, starting with funding patterns in European Union countries.

Keywords: education financing, higher education, performance

Introduction

Education is a determinant factor of evolution, a visiting card of any nation. That is why the educational system is at the basis of the development of a society, directly influencing all other social components and especially the economic space. Higher education has expanded considerably over the last decades. Enrollment rates have increased strongly in almost all developed countries, both by increasing the number of local students and by increasing international student count. As a result, public spending has increased, and the issue that we want to discuss is to what extent this expenditure is correlated with a performant education system.

1. Romanian higher education funding after 1989

Since the 1989 revolution, the Romanian education system has implemented a series of reforms aimed at changing the education system, which were insufficiently debated, have often been just partially implemented and whose implications have not been well determined.

Coming from a communist legacy, the Romanian higher education system was distorted, in the sense that its offer of study programs did not take into account the

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market requirements. Higher education state-paid full scholarships were predominantly directed towards the engineering field, with the post-1989 industry having suffered a major drop, and scholarships allocated in areas such as social sciences, law, or humanities were below market demand (Miroiu and Țeca, 2013). At the same time, the number of subsidized places was far below the demand for higher education at that time. The state responded to the demand from the population, so the number of scholarships offered has increased from 18,000 in 1989, to 63,000 in 2015 for students enrolled in year I.

Up until 1999, the financing model of the Romanian public universities was not different from the one used in the communist period and was based on the allocation of funds on historical principles, which mainly had several main directions: staff salaries, maintenance and operating materials, repairs, investments and scholarships for students. In 1998, with an obsolete funding mechanism based on historical costs and rising demand for higher education, government allocations fell sharply, and the state, in order to limit its financial effort, implemented two measures. The first measure consisted in the fact that since 1998 universities have been allowed to enrol students who pay their tuition fees themselves, and the second was the introduction in 1999 of a new formula-based funding mechanism.

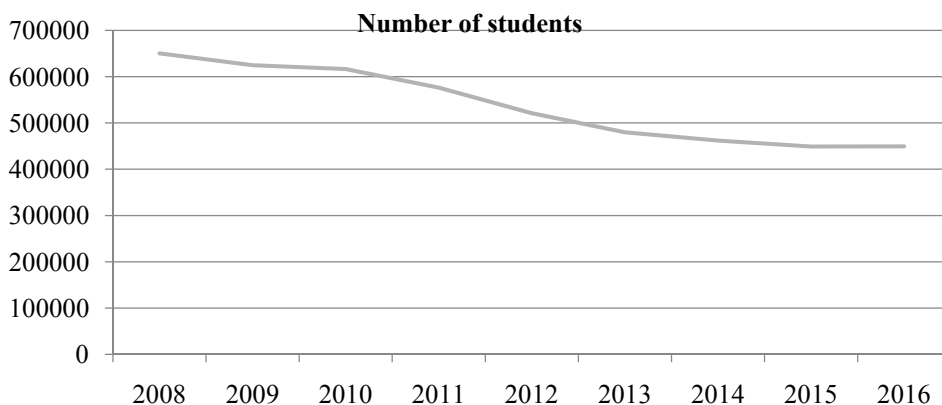
In 2011, the higher education system underwent new changes through the approval of the National Education Law no. 1, which states that funding should be made "based on and within the standard cost per pupil, pre-school or pre-school, as appropriate, according to the methodology developed by the Ministry of National Education respectively through study grants calculated on the basis of the average cost per equivalent student per domain, per cycle of study and per teaching language".

This calculation method has considerably diminished the budgets of the educational institutions, so that in a few years the salary grids were substantially reduced and the expenditures with the equipment of the material base became almost non-existent, as the financing barely covered the maintenance and functioning expenses. Thus, the budgets of the educational institutions have come to be the result of multiplication of the standard cost, established annually by Government Decision, with the number of students. Suddenly, the student became the main driver of revenue-generating educational institutions.

The new Education Law came at a financially difficult moment for Romania and was a response to the need for responsible and transparent management of public funds. In this context, the National Council for Higher Education Financing (CNFIS) has strengthened its role as an advisory body established since 1995. According to the law, CNFIS's mission is to support the Ministry of National Education in the implementation of public policies in the field of higher education by elaborating the proposals for regulations regarding the financing of universities, by setting the average cost per equivalent student by cycles and study fields, by submitting proposals to optimize the financing of higher education, as well as by periodically checking the efficiency of public funds management by the higher

education institutions. Also, according to art. 219, par. 2 of the National Education Law no. 1/2011, must submit annually to the Ministry of Education a report on the state of financing of higher education and the optimization measures required. The CNFIS Council has taken further steps to optimize the higher education system, so the report addresses institutional and organizational actors interested in the higher education system who can make an important contribution to the development of informed public policies in this field. Among the problems highlighted by CNFIS, we can recall that the financing of Romanian higher education is insufficient for increasing the quality of higher education and the competitiveness of universities in Romania in the medium and long term, and at the same time it is necessary to establish a coherent strategy and a set of priorities for the long-term development of the higher education system. In other words, CNFIS representatives say that performance in higher education cannot be achieved without proper funding. This aspect has to be taken into consideration especially as the number of students has fallen sharply in recent years (Figure 1).

Figure 1. The evolution of the number of students in Romania, between 2008 and 2016



Source: EUROSTAT, <https://ec.europa.eu/eurostat/data/database>

The evolution of the number of students for the period 2008-2016 is shown in Figure 1, where it can be seen that in 2008 there were 650.247 students, while in 2016 there were 449.152, which means a 31% decrease in the number of students.

2. Higher education in a European context

There are a number of debates around the world that many practitioners and researchers have been puzzled by over time, namely: the role that education should play in creating a more egalitarian society and the extent to which education should be provided through the public sector, or through the private sector (Hare and



Ulph, 1979). Education can only play a positive role in the development of a society.

The problem of higher education funding is experienced under different forms both in developed and developing countries. In the Central and Eastern European nations, after 1990, the demand for higher education has increased significantly and has been intensified with the accession of these countries to the European Union (Erina and Erins, 2015).

In countries such as Bulgaria, Slovenia or the Czech Republic, the main method to finance education is through a direct allocation of state-funded funds based on a formula (Erina and Erins, 2015). After 1990, when the urgent need for higher education occurred, most of the Central Eastern European countries restructured the financing model of higher education, reallocating a certain part of the funding burden to the students, through tuition fees.

Thus, the level of education funding has been an issue that has been widely debated for generations. Erina J. and Erins I., in their work on the evaluation of higher education funding models in Central and Eastern European countries, argue that it would be necessary to identify new sources of funding, as the financial resources allocated by the state are insufficient for ensuring the implementation of a proper and efficient education process. They also identify potential sources that could support the reallocation of funds allocated by the state, of which we can mention the structural funds coming from the European Union, the revenue of educational institutions such as study fees, project revenues, services, patents. They even propose a calculation formula for allocating funding to higher education that does not take account of the individual and the characteristics of each country:

$$N = S_v \times F_m + (S_v^i - S_v^a) \times F_s + N_g + N_{ep} + N^i$$

where,

N - annual income of the higher education unit;

S_v - the number of students financed by the state;

F_m - student co-financing (tuition fees);

S_v^i - the number of students enrolled in the first year;

S_v^a - the number of expelled students;

F_s - the funding from the state budget allocated for a full-time student in that year;

N_g - state subsidies for scientific research, allocated to defined members of the academic staff of the higher education institution;

N_{ep} - funds received as fees for academic, scientific and expert services;

N^i - state investment in the modernization and construction of buildings, purchases and maintenance of equipment (Erina and Erins, 2015, p. 188).

Leaving aside the institutional sphere of education funding, we must also take into account the indirect beneficiaries of this, namely the students themselves. There are numerous researches that focus on the individual as the main beneficiary of investment in education, which naturally has led to numerous debates and controversies. In this approach one can observe two directions: the endowment of individuals with abilities and their access to resources.

The first direction mentioned starts from the idea that the equality of expenses for different individuals does not produce equality of benefits for them (Arrow, 1971). This is because individuals possess certain abilities that enables them to take advantage of education or not (Ulph, 1977). This issue, which has been debated since 1971, seems to have been understood by both governments and educational institutions. Most countries, until they had a significant level of higher education, funded this sector without evaluating the performance of the universities benefiting from these funds. Once higher education has become a mass phenomenon and financial pressure has increased considerably, there has been a natural tendency towards financial responsibility and finding alternative sources of funding.

On the other hand, recent studies call into question the fact that educational institutions have a high degree of responsibility in achieving students' goals, namely obtaining a diploma (Hossler, Ziskin, Gross, Kim, and Ceckic), this being one of the performance criteria within higher education.

3. Methodology and data. Performance indicators within higher education

The issue we are bringing up refers to the fact that most public funding systems have characteristics that generate an increase in demand for formal education, however, at an inadequate efficiency level because individuals do not know what the real cost of the education services which they benefit from is, as they do not bear these costs directly. The role of universities is essential in achieving individual goals, in other words, if students achieve their goals, universities indirectly reach theirs as well.

In order to determine to what extent the level of financing in higher education influences the degree of university performance, we have taken into account the main performance indicators within higher education:

- widening the access to tertiary education;
- lowering the dropout rate from the tertiary level of education;
- learning outcomes - obtaining graduation diplomas;
- research results;
- graduate employment rate.

In this analysis we applied an econometric method to check whether there is a correlation between the level of government funding of higher education and the variables chosen by us, namely the dropout rate in tertiary education, the number of students enrolled in tertiary education, the rate of graduates employed and the



number of researchers in tertiary education institutions in 2015. The data was extracted from the website www.eurostat.eu and is presented in table 1.

Table 1. Performance indicators within higher education in EU member states in 2015

Countries/2015	Government_educational_expenditure_euro	Early_leavers_rate_from_education	Students_enrolled_in_tertiary_education_n	Employment_rates_of_recent_graduates	Researchers_in_higher_education
Belgium	5.949.000	10,1	504.745	79,5	31.909
Bulgaria	292.300	13,4	278.953	74,6	7.902
Czechia	1.299.800	6,2	395.529	82,2	23.963
Germany	38.016.200	10,1	2.977.781	90,4	270.343
Estonia	287.000	12,2	55.214	80,4	4.610
Ireland	2.306.100	6,8	214.632	77,9	15.865
Greece	1.282.300	7,9	690.868	45,2	37.463
Spain	10.327.500	20,0	1.963.924	65,2	121.161
Italy	12.542.000	14,7	1.826.477	48,5	76.403
Cyprus	234.200	5,2	37.166	68,9	1.520
Latvia	286.800	9,9	85.881	78,8	5.672
Lithuania	439.800	5,5	140.629	82,1	12.600
Luxembourg	267.300	9,3	6.896	84,7	1.290
Hungary	726.700	11,6	307.729	80,4	15.643
Malta	127.200	20,2	13.216	95	863
Netherlands	11.117.300	8,2	842.601	88,2	25.810
Austria	6.130.300	7,3	425.972	86,9	36.699
Poland	5.234.900	5,3	1.665.305	77,4	70.658
Portugal	1.607.100	13,7	337.507	72,2	52.325
Romania	1.054.000	19,1	541.653	68,1	15.057
Slovenia	379.000	5,0	85.616	71,5	4.186
Finland	3.968.300	9,2	302.478	75,5	22.173
Sweden	8.447.300	7,0	428.557	85,9	43.911

Source: EUROSTAT, <https://ec.europa.eu/eurostat/data/database>

Factor analysis

Table 2. The results of descriptive analysis of the variables included in the analysis

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Government_educational_expenditure	4883582,61	8216756,765	23
Early_leavers_from_education	10,34	4,666	23
Students_enrolled_in_tertiary_education	614318,65	764960,776	23
Employment_rates_of_recent_graduates	76,50	11,900	23
Researchers_in_higher_education	39044,61	58277,856	23

According to descriptive statistics, the countries in the observed sample allocated an average of 4,883,582 Euros for the financing of tertiary education in 2015, had a number of 614,318 students, of which 10.34% abandoned tertiary education and 76.50% managed to enter employment after graduation.

**Table 3. Values of the KMO test statistic and the χ^2 statistics
KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,665
Approx. Chi-Square		88,608
Bartlett's Test of Sphericity	df	10
	Sig.	,000

It can be guaranteed with a probability of 0.95% that there are statistical links between the variables considered, as the χ^2 statistic leads to the conclusion of the rejection of the variability independence hypothesis.

Kaiser-Meyer-Ohlin statistics (KMO) shows a value of > 0.5 indicating that there are statistically significant (mediocre) links between the variables chosen, so ACP can be applied.

**Table 4. Own values and variance explained by the factorial axes
Total Variance Explained**

Comp onent	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,837	56,747	56,747	2,837	56,747	56,747
2	1,164	23,285	80,032	1,164	23,285	80,032
3	,874	17,473	97,505			
4	,077	1,536	99,041			
5	,048	,959	100,000			

Extraction Method: Principal Component Analysis.

The table of the explained variance shows that the first two factors explain 80,032% of the total variance of the initial data. The first factorial axis explains 56,747% of the total variance and the largest differences between the statistical units. The second factorial axis explains 23.285% of the remaining variance.



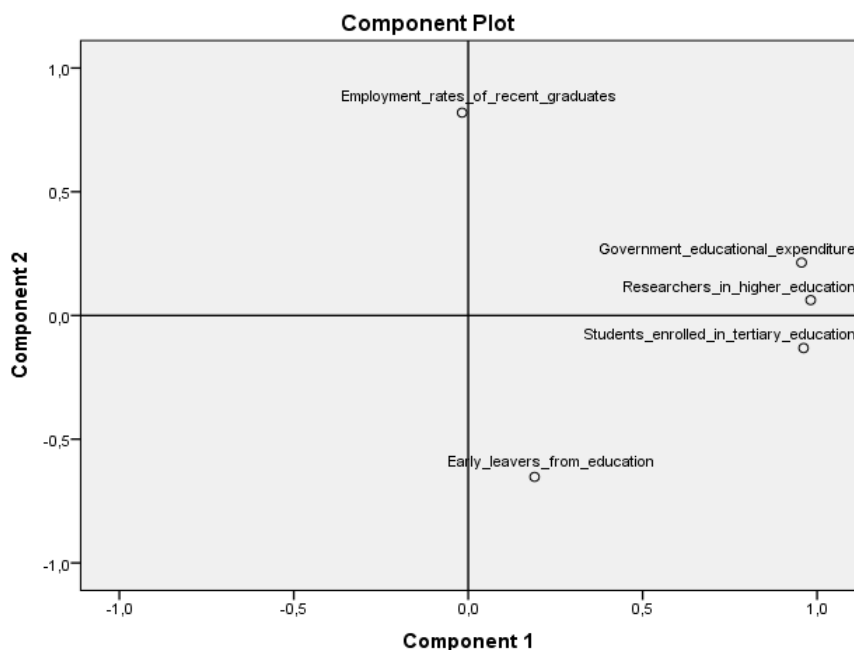
**Table 5. Coordinates of the variables within the two factorial axes system
Component Matrix^a**

	Component	
	1	2
Government_educational_expenditure	,956	,214
Early_leavers_from_education	,190	-,652
Students_enrolled_in_tertiary_education	,961	-,132
Employment_rates_of_recent_graduates	-,018	,820
Researchers_in_higher_education	,982	,062

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

The values in Table 5 show the position of the variables on the factorial axes. The government educational expenditure variables, Students enrolled in tertiary education and Researchers in higher education have a high (close to one) positive coordinate on the first factorial axis (0.956, 0.961 and 0.982) and the variable rates Employment rates of recent graduates have a negative coordinate according to Figure 2, their positioning on the same side of the dial, indicates the existence of a positive relationship between the three variables.

Figure 2. Graphical representation of variables in the first two factorial axes

For the second factorial axis, the Employment rate of recent graduates variable has a high positive co-ordination (0.820) and the Early Leavers from education variables and Students enrolled in tertiary education have a negative coordinate.

Conclusions

We following the steps in the econometric model and we can say that *Government educational expenditure* influences *Researchers in higher education* and *Students enrolled in tertiary education* from E.U. universities, but will require much involvement from member states to have a performing at European level. The European Union must be involved in solving serious problems, such as school dropout, which in many member countries reaches alarming levels. This analysis started from the need to correlate the size of public spending in tertiary education with the expected outcomes, and not only, but it does not want to be a complete model that provides a true picture of reality. We try through different analyzes to find answers that can be helpful in making responsible high-level decisions.

The problem of financing education as a whole, but especially of higher education, brings to light countless dilemmas faced by decision makers in this field. Even though there are countless studies, proven by specialist analysis, we still have not found a universally valid formula that provides the highest level of education with the lowest cost and best results. This is not possible because universities and the state are the result of several factors joining in all socio-economic areas.

This combination of factors makes the funding higher education a topical subject that we will try to surprise in future studies.

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STUDY ON DEFENSE EXPENDITURE AND ITS FINANCING

Florin ȘUHAN*

Abstract

In an era of geopolitical changes stability seems to be in danger. The concept of threat is sometimes artificial taking into account a wide range of challenges in terms of security, including either state and non-state threats or the problems resulting from the rapid dissemination of information and technological developments. In this paper, we will see how to work and put into military or defense of working expenses such as the usage in political and economic environment and we will try to capture aspects of their funding in the domestic, regional, European and international level. In this sense, we will seek to answer the question: Do defense expenditures influence macroeconomic sources and methods of financing? The present study consists in a documentary analysis of the literature regarding defense funding and spending both at a European and international level. The analysis will consist in different correlations between different factors like economic growth, corruption, debt and not finally, the defense industry with the defense expenditures. Following the analysis, we conclude that the level of national defense expenditure has a different dynamics by correlating with economic growth, public debt, the corruption level at country level and the development stage of the defense industry. This dynamics is complex when the analysis is conducted in peacetime, conflict / warfare, or external threats. Defense spending positively influences economic growth and public debt during conflicts / wars and external threats, while in peacetime it is necessary to correlate the level of military expenditure with macroeconomic indicators. Under conditions of existence and manifestation of corruption at country level there is an unjustified increase in the defense expenditures, which negatively influence the economic growth and the public debt. A strong argument in this case is the lack of macroeconomic transparency that practically limits budgetary control. The defense industry can positively influence defense spending in conflict / war situations or the existence of external threats when they create a positive impact on economic growth and debt.

Keywords: defense expenditures, methods and sources of financing, economic growth, public debt, defense industry

Introduction

In a constantly changing European and global environment where the boundaries between peace, crisis and war become more and more unsafe every day, the task of promoting safety and security has become a priority on the government

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agenda of each state. The dimensions of promoting regional security and stability are today more important than ever, given that the various developments in political, social, social, and even cultural processes can generate conflicts in areas of interest.

However, stability seems to be at risk in a time of geopolitical change, the concept of threat is sometimes artificial considering a wide range of security challenges, including both state and non-state threats, as well as the problems resulting from the rapid dissemination of information and technological developments. Practically, addressing such a complex environment is becoming more and more difficult for each country, regardless of the policies and objectives promoted and the resources allocated. Given the increased need for stability, a proper sizing of the necessary financial resources must also be carried out.

Defense spending has experienced a continuous and complex dynamic in the past decades both at the conceptual level and in terms of funding for the defense of each country's own defense objectives. Hartley and Russett (1992) believe that changes in military spending will be influenced by changes in public opinion attitudes and opposition to military expenditure dynamics.

As part of public spending, we consider that national defense spending respect the Law of the German economist of the sec. XIX, Adolf Wagner, considering the absorption of resources that this activity, which is in a trend of expansion, is assumed at present. In this sense, finding sources of financing defense spending it should be apriority on the agenda of every country. The sources are diverse and have a strong correlation with defense policy objectives promoted by leaders or states.

In the following, we will see how to realize and put into operation the military or defense expenditures as they are used in the political and economic environment, and we will seek to capture aspects of their funding in the domestic, European and international environment. This study aims to conduct a review of the literature on defense spending and funding sources of defense activities in the European and international environment, based on the scientific approaches and results validated in the international databases.

In the present approach, we will seek to answer the question: *Does the defense expenditure affect macroeconomic sources and methods of financing?* The conceptual and experimental approach of defense expenditures and funding sources will be made by correlating them with the most influential factors in the literature's analysis, such as economic growth, corruption level, public debt, and not ultimately defense industry. The paper is structured on two directions of action for which conclusions will be drawn. The first takes into account the dynamics and evolution of defense expenditures at European and international state level, and the second refers to the methods and sources of financing of defense expenditures in the European and international environment.



1. Defense expenditures in the architecture of the European and international state economy

According to Stabile *et al.* (2018), national defense expenditure quantifies the strategic component that is the guarantee of national sovereignty and security, which implicitly requires the allocation of significant financial resources. The main objectives financed by these resources are to maintain the operational capabilities of the army, the state within the regional / international military alliances, the granting of military aid to other countries and others. In the field literature it is stated that the extent of military expenditures and, above all, their growth, has a negative influence on the state's economic and social development, both at individual, regional and global level. Moreover, Văcărel *et al.* (2008) argue that the negative influence is based on the increased consumption of human resources involved in the defense industry, the provision of the necessary national defense services and the risks arising from potential foreign imports and borrowings.

We consider that the literature approaches of defense expenditures in correlation with economic growth, the state level of corruption, the public debt, and the level of the defense industry are not accidental but rather well chosen and relevant to shape a clear image of the structure and content of defense spending within public spending. Further, we will review the relationship of defense expenditures with the elements mentioned before taking into consideration the findings of several authors.

The relationship of defense expenditures with the level of economic growth of a country is justified and relevant by the necessity and reason that each public expense contributes to the socio-economic development and well-being of society as a whole. In this sense, the major strand of the economic literature has focused on the influence of defense expenditures on economic development. As shown by Popa *et al.* (2012), until World War II and the Cold War, military spending has seen a trend of growth, amid a worsening global conflict and threat situation. After the economic crisis started in 2008, we can talk about a tendency to reduce defense spending (Popa and Pîrvuț, 2018).

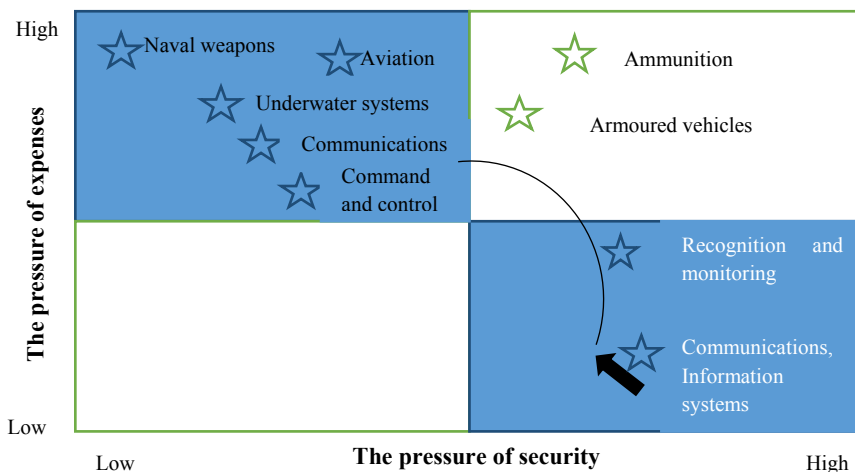
In 1943, Keynesian economist Paul Samuelson predicted the economic effects of reduced defense spending and the reintegration of 10 million soldiers into civilian labour after the Second World War: „when this war is over, more than one in every two workers will depend directly or indirectly on military orders” (Barro and De Rugy, 2013). Several decades later, Loayza *et al.* (1999) had a similar view, considering that the political tensions and those associated with high levels of military spending are likely to dampen a country's long-term economic growth.

In 2016, Dunne and Tian shown that while the economic literature did not find military spending as a significant determinant of economic growth, much of the defense economics literature found effects. The two researchers developed an econometric model to investigate the link between defense spending and the level of economic growth. The model combats and highlights the weaknesses and

deficiencies of established quantitative models such as Feder-Ram, suggesting non-alignment in the field of expertise, simultaneous bias and weaknesses in the theoretical plan of econometrics.

Based on these findings we can say that the empirical evidence on the relationship between economic growth and defence expenditures is widely divergent from the theory. For that matter, we can observe a higher degree of relevance of the analysis in the presence of conjuncture factors such as conflict state, threat or even war. Thus, security is measured by military spending relative to the threat and generating a non-linear effect. They have a positive effect on production when the threat is high and a negative effect when the threat is low. In refining growth patterns, to allow such nonlinearities, defense economists have found a comparative advantage, as they have gained considerable experience in measuring threats and other factors that influence military spending. Thus, there is a theoretical and econometric reason for estimating simultaneous systems that explain both military expenditure and results. The correlation between the level of defense spending and economic growth under the conflict / threat factor is particularly relevant in terms of the dynamics and structure of military spending in a crisis situation. Doval (2007) has managed to capture this relation as shown Figure 1.

Figure 1. Dynamics of defense spending in the security crisis



Source: Expenses Matrix - National Security (after Doval, 2007)

We believe that the link between defense spending and economic growth has been a matter of concern in the field of defense economy, a significant part of the literature focusing on the effect of increasing military expenditure in developing countries. However, as stated by Hou and Chen (2013), we appreciate that the existing literature is inconclusive about the effect of defense on economic growth



due to the application of different theoretical models, empirical techniques and samples.

Furthermore, we will focus on the *relationship of defense expenditures with corruption*. In recent years, an increased attention has been paid to understanding the economic motives and consequences of corruption. According to Gupta *et al.* (2001), the existing literature can be divided into two major directions. The first focuses on the determinants of corruption while the second on the consequences of corruption in exchange for its determinants.

Research studies have shown that the phenomenon of corruption is likely to have a negative impact on the economic efficiency, growth, equity and general well-being of a society. Gupta *et al.* (2001) states that, in early literature, ethical considerations were aside, corruption being seen as a means to achieve a higher degree of economic efficiency by simplifying governance rules and overcoming cumbersome government rules.

The evidence presented in the literature that the countries perceived as having a higher level of corruption tend to spend more on the army are suggestive, but not conclusive. The results are robust enough for different model specifications, estimation techniques and data sources assembled in the econometric model.

The main political and economic conclusions of specialists are that we can expect policies targeted on reducing corruption to change the structure of government spending towards more productive, non-military expenditure. Or, as Gupta *et al.* (2001) consider, corruption in military procurement can, of course, be reduced by greater transparency and reduced patronage among officials receiving bribes. In this sense, we believe that in order to remove one of the factors influencing corruption, which is the lack of transparency, defense contracts could also be included in the freedom of information legislation, when available. Similarly, arms procurement contracts could be subject to supervision through standard budget control, such as audit procedures and legislative approval, as well as other spending programs in the budget. Deficiencies in budgetary surveillance and associated corruption are not unique to the defense sector. Elaborating, implementing and reporting the transparent budget, as well as subjecting tax information to independence and integrity insurance, are measures that we consider necessary steps to limit corruption.

We note that in the literature, the defense spending approach is carried out in some cases and in correlation with the defense industry of the states. This sector is somewhat opposite to the defense sector. As Loayza *et al.* (1999) point out, each country has to dispose of a disproportionate part of its endowment of the economic resources to military „unproductive spending”. Nevertheless, the defense industry sector develops military capabilities, attracts investment and exports and creates jobs in a manner appropriate to the geographical area and the state in which it operates. A similar opinion have Goyal *et al.* (2002) who note that the US defense industry offers a natural experiment to examine how changes in growth opportunities affect the level and structure of corporate debt. Moreover, compared

to other firms, growth opportunities for defense business operators have increased substantially during the development of defense capabilities. The reduction in military spending after the 2008 crisis year has generated a reshaping of production in the defense industries. The governments of the countries did not diminish defense industry funding due to the low demand of the market. Under these circumstances, the structure of military spending has changed, mainly by cutting down on strategic arms and military equipment purchases.

Referring to the European space, attention is drawn to the procurement and defense industry of the United Kingdom, which, in the well-known Brexit approach, raised questions about national security following the outflow of the EU (Uttley and Wilkinson, 2016). We believe that Britain has both an important technological advantage and freedom of movement, which gives it the potential to choose. Indeed, as early as 2015, UK has revised the national security and defense strategy. The government has recognized the important role of defense procurement spending and internal defense and security spending on economic growth and prosperity.

The fragmentation of the European defense market creates even more inefficiencies as a result of the existence of several small national industries and the production of similar military equipment. Regardless of the initiatives designed to remedy this situation at declarative and practical level, the European defense market remains unconsolidated (Toje, 2011).

Literature has increasingly focused on the relationship between the growth of a defense industry firm and its financial opportunities and policies. Since the defense industry has undergone a sharp shift in its investment opportunity over the last few years, it provides a natural experiment to examine the longitudinal relationship between growth opportunities and the various variables of corporate policy.

Evidence presented by the literature suggests that growth opportunities are the main determinant of corporate financial policies. As growth opportunities in the defense industry declined, firms increased their debt levels, prolonging the maturity structure of their debt. In practice, they reduced their private debt and mostly used public debt trying to reduce their total debt. This industry and others who have experienced radical changes in how to grow, offer the opportunity to study how growth opportunities affect other corporate interest variables such as payment policy, investment policy, and governance structure (Goyal *et al.*, 2002).

In order to exemplify the significant impact of defense spending on the EU economy following Brexit's production, according to the European Defense Agency (EDA), any reduction of 100 million euro in EU defense industry spending would amount to EUR 150 million euro of EU GDP, a fall of € 40 million in EU tax revenues and a loss of 2,870 jobs, of which 760 are qualified.

In fact, as Toje (2011) has shown, most European states simply do not spend enough for defense. According to the Stockholm International Peace Research Institute (SIPRI, 2006, p. 164), in 2005 Europe was the only region in the world



where military spending has fallen by about 1.7%. In 2008, military spending in Europe amounted to \$ 413 billion, up 1.4% in real terms compared to 2007. In the same period, Eastern Europe, especially Russia, saw an increase of 11% (Toje, 2011).

Public debt, in its forms, is another variable with which defense expenditures are correlated with the analysis carried out in the field studies. The allocation of public resources is mobilized both to maintain capabilities and to develop new ones. Efforts to equip the armed forces are greater and more costly than ordinary efforts to maintain military capabilities. The example of South American countries is relevant in terms of engaging in medium and long-term military expenditure without taking into account macroeconomic indicators and regional and international circumstances.

The debt crisis that hit South American countries in the 1980's led to a severe recession and chronic economic problems. We believe that there is a potentially important contributor to the growth of external debt, i.e. military spending. Taking into account the factual experience in Argentina, Brazil and Chile, there is no evidence that the military burden has had any impact on debt developments in these countries. Some evidence show that the military burden has tended to increase debt in Chile. At the same time, Chile was the least affected by the three acute financial crises due to debt, although their relative indebtedness was as high or higher. As Dunne *et al.* (2005) suggests, military burden can be important in determining state debt, but it is important only when it is not correlated with other macroeconomic and international factors.

In the European environment, following a study by Kollias and Paleologou (2010), a group of 15 European countries (Austria, Belgium, Denmark, Finland, France, Greece, Ireland, Italy, the Netherlands, Portugal, Spain Sweden and the UK) with the aim of investigating the defense potential of the European Security and Defense Policy (ESDP), we can see that the results obtained do not indicate a consistent quantitative relationship between defense spending and economic growth or investment. This situation leads us to believe that although these European states have a high level of economic development and a need to ensure both the inviolable and regional security and defense, they do not promote reasonable investment policies and defense and security spending.

In our opinion, the defense expenditures correlated with the level of economic growth, the state level of corruption, the development of defense industries and public debt have a complex dimension, weight and structure with both positive and negative influences in the economic architecture of a state. Developing defense capabilities leads to adequate public and external public spending. In this respect, the budgetary effort at country, European and international level should be permanently correlated with macroeconomic indicators and internal and external conjuncture factors.

2. Financing defense spending in European and international environment

In the current literature, both at national, regional and European level, there have not been many studies on alternative financing options for public institutions, especially the national defense domain.

In Romania, a NATO member state and the EU, internal funding is based on the budgetary allocations made available on the institutionalized budget financing system and the own revenues achieved in the areas for which the military institution is competent.

In the European and international environment, external financing of military spending is based on reimbursable or non-reimbursable funds made available by programs run by international organizations and bodies and on external credits made available through external credit / external lending. The latter have government guarantees and have a share in the public debt of a country.

The funding of defense expenditure is based on the expenditure structure (Văcărel *et al.*, 2008). Typically, the personnel and material expenses for the maintenance of military capabilities are funded from budgetary or governmental allocations. For the purpose of endowing with modern, meditative or strategic capabilities, the defense expenses are funded through international body programs such as NATO programs or government-backed foreign government loans contracted with international financial and banking institutions.

The achievement of the budget effort quantifies both the responsibilities of each state and their interest in the modernization of the armed forces. In 2018, for example, according to data presented in the last IIS Report (2019), the global defense spending amounted to over \$1.67 trillion, higher spending been made by Western countries, especially the United States. The European nations contributed to the global trend in 2018, so, after years of reducing spending, most of the NATO's European member states increased their defense budgets by 4.2% in real-terms. When analysing the share of military spending in the GDP, only 4 of the 27 European NATO member states met in 2018 the 2% symbolic threshold: Estonia, Greece, Lithuania and the United Kingdom. In what concerns our country Romania is not far behind, with 1.93% of military expenditures in GDP.

As stated in the literature, in the case of developed countries, i.e. United States, the public opinion influences the government policy in the field of military expenditure. Despite the findings of other researchers, institutions that maintain public control over government may lose their effectiveness. Hartley and Russett (1992) consider that these are solid evidence in line with the hypothesis that public opinion influences government policy, although the requirements of the arms race and budget deficit have been equally important or more influential.

We assume that there are certain economic and social scenarios about the economic situation of a country at a certain time and which are used by government institutions with responsibilities to finance sectors deemed deficient. The military expenditures of a highly developed state and internationally and



world-wide targets, as in the case of the United States, can be relatively short-lived without significant economic consequences.

Clearly, the financing of defense spending as part of public spending is subject to the control of the competent bodies according to their definition and functioning in each country.

In the European environment, in the Netherlands, the management of reform contracts was introduced in a large number of governmental organizations to achieve this goal (Mol, 1996). Thus, the production objectives are based on explicit agreements between the central management units and the decentralized organization units. By mutual consent, these goals would be trusted reference points to assess performance based on the results.

Accounting responsibility should provide the performance measurement techniques required to implement this management of the contract. Specifically, the development of an indicator system for organizational unit activities was to provide the government with the necessary tools. Assessing the effectiveness of funding for input-output ratios calculated from these indicator systems should create an appropriate substitute for price signals in another part of the market. The idea of contract management triggered the development of indicator systems in many governmental organizations, including the national defense (Mol, 1996).

In this sense, we consider that the financing budget control implies an algorithm to build an indicator systems like: allocated budgets, used budgets, achieved results and achieved effects. Moreover, there should be relevant indicators for the activities involved. Practically, it can be noticed that management reports will focus on these deviations rather than on their explanation of any criterion of economy, efficiency or effectiveness. Finally, the relevance and consistency of applied indicator systems allows us to judge the extent to which a pledged commitment to performance control (or contract management) within organizations is accompanied by instructive evidence. While performance controls can be formally recognized, managers in many organizations - both civilian and military - continue to favour internal controls centred on effort and not on results. The deficiencies of the indicator systems used may draw attention to this fact (Mol, 1996).

As shown by Groshek (2000), the funding of defense spending may have shortcomings in method and practice, on how current procedures generate differences between budgeted out-of-US operational expenditure and subsequent payments. We can see the exposure of the army's finance department to fluctuations in exchange rates. Unlike fluctuations in inflation and interest rates affecting general government operations, the fluctuation of the exchange rate imposes additional uncertainty on a set of operational expenditure.

The quantified negative consequences of this risk led to the establishment and maintenance of an insurance fund of the operational budgets of the Ministry of Foreign Affairs. Instead of an ex-post budgetary reaction, the policy maintained a reserve of public funds to offset exchange rate changes. As a result, we can easily

see financing shortcomings, moreover in the ongoing process a formal neglect of exposure to exchange rate fluctuations, which in itself is speculative.

The failure to respond to currency fluctuations entails costs for the finance department in regulating losses through the hedge fund, uncertainty in budget execution and adverse operational effects when funding is limited. Given the consistent exchange rate volatility and a limited understanding of foreign exchange markets, Groshek (2000) shows that the application of forward contracts as a solution offers a means of reducing the uncertainty and the cost of maintaining US military operations abroad.

In our opinion, the financing of military spending on programs is a way of internal as well as external financing in most developed countries and members of military alliances. In the US, for example, as Heo and Bohte (2012) pointed out, there are many other variables that influence defense financing decisions, including the partisan of the president, congressional ideology, unemployment, economic growth, inflation, tax revenues and the size of national debt. In this sense, we note that financing defense programs requires understanding and appreciation of complex permutations between a variety of policies and economic variables. Due to this complex link of variables, attempts to investigate how the governments have funded their defense programs require a common strategy in estimating multiple equations to analyse how military spending was funded through taxes and budget deficits or different monopolies.

As Heo and Bohte (2012) state, the ways in which military spending was achieved has seen two important economic sources of the state, such as taxes, and the budget deficit. The empirical models and the judgments used describe the methods of using sources of financing at macroeconomic level.

The relationship between taxes and defense expenditures is based on the assumption that an increase in defense spending can be funded by raising taxes (Hartley and Russett 1992). According to Deger (1986), defense spending leads to increased levels of defense fees; this, in turn, influences inflation, domestic economies and various other public programs (see also Jog and Mintz, 1989, p. 1291). „Although it is politically difficult to raise taxes during the peace period, the public tends to support tax increases in cases security threats or involvement in war.” In this sense, we can notice that the US government has long relied on taxes as an instrument to finance army expenditures. Also, we believe that most people believe there is a budget compromise between defense spending and welfare spending, such as public health and education (see also Jog and Mintz, 1989). The reason is that increasing defense spending requires a higher level of financial support. This support comes mostly from the civil sector, unless total GDP increases, generating more government revenue (Hartley and Russett, 1992).

In addition to the above-mentioned measures, tax increases and budget compromises, the defense programs can be funded through deficit spending. This approach is likely to be used when tax and tax increases are not a viable option due to poor economic performance. For example, it is noted that to support the war on



terror, defense spending has increased significantly, while taxes have been reduced as part of the Bush administration's plan to boost the economy after the September 11, 2001 terrorist attacks.

A large literature also notes that defense spending is often used to stimulate the economy. According to the Keynesian school of thought, economic recessions arise when the production capacity of the economy is not fully utilized (Heo and Bohte, 2012).

As pointed by Heo and Bohte (2012), we can see that at a time of unprecedented federal spending, the US administration has hired tax cuts in the hope of boosting economic growth. At the same time, democrats are likely to get stuck in misunderstandings the deficit spending at a time when questions arise if foreign nations that already have a large part of US debt have the capacity or the desire to continually finance large budget deficits in future (Schiff, 2009). These points suggest that the way in which the United States uses different fiscal policy instruments to pay for defense spending will be a subject of academic attention for the future.

Taking into account the approaches of the literature, we observe that both the methods and the economic sources for financing defense expenditures are constantly changing in terms of manifestations, but are relatively constant and perennial in regard to sources of origin. We can also notice that, depending on the state of peace, conflict or threat of the country, the structure and dynamics of military expenditures are correlated with the public policies.

Conclusions

Following the analysis, we conclude that the level of national defense expenditure has a different dynamics in correlation with economic growth, public debt, the corruption level at country level and the development stage of the defense industry. This dynamics is complex when the analysis is carried out in peacetime, conflict / warfare, or in the presence of external threats. The defense expenses have a positive influence on economic growth and public debt during conflicts / wars and external threats, while in peacetime it is necessary to correlate their level with macroeconomic indicators.

In our opinion, in what concerns corruption, when the corruption level is high, there is an unjustified increase in the defense expenditures which negatively influence the economic growth and the public debt. A strong argument in this case is the lack of macroeconomic transparency that practically limits budgetary control.

Thus, we consider that the defense industry can positively influence defense expenditures in conflict / war situations or in the presence of external threats when they create a positive impact on economic growth and debt. Moreover, the development of state, regional and international defense capabilities can lead to adequate public and external public spending. At European regional level, defense

spending and the promotion of its funding are relatively underdeveloped in relation to their economic potential and national and regional security objectives.

Funding of internal defense spending is done through the allocation of public or governmental resources, while the external ones through programs of economic organizations and / or military alliances or external credits. The latter influence the growth of public debt. The funding sources can be tightened by methods such as raising taxes and budget funding.

We conclude that there is a strong direct link between defense spending and sources and funding methods: the sources and methods are influenced by the need to adapt defense capabilities to internal and external conjuncture factors. In this respect, it can be noticed that some methods of financing may affect the structure or the size of military expenditure.

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THE INNOVATION EFFICIENCY IN CENTRAL AND EASTERN EUROPE – AN INPUT-OUTPUT COMPARATIVE ANALYSIS BETWEEN CZECH REPUBLIC, HUNGARY, POLAND AND ROMANIA

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Abstract

The aim of this paper is to investigate the innovation efficiency in Central and Eastern Europe by performing an input-output approach using Data Envelopment Analysis (DEA). R&D government spending and total R&D personnel stand for inputs and patent applications and high-tech exports stand for innovation outputs. We performed a comparative analysis between Czech Republic, Hungary, Poland and Romania using a 10 year-time span (2007-2016). We demonstrated that over time the innovation efficiency has improved (both regarding technical efficiency and scale efficiency) in all the four countries under scrutiny. Moreover, our research showed that the most efficient country was Hungary which balanced properly between the efforts of supporting innovation and its benefits due to reaping its positive effects in terms of high-tech exports and patent creation.

Keywords: innovation efficiency, inputs, outputs, Data Envelopment Analysis, comparative analysis

Introduction

In the last decades, innovation has become a central point to create competitive advantage (Barney, 1991), to promote economic development, or to obtain a better performance (Dittrich and Duysters, 2007). The economic literature emphasized the importance of innovation in relation with improvements in productivity, competitiveness and overall economic growth. In a more and more competitive globalized world, the increase of research and development expenditures is a key factor of either a firm's or a country's progress and long-term success (Castano *et al.*, 2016).

Investments in the innovative capacity of a firm or a nation are a must nowadays. A firm needs to innovate not only in products and processes as proposed by Schumpeter's "creative destruction" approach, but in organizational structures and managerial behaviors. As stated in Fotia (2017), Schumpeter's growth theory

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comprises three important thoughts regarding innovation (Schumpeter, 1934): growth is mainly generated by technological innovations, innovations are produced by entrepreneurs who seek rents and profits from them, new technologies drive out the old ones (in his view the growth model is centered on innovations whose aim is to improve the quality of the existing products considered to be obsolete). At a country level, innovation is essential because it contributes to the general well-being of the population, improves administration processes, fosters economic growth, reduces unemployment, and strengthens the national security.

Due to the fact that innovation is a continuously accumulative process, it still triggers the economists' interest, especially in terms of measuring its efficiency in order to obtain better results with the adequate effort.

Therefore, the *objective* of this paper is to investigate the innovation efficiency in Central and Eastern Europe by performing an input-output analysis. The *research hypothesis* assumes that for all the four countries included in the sample, the innovation efficiency has improved throughout time.

This paper is organized as follows. The first section reviews the current literature showing different approaches to the innovation efficiency, then it analyses the variables employed in relation to innovation (such as R&D government spending, total R&D personnel, patent applications and high-tech exports) and it ends with a discussion about the main methods used to measure it. The second section depicts the methodology of the Data Envelopment Analysis (DEA), presenting its advantages and shortcomings compared to the more traditional approach of regression analysis. The third part of the paper provides details about the data set (e.g. the countries from Central and Eastern Europe which are subject to the assessment), the variables and how the DEA method is applied. The results and their interpretation will be presented in the next section, along with the rank of the countries in terms of innovation efficiency. Lastly, in the conclusion section, the final remarks along with the policy implications, the limitations of the study and the directions for future research will be presented.

1. Literature review

1.1. Innovation efficiency and the related variables

Innovation efficiency should be always related to the notion of productivity and to the relationship between the amount of inputs and outputs (the input-output mix). An improvement in the innovation efficiency is when with the same amount of inputs, a greater amount of outputs is generated or when less inputs are necessary for the same level of outputs. However innovation cannot be treated as a linear process where all the inputs are transformed into outputs. Despite of the fact that innovation efficiency originates from production theory and implies that performance is defined as the achievements (output) in comparison to the involved

costs (input), the best approach is to determine the innovation efficiency as an output-input ratio.

As stated in Guan and Chen (2012), efficient National Innovation Systems (NIS) are operating at their production possibility frontier (PPF) or “transformation curve”, which indicates the maximum amount of innovation output that can be produced with a given input. The innovation efficiency of a NIS is measured by the ability to transform innovation input into output and generate profits.

When studying the innovation efficiency of the firms, Hagedoorn and Cloudt (2003) have identified two main types of performance:

- inventive performance (defined as the achievements of firms related to ideas, products, processes, systems, and new devices) - this type of performance is frequently measured using patents;
- technological performance (defined as “the accomplishment of companies with regard to the combination of their R&D input, as an indicator of their research capabilities, and their R&D output in terms of patents” (p. 1367).

In the same vein, Zheng *et al.* (2013) state that innovation performance for a company has two distinct components: on one hand, there is the innovation efficiency (measured by the number of new products released, the novelty and the success on the market of those new products, the development speed of new production) and on the other hand innovation profitability (estimated by the proportion of new product revenue, the improvement of quality, the reduction of cost).

Neither in the microeconomics nor macroeconomics related literature, is there a consensus to the measurement of the quality of the innovation process, and this lack of a homogeneous view is sometimes an impediment to the process of creating more competitive advantages of the innovative organizations (be them firms or countries). However, throughout time, a wide variety of factors were used in order to determine the efficiency of innovation.

The pioneering work of Griliches (1964) and Mansfield (1965) underlined the importance of expenditures in R&D, as a basic input of innovation. The amount of R&D expenditure of a country is a good indicator to quantify its governmental policy towards innovations and economic progress. The higher the R&D expenditures, the more developed a country is. Guellec and Pottelsberghe de la Potterie (2004) continued on the same idea, showing that three sources of knowledge (public sector, local business sector and foreign firms) are significant determinants of long-term productivity growth.

At the same time, both Romer (1986) and Lucas (1988) placed great emphasis on human capital in developing the innovative capacity of a national system, arguing that the economic growth lays on the human capital accumulation (through learning by doing and investments in education). In the same vein, Tappeiner *et al.* (2008) noted that there are three basic inputs (R&D expenditure, human and social capital) that have a significant economic impact on innovation at the regional level of a country. Furthermore, the authors of some studies regarding regional innovation used



either the number of R&D employees (Fritsch, 2003), or R&D employees in relation with the level of highly qualified employees in a certain region (Broekel, 2012), or a complex set of factors including R&D employees (Chen and Guan, 2011). Even if there is a lively debate among economists, the use of R&D employees as an input factor has increased due to the fact that its utilization provides an accurate approximation (when the full data is available) of the resources invested either by firms or countries in the innovation processes.

In terms of outputs, the number of patents seems to prevail as the main indicator of innovation efficiency (see, e.g. Jaffe, 1989; Anselin *et al.*, 1997; Baptista and Swann, 1998; Bode, 2004; German-Soto and Gutierrez Flores, 2013). A patent represents the sole right or the title given by a certain government authority for a set period to exclude others from making, using, or selling an invention. Nasierowski and Arcelus (1999, p. 239) define the external patents generated by residents as “measure of a country’s involvement in international business cooperation and export activities” and the patents generated by a country’s residents as a “measure of the effort of the locals in the investment in solutions for one country’s internal demand”.

Although imperfect because it constitutes only an intermediate output of the innovation process (Acs and Audretsch, 1989), due to the fact that it is the revenues earned from the use of a patent in the production process which represent the final output, it is still viewed as one of the most reliable measures to capture the effect of innovation, usually testifying the innovative capacity of a country (Hu and Mathews, 2005).

Another chosen output that emerges in the economic literature in order to measure the innovation output is the high-tech exports (Hollanders and Celikel Esser, 2007). This measure is appropriate because the high-tech industries undertake more innovation-intensive activities.

As an intermediary conclusion, this sub-section showed that the current literature has not offered yet a wide consensus either on the meaning of innovation efficiency or on the variables which drive the innovation process. The following part concentrates on two different approaches regarding the estimation of innovation efficiency.

1.2. Measurement of innovation efficiency

In terms of methods to better illustrate the innovation performance, this causal relationships between innovation inputs and outputs are often tested through regression models, not by the Data Envelopment Analysis (DEA) - see here Bottazzi and Peri, 2003; Guellec and Pottelsberghe de la Potterie, 2004; Tappeiner *et al.*, 2008, only to name a few. A graphic comparison regarding the advantages and drawbacks of the DEA compared to regression analysis will follow in the next section of this paper.

There are a few articles that use DEA in order to study the effects of the domestic R&D and international spill-overs, but the measurement used is primarily based on trade rather than the patenting activity (Kim and Lee, 2004).

Lee and Park (2005) employ the DEA approach for measuring the R&D efficiency for a set of 27 OECD countries. They used two input indicators (namely R&D expenditures and number of researchers) and three output variables (technology balance receipts, scientific and technical journal articles and triadic patent families). They built a number of six DEA models, one linking all inputs to all outputs and five linking the different inputs piecewise to all outputs (input-specialized efficiency scores) or the different outputs piecewise to all inputs (output-specialized efficiency scores). Then the countries were classified into four clusters based on the output-specialized R&D efficiency: inventors, merchandisers, academicians, and duds.

Another relevant study based on the DEA method was the one carried out by Matei and Aldea (2012). They used the DEA method in order to measure and then compare the performance of the National Innovation Systems of the EU-27 countries plus Croatia, Norway, Switzerland, Iceland and Turkey. The variables used for describing the innovation process were intended to estimate the technical efficiency within this country set.

Guan and Chen (2012) expanded the research, proposing a relational network DEA model intended to measure the efficiency of the National Innovation Systems by splitting the whole innovation process in two sections: an upstream knowledge production process (named KPP) and a downstream knowledge commercialization process (named KCP). Their analysis was performed on 22 OECD countries.

One year later, Kotsemir (2013) provided a broad analysis of 11 empirical studies of the efficiency of the National Innovation Systems in multiple countries using the DEA method. This article is relevant to the literature for the description and analysis of the DEA models used, the country sets under scrutiny, and for the input and output variables in determining the most efficient states in terms of innovation.

In their research, Kou *et al.* (2016) measured the innovation efficiency of the OECD countries using R&D expenditure and R&D personnel as inputs and products exports in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery (on one hand) and the ratio of GDP to total employment in the economy (on the other hand) as outputs.

Even though in the last decades the measurement of the relationship between output and input variables used to be performed mainly by stochastic parametric methodologies such as regression analysis, lately the data envelopment analysis has expanded its scope, being regarded as a very useful tool in assessing efficiency issues.



2. Methodology

The research method used in order to reach the objective of this article (namely to investigate the innovation efficiency in Central and Eastern Europe by performing an input-output analysis) is Data Envelopment Analysis (DEA).

DEA is a non-parametric method which was developed by Charnes *et al.* (1978) to evaluate the relative performance of a collection of similar public sector units which provide multiple services that are not all priced on markets. The main purpose of DEA is to evaluate the performance of Decision Making Units (named DMU) performing a transformation process of several inputs into several outputs.

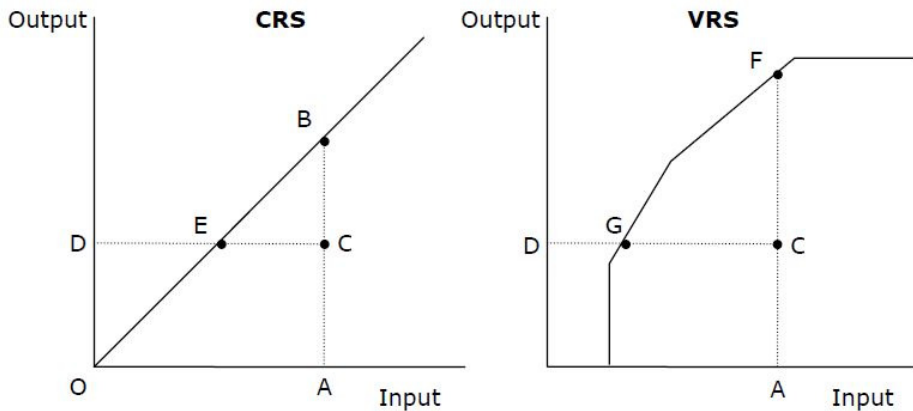
As stated by Sherman and Zhu (2006) DEA is a very powerful benchmarking technique. Although DEA was originally intended for use in microeconomic environments, it is ideally suited for the macroeconomic performance analysis. DEA is an appropriate analytical technique for evaluating the relative efficiency of national innovation system.

This methodology is built on the information regarding inputs and outputs of individual entities in order to construct an efficiency frontier enveloping the data. The DEA model selects a benchmark entity, which lies on the frontier, and measures the efficiency of the other entities related to the selected benchmark. There are two alternatives of this method: either input-oriented or output-oriented. The former minimizes the effect of inputs, the outputs being kept at their current level, whereas the latter maximizes the outputs and keeps the inputs at their current level.

Another approach to DEA is either a constant returns to scale (CRS) technology or a variable returns to scale (VRS) technology. The difference between CRS and VRS is shown in Figure 1. With CRS there is a linear relation between inputs and outputs: outputs increase with the same ratio as inputs. In the VRS model, outputs can increase with a higher ratio, the same ratio, or a lower ratio depending on the respective section of the efficiency frontier. Hollanders and Celikel Esser (2007) gave an easy-to-follow graphical explanation on the difference between CRS and VRS, therefore we will use it in order to depict these two methods.

The diagonal line in the left-hand Figure 1 gives the CRS efficiency frontier, point C reflecting an inefficient country combining below optimal levels of both inputs and outputs.

Following the input-oriented view, one can find out that country C could produce the same amount of inputs OD by using only DE inputs (instead of DC used previously). In this case, the degree of input-oriented innovation efficiency equals DE/DC which is the ratio of used inputs over the minimum inputs that are needed in order to produce the same amount of outputs.

Figure 1. CRS and VRS models

Source: Hollanders and Celikel Esser (2007, p. 7)

On the other hand, following the output-oriented view, country C could produce as much as AB outputs given its level of inputs OA. Consequently, the degree of output-oriented innovation efficiency equals AC/AB , which is the ratio of produced outputs over the maximum amount of outputs that could be produced using the same amount of inputs).

Under CRS, input-oriented and output-oriented innovation efficiency will be identical ($DE/DC = AC/AB$). Under VRS both measures will differ as depicted in the right-hand Figure 1. In the same logic as previously shown, the degree of input-oriented innovation efficiency is equal to DG/DC , whereas the degree of output-oriented innovation efficiency is equal to AC/AF .

The models used in this thematic paper are both input-oriented and output-oriented. Furthermore, we tested the both scenarios: constant return to scale (CRS) and variable return to scale (VRS). Given its assumptions, the CRS scenario may be too restrictive in real life, therefore we followed the VRS approach given its significant amount of information on technical efficiency and allocative efficiency of the selected countries.

The concept of total cost efficiency comprises both technical efficiency and allocative efficiency. Technical efficiency is measured on a scale from 0 to 1 (the larger the value, the higher the efficiency of the input-output combination). When the technical efficiency is 1 one can assume that a specific combination of input and output lies on the efficient isoquant.

The allocative efficiency can be assessed only if the input prices are known, this concept showing the cost-minimizing input mix. The values of the allocative efficiency are bounded by zero and one, as well.

Therefore the total cost efficiency is computed by multiplying technical by allocative efficiency.

The software used to compute data used in this paper was DEAP.



Despite of the multiple advantages of the DEA already depicted in this section, in order to maintain a balanced approach, we must also present the drawbacks of this method (for an in-depth analysis refer to Stolp, 1990). In order to pursue this objective, we designed a comparative analysis (see Table 1 below).

Table 1. Comparison of DEA to regression analysis

Advantages of DEA over regression analysis	Drawbacks of DEA compared to regression analysis
DEA is a non-parametric method, not requiring the user to define <i>a priori</i> a mathematical form of the frontier efficiency	DEA ignores the effect of exogenous variables on the operation
DEA measures performance against efficient rather than average performance	DEA ignores statistical errors
DEA can simultaneously analyze multiple outputs and inputs	DEA does not show ways to improve efficiency
DEA can identify the sources of inefficiency in terms of excessive use of particular resources or low levels on certain outputs	DEA Difficult to perform statistical tests with the results

Source: Thanassoulis (1993) and Jordá *et al.* (2012)

In spite of the shortcomings of DEA, we acknowledge that its advantages best suit our paper's objective, namely the assessment of the innovation efficiency in Central and Eastern European countries under scrutiny, therefore we will confidently use this method for serving the purpose of our analysis.

3. Data and variables

Even though there are more variables used in the literature to measure the efficiency of innovation, we chose to stick to the most common measures following the R&D orientation and human capital approaches (as described in the literature review above). Therefore the variables used in this paper are described in Table 2.

Table 2. Description of the variables used in the DEA model

Outputs	Inputs	Input prices
- patent applications to the European Patent Office (per millions inhabitants)	- R&D government spending (as percentage of GDP)	- total government spending (as percentage of GDP) / R&D spending (as percentage of GDP)
- high-tech exports (measured as exports of high technology products as a share of total exports)	- total R&D personnel (namely, FTE - full time employees; measured in tens of thousands)	- tertiary education (as percentage of GDP) / total R&D personnel (tens of thousands)

Source: own representation

The data was collected from Eurostat and covers a time span of ten years (between 2007 and 2016). Our analysis was performed on four countries: Czech Republic, Hungary, Poland and Romania. Our choice of these four countries lays in their similarities in terms of geographical position and therefore cultural influences (all of them are part of the Central and Eastern Europe), and recent history (we are referring here especially to the communist era and their recent accession to European Union: Czech Republic, Hungary and Poland in 2004; Romania in 2007). The descriptive statistics of the variables used in our model are presented in Table 3.

Table 3. Descriptive statistics of the variables used

	High-tech exports (as share of total exports)	Patent applications (per million inhabitants)	R&D government spending (as share of GDP)	Total R&D personnel (FTE in tens of thousands)	Input price 1	Input price 2
Mean	11.75	14.36	1.02	5.29	76.81	0.22
Median	11.95	16.71	0.98	4.37	74.42	0.20
Minimum	3.00	1.52	0.38	2.60	29.79	0.11
Maximum	22.20	30.19	1.97	11.35	200.00	0.43
Standard Deviation	5.73	8.37	0.46	2.57	32.24	0.08
Observations	40	40	40	40	40	40

Source: own calculations based on Eurostat data

The minimum value registered for the high-tech exports belongs to Poland in 2007, whereas the maximum value is attributable to Hungary in 2009. In terms of patent applications, the minimum value belongs to Romania in 2009, while the maximum is reached by Czech Republic in 2016. Regarding the R&D government spending, Romania invested in 2014 only 0.38% of the GDP in innovation-related activities, while the maximum share of GDP was spent by Czech Republic in 2014. In 2007 Hungary had only 26,000 persons employed in the R&D sector, while in 2016 in Poland worked 113,491 people in this field.

4. Results and interpretation

The database which resulted by pooling together data from 4 countries and across 10 years is a panel-type one. Therefore we can either estimate the frontier efficiency for all the countries during the entire analyzed period (2007-2016) or we can estimate the efficiency frontier on each year. Bauer *et al.* (1993) claim that a higher flexibility is given by building one frontier for each year instead of creating one multi-year frontier. Additionally, building separate efficiency frontiers is important due to the fact that the degree of efficiency can be more easily assessed at every point in time.



As stated previously, we tested the input-oriented and output-oriented approaches for both models (CRS and VRS) in order to compare them.

The first model which was run is the input-oriented approach under the CRS method. The results of this model are shown in Table 4. This model is identical to the output-oriented CRS model, therefore we analyzed only this one, the conclusions being valid for both.

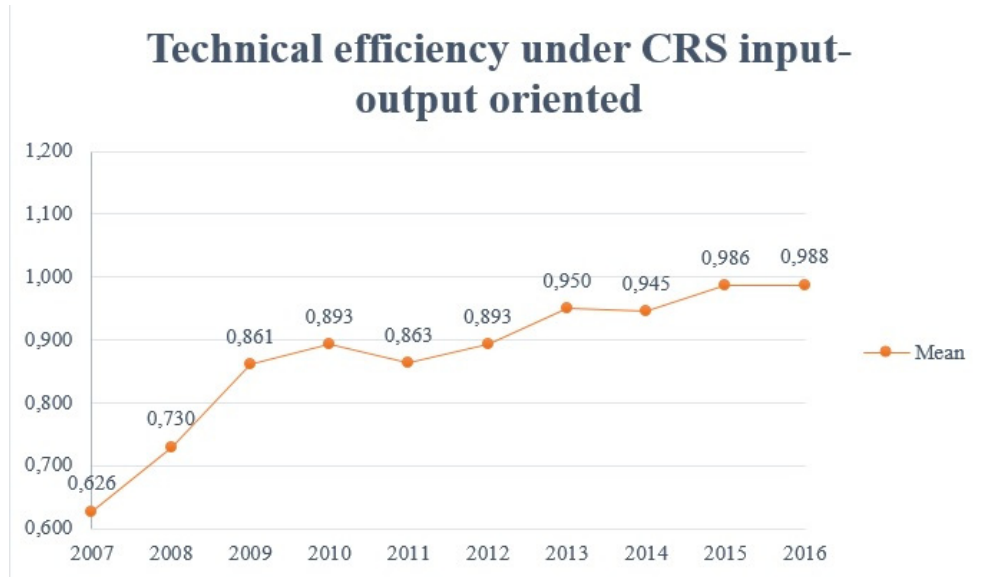
Table 4. DEA results under Constant Return to Scale (CRS) method - input-oriented

		Czech Republic	Hungary	Poland	Romania	Mean
Technical efficiency (TE)	2007	0.718	1.000	0.478	0.309	0.626
	2008	0.888	1.000	0.555	0.476	0.730
	2009	0.805	1.000	0.713	0.928	0.861
	2010	0.802	1.000	0.771	1.000	0.893
	2011	0.731	1.000	0.723	1.000	0.863
	2012	0.747	1.000	0.869	0.956	0.893
	2013	0.798	1.000	1.000	1.000	0.950
	2014	0.781	1.000	1.000	1.000	0.945
	2015	0.949	1.000	0.994	1.000	0.986
	2016	1.000	1.000	0.950	1.000	0.988
	Mean	0.822	1.000	0.805	0.867	0.874

Source: own calculations based on the DEA model with two inputs and two outputs

The only country which is considered to the most efficient under this approach is Hungary - for all the 10 years which are under scrutiny, the technical efficiency equals 1. On average, Romania is placed second (with an average of 0.867) for 2007-2016 period. Czech Republic and Poland are placed last (in this order) with averages of 0.822 and 0.805. These levels of technical efficiency can be explained as follows: for example, Romania is efficient at the level of 86.7% and it could have produced the same level of outputs by engaging 13.3% less quantity of inputs.

However, one important intermediate conclusion is that most of the times during this ten years period, the mean of technical efficiency constantly increased (with only one exception: 2011 compared to 2010) as shown in Figure 2. One possible explanation for this slight decrease can be that short after the start of economic crisis in 2008, during the recovery period which has begun in 2010, the countries did not put such a big emphasis on innovation, but concentrated on other significant measures deemed as appropriate to re-start the economy (e.g. quantitative easing and inflation promoting policies).

Figure 2. Technical efficiency under CRS input-output oriented

Source: own representation based on the DEA model

The second and third models which were developed are following the input-orientation under variable return to scale (VRS). For this approach we used the regular multi-stage DEA model in order to estimate the scale efficiency. The measure of scale efficiency provides the ability of the policy-makers to choose the optimum size of resources, i.e. R&D expenditures, or in other words, to choose the scale of output which will attain the expected production level. Choosing an inappropriate amount of the R&D expenditures (too little or too much) may sometimes be a cause of an inefficiency (this inefficiency can either take the form of Decreasing Returns to Scale - DRS or Increasing Returns to Scale - IRS).

After computing the scale efficiency, we modelled the cost-DEA in order to estimate the technical, the allocative and then the total cost efficiency for our country set. The results for second and third models are shown in Table 5.

Table 5. DEA results under Variable Return to Scale (VRS) method - input-oriented (SE, TE, AE, CE)

		Czech Rep.	Hungary	Poland	Romania	Mean
Scale efficiency (SE)	2007	0.988	1.000	0.478	0.309	0.694
	2008	0.888	1.000	0.555	0.476	0.730
	2009	0.975	1.000	0.713	0.928	0.904
	2010	0.983	1.000	0.771	1.000	0.938
	2011	0.986	1.000	0.723	1.000	0.927
	2012	0.747	1.000	0.869	0.956	0.893



		Czech Rep.	Hungary	Poland	Romania	Mean
	2013	0.798	1.000	1.000	1.000	0.950
	2014	0.781	1.000	1.000	1.000	0.945
	2015	0.949	1.000	0.994	1.000	0.986
	2016	1.000	1.000	0.950	1.000	0.988
	Mean	0.910	1.000	0.805	0.867	0.896
Technical efficiency (TE)	2007	0.724	1.000	1.000	1.000	0.932
	2008	1.000	1.000	1.000	1.000	1.000
	2009	0.825	1.000	1.000	1.000	0.956
	2010	0.816	1.000	1.000	1.000	0.954
	2011	0.741	1.000	1.000	1.000	0.935
	2012	1.000	1.000	1.000	1.000	1.000
	2013	1.000	1.000	1.000	1.000	1.000
	2014	1.000	1.000	1.000	1.000	1.000
	2015	1.000	1.000	1.000	1.000	1.000
	2016	1.000	1.000	1.000	1.000	1.000
	Mean	0.911	1.000	1.000	1.000	0.978
Allocative efficiency (AE)	2007	0.997	1.000	1.000	1.000	0.999
	2008	1.000	1.000	1.000	1.000	1.000
	2009	0.998	1.000	1.000	1.000	0.999
	2010	0.998	1.000	1.000	1.000	1.000
	2011	0.998	1.000	0.993	1.000	0.998
	2012	1.000	1.000	0.999	1.000	1.000
	2013	1.000	1.000	1.000	1.000	1.000
	2014	1.000	1.000	1.000	1.000	1.000
	2015	1.000	1.000	1.000	1.000	1.000
	2016	1.000	1.000	1.000	1.000	1.000
	Mean	0.999	1.000	0.999	1.000	1.000
Cost efficiency (CE)	2007	0.724	1.000	1.000	1.000	0.931
	2008	1.000	1.000	1.000	1.000	1.000
	2009	0.824	1.000	1.000	1.000	0.956
	2010	0.815	1.000	1.000	1.000	0.954
	2011	0.739	1.000	0.993	1.000	0.933
	2012	1.000	1.000	0.999	1.000	1.000
	2013	1.000	1.000	1.000	1.000	1.000
	2014	1.000	1.000	1.000	1.000	1.000
	2015	1.000	1.000	1.000	1.000	1.000
	2016	1.000	1.000	1.000	1.000	1.000
	Mean	0.910	1.000	0.999	1.000	0.977

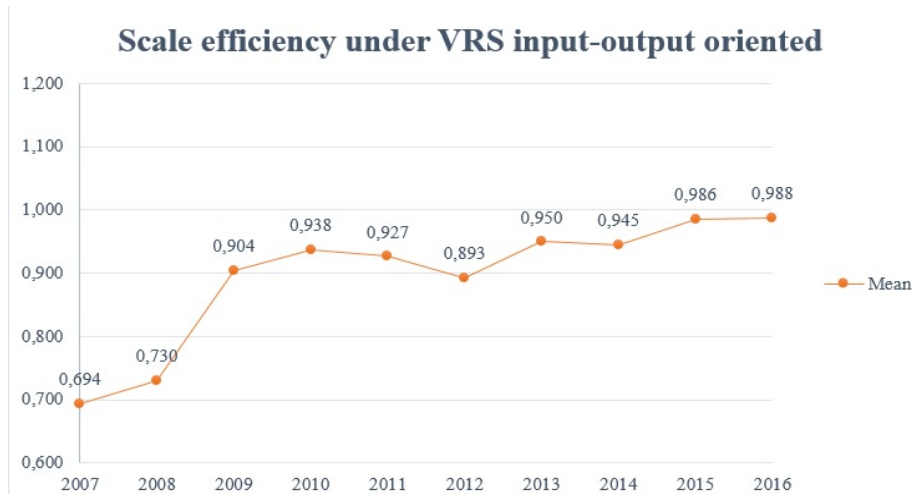
Source: own calculations based on the DEA model with two inputs and two outputs

Hungary ranks first again on all the four types of efficiencies analyzed ($SE = TE = AE = CE = 1$). Czech Republic places second in terms of scale efficiency, but only last when calculating the technical efficiency. Romania has gained the third

place for the scale efficiency (the value being the same as the technical efficiency in the input-oriented CRS model). Poland ranks last in terms of scale efficiency (0.805), but it is fully efficient regarding the technical efficiency.

Overall, differences in scale efficiency scores are quite modest. This means that the countries included in the study operate close to the point that allows them to benefit from scale economies. In the long run, on average, the scale efficiency had an increasing tendency (however, there was a small drop in 2012 compared to 2011) as depicted in Figure 3 below.

Figure 3. Scale efficiency under VRS input-output oriented



Source: own representation based on the DEA model

With respect to technical efficiency scores, the majority of countries (the exception is Czech Republic) is found to be operating close to the frontier. In the same vein, just a significant difference is observed when expressing the allocative efficiency scores; these scores were compared taking into account the inputs prices. The main conclusion which be extracted from these results is that the differences in input prices (namely the ratio of R&D government spending in total government spending, on one hand, and the ratio of tertiary education spending on total R&D employees, on the other hand) are being similar in all the four countries during time.

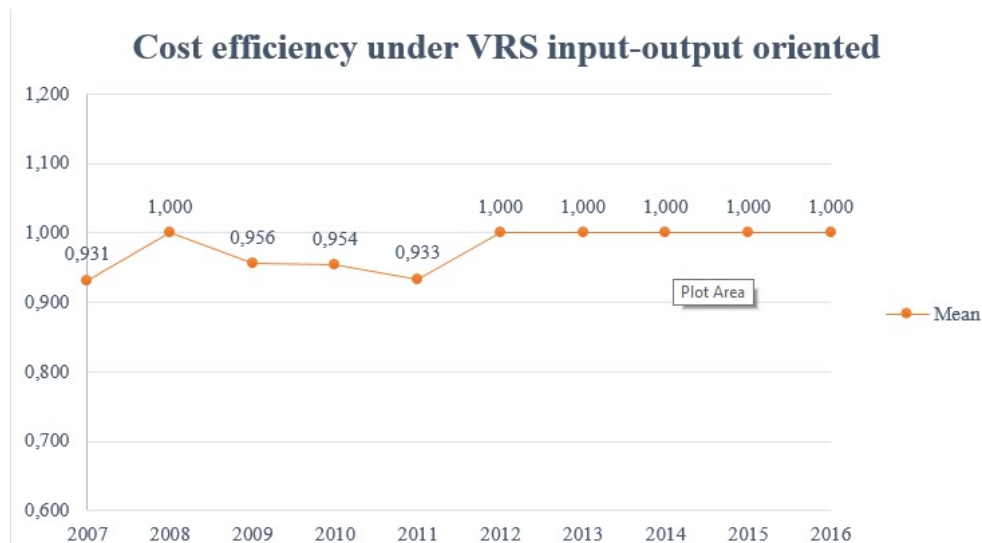
As mentioned earlier in this study, the product of technical efficiency and allocation efficiency scores generated the cost efficiency score. Hungary and Romania are operating on the efficient isoquant, whereas Poland is slightly below. Czech Republic scores on average 0.910, which roughly means that it overemployed inputs, namely it used more inputs than required to get the same level of output.

Moreover, when it comes to cost efficiency, we can split the ten years period analyzed into 3 sections: before economic crisis (2007-2008), during crisis (2009-



2011), and after crisis (2012-2016). The cost efficiency scores increased before the crisis (even reaching their peak in 2008), then strongly decreased during the economic turmoil because the policy-makers changed their focus from the innovation policy to other more pressing economic measures, then reached their peak again starting with 2012 once the economic recovery has started, as shown in Figure 4.

Figure 4. Cost efficiency under VRS input-output oriented



Source: own representation based on the DEA model

The fourth model developed is based on the output-oriented model under variables returns to scale (VRS). This model places a greater importance on maximizing the outputs while keeping the inputs at their current level. For this particular model we computed only the scale efficiency due to the fact that the output-orientation model under VRS is not applicable in cost-DEA. The results obtained are presented in Table 6.

Table 6. DEA results under Variable Return to Scale (VRS) method - output-oriented

		Czech Republic	Hungary	Poland	Romania	Mean
Scale efficiency	2007	0.738	1.000	0.478	0.309	0.631
	2008	0.888	1.000	0.555	0.476	0.730
	2009	0.876	1.000	0.713	0.928	0.879
	2010	0.851	1.000	0.771	1.000	0.905
	2011	0.763	1.000	0.723	1.000	0.871
	2012	0.747	1.000	0.869	0.956	0.893

	2013	0.798	1.000	1.000	1.000	0.950
	2014	0.781	1.000	1.000	1.000	0.945
	2015	0.949	1.000	0.994	1.000	0.986
	2016	1.000	1.000	0.950	1.000	0.988
	Mean	0.839	1.000	0.805	0.867	0.878

Source: own calculations based on the DEA model with two inputs and two outputs

The hierarchy of scale efficiency scores is as follows: Hungary (on the efficient isoquant), Romania, Czech Republic and Poland (the lowest score of 0.805).

Conclusions

The concept of innovation and innovation efficiency in particular which has attracted a series of debates and different views, it is a subject that has become more and more important as a significant contributor of the economic growth of a country.

Despite of the fact that innovation efficiency is not a simple process of employing inputs in order to create a certain amount of outputs using a linear function of production, in this paper we tried to measure the innovation performance using the most common variables selected by the economic literature as being related to this process. Consequently, we used the R&D government spending and total R&D personnel as inputs for innovation, whereas the high-tech exports and the patent applications were regarded as outputs.

The *objective* of this paper (namely to investigate the innovation efficiency in Central and Eastern Europe) was reached by performing an input-output analysis with Data Envelopment Analysis on a set of four countries from the Central and Eastern Europe (Czech Republic, Hungary, Poland and Romania) and a 10 year-time span (during 2007 and 2016). Moreover, the *research hypothesis* was met as well, due to the fact that we demonstrated that with a few exceptions (especially caused by external factors such as the economic crisis), all the four countries included in the sample improved their innovation efficiency throughout time. On top of that, our research showed that the most efficient country (determined by all the four models which we ran) was Hungary which balanced properly between the efforts of supporting innovation and its benefits due to reaping its positive effects in terms of high tech exports and patent creation.

One limitation of the study is the fact that the analysis was performed for four countries with a very similar economic and historic background (all the countries placed geographically in the Central and Eastern Europe, facing the long years of the communist period), therefore no other country with a better performance in terms of innovation efficiency (e.g. Sweden which ranked first in the European Union Scoreboard - see European Commission, 2018) was included in the study. Due to particularities of the DEA method itself, the first step in performing the analysis is searching for the most efficient entity and benchmarking



all the others with that particular entity in order to obtain the full picture of the data set under scrutiny. In our case, Hungary was determined to be the most efficient under all the models run, therefore it became the benchmark entity. However, we have to acknowledge that the Hungary's case is a special one: both the level of inputs and outputs are quite low, this fact generating a higher than normal efficiency score. A particular conclusion which can be drawn from here is that in order to remain an efficient innovator, Hungary has to increase its innovation inputs (namely R&D expenditures and the number of persons who are working in the R&D sectors) and thus experiment a higher economy of scale exporting a greater amount of knowledge (such as a greater share of high-tech exports and more patent applications).

Although there are studies which concluded that Czech Republic is a moderate innovator, whereas Hungary, Poland and Romania are called the “catching-up countries” (see, e.g. Hollanders and Celikel Esser, 2007), our findings show that in terms of efficiency Hungary ranks first, followed then by Czech Republic and Romania both on the second place and then Poland. There are some reasons for this rather surprising top. Firstly, as mentioned earlier, the quite small level of inputs employed by Hungary succeeded to generate a very high output. In fact, on average for the 10 years under scrutiny, the high-tech exports (as a share of total exports) is 18.6% and they are obtained only by hiring 33.200 persons in the R&D field and spending a share of 1.2% of GDP for R&D government spending. At the other end of the spectrum, the high-tech exports of Poland are on average 6.16% of the total exports and they are the result of the work of 90.200 R&D employee (three times more than Hungary) and a share of 0.8% of GDP for R&D related activities. Secondly, even though Romania has on average the lowest levels of inputs compared to the other 3 countries (i.e. 0.47% of GDP devoted for R&D government spending and only 30.200 employees in the innovation sector), it manages to optimize its outputs in order to be more efficient than Poland which has inputs two or three times higher, but the outputs are smaller. Romania and Poland are lagging behind the other two countries in terms of producing patents. A possible cause, as it is detailed in Hollanders and Celikel Esser (2007), is that the countries may still be in a process of replacing national patent applications by EPO patent applications which may explain their low efficiencies regarding the intellectual property. As a direction for future research, it would be interesting to see if this top will maintain the same when assessing the innovation efficiency through parametric methods such as regression analysis, given the fact that the comparison is made against the average performance, not the most efficient country.

In terms of policy-making advice, it can be extracted from our paper that for the countries with high efficiencies it may be more effective to focus on policies intended to increase investments in the innovation inputs. With respect to R&D funding, along with increases in the government funding for this sector, governments should promote fiscal benefits for the companies which invest in basic and applied research and development. These reduction of taxes will incentivize the companies

to be more prone to orientate their capital to such activities. On the other hand, the R&D personnel should benefit from tax deductions on their wages, therefore both companies and governmental agencies hiring scientific researchers are advantaged to sustain more R&D activities. One relevant aspect related to the R&D personnel is that the more skills they acquire (through courses, workshops or international mobility programs), the more efficient their work is. As an intermediate conclusion, if an efficient country wants to increase its output (and its overall performance) it needs to invest in expanding its inputs.

On the other hand, for the countries which are modest in terms of innovation efficiency, the increases in the level of inputs will not necessarily result in better innovation performances. For these countries a more effective approach will be a focused look on the policies aimed at improving their efficiency in transforming inputs into outputs. In this category one may include policies intended to stimulate the demand for innovation in general and processes for supporting innovation in companies.

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THE ROLE OF UNIVERSITIES IN REGIONAL INNOVATION SYSTEMS. ONE-STEP FURTHER IN ASSUMING THE THIRD MISSION?

Diana-Manuela LINA^{*}

Abstract

Universities were identified as key-actors in the process of designing and implementing of S3 strategies (Goddard, J., Kempton, L., 2011). This paper will explore how the regional innovation system approach as an instrumental policy for growth is influencing universities transformation towards assuming the third mission. The main research question is if the active involvement of universities in S3 implementing creates effects on their entrepreneurial potential. I have applied a qualitative research, using a bibliometric research regarding universities role in regional innovation system. Also, in the framework of indicators proposed by Regional Innovation Scoreboard, I assessed the contribution of the universities from North-East region of Romania to regional innovation. The findings of this research are identifying the main challenges universities are confronted with in order to contributing to regional development as part of their third mission.

Keywords: universities, regional innovation system, smart specialization

Introduction

The shift from local influence over global competitiveness in the education and research market can mean overcoming the classic Humboldt's status of the university and exploring the new meaning, built on quantifying institutional responsibility for a constantly changing society. At the beginning of the 21st century, a cultural transformation takes place in the academic environment. This generated in the last twenty years a new institutional model of university (Loprieno, 2018): university autonomy does not reduce the financial dependence on the political environment, the importance of the role increases institutional and thus the institutional goals and strategic plans define the new vision and value system of the organization.

"Entrepreneurial University" is the third mission undertaken by higher education institutions, together with research and education (Etzkovitz, 2013, p. 487). The importance of universities in regional innovation systems is proven by the work for theorisation of its role, during last decades (Gunasekara, 2006, p. 102).

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In the context of regional development, universities can contribute to different ways for economic and social growth. Research and education activities enhance innovation and also improves human capital skills, diffusing knowledge to business environment and promote enterprises development. Gunasekara (2006, pp. 103-104) proposes a conceptual framework of analysing the role of universities in regional innovation systems. This is looking for two types of roles performed by universities: one is based on the triple helix and the other is grounded in university engagement literatures. Therefore, in according with the key elements of the regional innovation system (regional agglomeration, or clustering of industry, human capital formation, associative governance, regional cultural norms) universities can play a generative role and a developmental role (Gunasekara, 2006, p. 104). The generative role is contributing to knowledge capitalisation and capital formation projects, driving of regional innovation strategy, development of university-industry linkages. On the other side, the developmental role lead to entrepreneurial approach, education oriented to regional needs and shaping regional networking.

In the global competition universities have to assume not only a „third mission”, but a „third role”. This role is about maintaining regional innovation systems „smart and effective” (Markkula and Kune, 2015, p. 7).

European Union developed Smart Specialisation as a place-based approach within Cohesion policy, built on the identification and valorisation of regional competitive advantages. The Smart Specialisation Strategies (S3) development is a bottom-up process, bringing up together local authorities, universities, business environment and the civil society. The implementation of long-term growth strategies supported by EU funds requires partnerships and collaborative working of these stakeholders. Universities were identified as key-actors in the process of designing and implementing of S3 strategies (Goddard and Kempton, 2011, p. 14).

On the other hand, the universities are encompassing the third mission of economic development in addition to research and teaching (Etzkowitz and Leydersdorff, 2000, pp. 109-113) and contributing to the regional development is connected to the third mission. The regional contribution to universities defined by European Union's Smart Specialization Platform is focused on the following areas: 1. Business innovation, related to the research function of the university, 2. Human capital development, related to the teaching function, 3. Community development related to the public service role of universities, 4. Institutional capacity of the region, related to its engagement in local civil society (Markkula and Kune, 2015, pp. 10-11).

There is a great interest in exploring the mechanisms by which universities can contribute to the regional development, among them being the following areas of engagement: enhancing regional innovation through research activities, promoting enterprise, business development and growth, contributing to the



development of regional human capital and skills, improving social equality through regeneration and cultural development (Goddard and Kempton, 2011, p. 15).

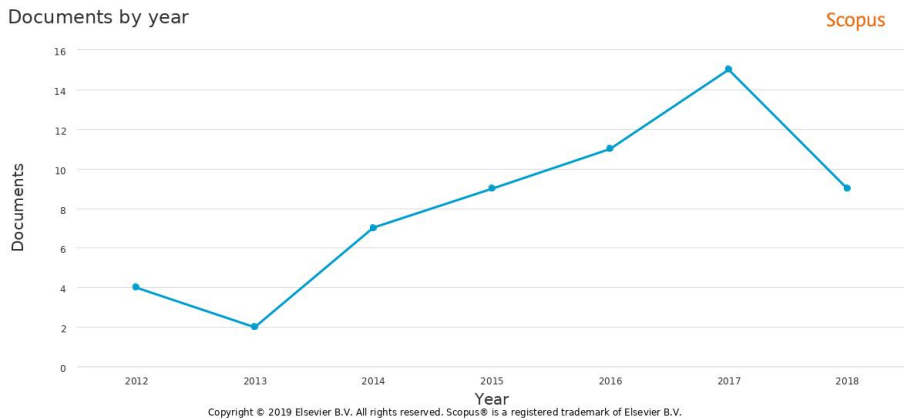
In this context, this paper will explore how the regional innovation system approach as an instrumental policy for growth is influencing universities transformation towards assuming the third mission. The question is if the active involvement of universities in S3 implementing creates effects on their entrepreneurial potential. In order to answer this question, a bibliometric research presents some of the universities' role in regional innovation system.

Another approach to answer is using the framework of indicators proposed by Regional Innovation Scoreboard. It is known that the more developed regions are associated with high innovation scores. All the development regions of Romania are "Modest Innovators", according to Regional Innovation Scoreboard 2017. The measurement framework of the Regional Innovation Scoreboard 2017 includes indicators grouped into four main types: framework conditions, investments, innovation activities and impacts. This measurement approach is reflecting to some extent the engagement of universities in regional development. The research will analyse the influence of research activities towards regional innovation performance using group of indicators included in the Regional Innovation Scoreboard.

1. Exploring the relationship between university and regional innovation system- a literature review

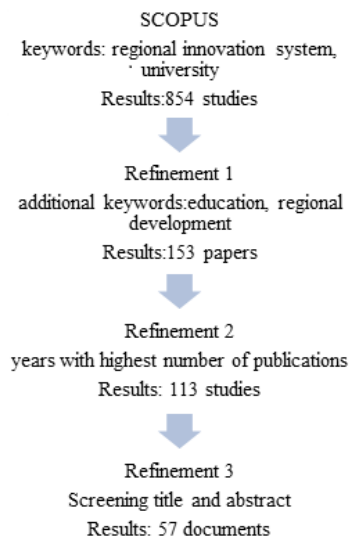
Previous research in the field can offer the frame for selecting the main ideas highlighting the relationship between university, its entrepreneurial characteristics and regional innovation system. In this regard, a search on SCOPUS was made using the key words: "regional innovation system" and "university". Then the search was refined, using the words "education" and "regional development".

For the period between 1982-2001, the results indicated only 3 studies. The most prolific period for the studies of interest was 2012-2018, as shown in the graph below.

Figure 1. Documents per year, using the key words

Source: SCOPUS

The steps pursued in the study selection are illustrated below:

Figure 2. Study selection

From the final refinement process, the result is a list of 57 studies, from which were extracted the following 15 articles relevant for this paper.



Table 1. Main aspects regarding relationship between university and regional innovation system incorporated the reviewed literature

Author	Relevant relations between university and regional innovation system
1. Ponsiglione <i>et al.</i> , 2018, pp.1-19	Main achievements in the theoretical perspectives of RIS (Learning region, Smart Specialisation, Ecology of Innovation, Complexity Science); introduces a model (CARIS) using Complex adaptive systems approach in RIS analysis. The decline of innovation performance during 2011-2017 in the EU regions, assessed by the Regional Innovation Scoreboard proves the distance between theoretical approaches, approved measures and related regional performance.
2. Hauge E.S. <i>et al.</i> , 2018, pp.485-503	The ability of HEIs to operate independently of firms and to adapt their teaching and research activities to regional potential and demands.
3. Budyldina (2018, pp. 265-277)	„National and regional programs and policy measures at stimulating the establishment of university-industry links and cater to the financial motives of local firms (co-financing of research projects by government, cutting costs, tax benefits, etc.) would create a market for academic research and innovation and provide a fruitful milieu for entrepreneurial universities.”
4. Barra and Zotti (2018, pp.432-457)	Using a Stochastic Frontier Analysis a number of factors were found having a positive impact on RIS efficiency: Population density has a positive effect on innovation performances with impact on R&D activities area more urbanized; RIS performances are found to be influenced by the labour market and firm characteristics; innovation performances seem to be positively influenced by the rate of employment and by the presence of firms with high values of exports; RIS performance is positively affected by the share of employees in industry sectors; the evidence also suggest; the existence of an intermediation structure between knowledge producers and firms, such as universities’ technology transfer offices, has an important role on the innovation process.
5. Gomez and Doloreux (2018, pp.78-107)	A bibliometric analysis searching for new possible stakeholders, beyond universities and enterprises. Interaction between different organizations within a region regarding production and dissemination of knowledge is influencing the innovative performance.
6. Pasciaroni <i>et al.</i> , 2018, pp.88-112	Explores the factors conditioning the relation between knowledge organisations and firms in a medium-size city in Argentina; recommendations for state policies in the field in order to support the individual researchers with a predisposition to link with the productive sector and also to encourage innovation in strategic fields, for increasing the demand for knowledge.
7. Gjelsvik (2018, pp.10-31)	Universities can contribute to create new paths for regional development through collaboration with regional industry.

Author	Relevant relations between university and regional innovation system
8. Karlsen <i>et al.</i> , 2017, pp.463-479	Higher Education Institutions as instruments for regional development are engaging in their host region mainly through their first mission, teaching.
9. Baycan <i>et al.</i> , 2017, pp.1-14	There is a need for investigating more closely of the connection between local R&D, local knowledge creation and local innovation, from a spatial approach in terms of networking.
10. Cervantes (2017, pp.27-42)	Demand for their knowledge is the successful key of universities' contribution to innovation. There is a need for local policies of encouraging universities to maximise the knowledge spillovers. Place-based policies for supporting innovation and knowledge transfer are really justified.
11. Lombardi <i>et al.</i> 2017, pp.130-145	Different environmental factors such as „social values, individual attributes and government investments” can determine universities to adopt innovative way of teaching entrepreneurship, which influence the development of regional innovation systems
12. Isaksen and Trippel (2017, pp.122-140)	Combine the different approaches of RISs types the STI (science, technology, and innovation) mode and the DUI (doing, using, and interacting) mode with types of knowledge linkages in order to reflect spatial dimensions of knowledge generation and transfer in the innovation process. Different influence of universities on regional high-tech growth mainly reflects „differences in the local supporting infrastructure and culture for entrepreneurship”.
13. Culkin (2016, pp.4-16)	Universities are anchor institutions („organisations at the heart of a local regional community that have a clear social purpose and are able to offer a range of formal and informal support and guidance to local SMEs”) within RIS. Universities play an important role in shaping the development of skills in the regional economy.
14. Brenner and Duschl (2015, pp.103-130)	Knowledge of causal relations in regional systems of technological activities depend on the industry under consideration and its knowledge base-this is important for policy formulation.
15. Smith <i>et al.</i> 2014, pp.341-359	Institutional structures of the RIS change as a result of the environment for spin-offs developing, which is consequently reflecting the interdependencies between universities and the region (results based on study of university-related companies in London, involving 12 of London's 42 higher education institutes (HEIs).

Source: own development



2. Regional Innovation and Universities

2.1. Smart specialisation and Entrepreneurial Discovery Process

European Union defined Smart Specialization as an important process aimed at enhancing Innovation in Europe's Regions. In this policy context, each region must identify the region's specific strengths and comparative assets and prioritize research and innovation investment in competitive area. In 2010, European Commission request the national and regional governments to explore and valorize their competitive advantages and to develop Smart Specialization Strategies (RIS3)¹.

Smart Specialization concept was initially designed to address the main problems related to the fragmentation of public research system, unable to complete independently on a global scale and the scattering of the resources across European Research Areas, as a result of the research duplication work². Bringing together research community, business, higher education, public authorities and civil society, Smart Specialization is a place-based process. Its goal is to identify the strategic areas for intervention based both on the analysis of the strengths and potential of the economy and on an Entrepreneurial Discovery Process (EDP) with wide stakeholder involvement.

The smart specialization approach supports the necessity of anchoring the innovation policies in local R&D environment.

Other opinions on RIS approach consider in globalizing learning economy RISs cannot any longer be conceptualized as regional phenomena but should be understood as local nodes in globally distributed knowledge networks (Asheim *et al.*, 2005).

Universities have new additional roles in the economic development of region and countries (Uyarra, 2008, p. 8). Smart Specialisation is particularly addressing HEIs through the following specific elements: entrepreneurial discovery process, the specific R&D and innovation sectors within the regional economy which can generate competitive advantage, more interest in exploring the different specialisation within European Union regions and trans-regional networking for new technologies development (Goddard, *et al.* 2013, pp. 80-101).

Entrepreneurial discovery (EDP) process lies at the core of RIS3, as Aranguren (Aranguren *et al.*, 2018, pp. 451-461) close after investigating the recent approaches on EDP: a process "that can be built with evidence-based analyses" (Gyanelle, Kyriakoua and Cohen, 2016, cited in Aranguren *et al.*, 2018, p. 451) and "through the combination of bottom-up and top-down processes" (Kleibrink, Larédo and Philipp, 2017; Kroll, 2015, cited in Aranguren *et al.*, 2018, p. 451).

¹ See COM(2010) 553 final "Regional Policy contributing to smart growth in Europe 2020.

² See https://ec.europa.eu/regional_policy/sources/docoffic/2014/swd_2017_264_2_en.pdf.

Infrastructure in RDI, innovations, patents, researchers are one of the categories of influence factors included in the theories of endogenous economic growth (Zaman *et al.*, 2015, p.154). Universities are central institutions in the regional development, as main provider of knowledge and human resources with high qualifications and from this position.

Cervantes (2017) considers that HEIs are important for innovation, becoming “central actors in innovation systems” for the following reasons:

- They play a mediating role between capital and labour in economic growth
- They can contribute to the technological progress by increasing the efficiency of research activities, and thus increases the stock of knowledge capital
- Embracing the “third mission” HEIs are contributing to local economic development
- They are large employers and provide services to regional companies and public agencies

The challenges for HEIs in promoting regional engagement and innovation are related to correlation between regional policies and the territorial dimensions of research policies. The national research funding which is provide little support for regional engagement often reflects the lack of a territorial dimension of the research policy (Cervantes, 2017).

The first Regional Innovation Strategy - RIS for North East region was developed since 2008, by the North East Regional Development Agency- the organization with legal attributions³ in Romania for regional strategic development coordination. Approved in 2014 and currently in a review process, RIS3 North-East is designed as a necessary tool for delivering effective investment in research, development and innovation.

Higher Education Institutions (HEIs) were directly involved in this development, through the Entrepreneurial Discovery Process. The governance structure of S3 is also including HEIs, as following: they are members in Regional Innovation Consortium (the main coordinating structure for S3 governance) and in the Academic Task Force (the structure with advisory role in S3 governance).

Which would be the most efficient ways of coordinating the innovation policy in the regional context? Aranguren (Aranguren *et al.*, 2018, pp. 451-461) analyse the opinions about governance possibilities of science, technology and innovation. From usual hierarchies in the past to formalized networks, some considers that “national government need to have well-developed, permanent machinery for co-ordination” (Metcalf, 1994, cited in Aranguren *et al.*, 2018, p. 452). On the opposite, not always the formalized vehicles for coordinating of science, technology and innovation governance, are the most effective (OECD, 2011, cited in Aranguren *et al.*, 2018, p. 452).

³ See Law 315/2004 on Regional Development.



2.2. The Third Mission and Innovation

The evolution of the university is increasingly associated with its contribution to the economic progress of society: the institution needs to interact with the private sector and public administration in order to guide the evolution of the community towards innovation, competitiveness and sustainable development. External circumstances related to the role of education and research on the economic and social environment require new changes, such as creating structures that facilitate technology transfer and allow and promote commercialization of research results.

Why did the behaviour of universities change? Elizabeth Popp Berman in „Creating the Market University. How Academic Science Becomes An Economic Engine „considers two perspectives that have generated the change (Popp Berman, 2012). The first is that the government has encouraged universities to regard academic science as a valuable economic product. The second is that the spread of a new idea - scientific and technological innovation serves as the engine of economic growth - has been critical to this process, first turning development policies and, ultimately, how universities understand and define their mission. It should be noted that these changes have not occurred by reducing resources, so that universities are forced to try to make money from their research. The author believes that the idea of Schumpeterian origin, according to which innovation leads to economic growth, became increasingly influential among policy-makers in the late 1970s. The consequence is the creation of public policy proposals aimed at strengthening innovation.

Universities become more entrepreneurial to compete and become more productive and creative in establishing links between education and research (Kirby *et al.*, 2011). Along with traditional missions, teaching and academic research, a third mission emerged for universities as a result of their increasing role in social and economic environment. Carrión *et al.* 2012 consider two approaches in defining the third mission: the “Triple Helix” model of university-industry-government relations (Leydesdorff and Etzkowitz, 1996, cited in Carrión *et al.*, 2012, pp. 1218) and the definition which outlines the activities related to generating and exploitation of knowledge and “other university capabilities outside academic environments” (Molas-Gallart *et al.*, 2002, cited in Carrión *et al.*, 2012, pp. 1218). The “Triple Helix” model articulating the resources specific to the three types of organizations aims at finding new elements of knowledge, developing new technologies that are disseminated to potential users. To succeed in innovation, companies in different industries need continuous contact with universities or their involvement in business activity, a finding that is supported by empirical studies from several countries (Freeman and Soete, 1997).

Another opinion taken into consideration is the perspective related to the tasks of the university. There is a “need to define another mission from the complexity of tasks” (Cross and Pickering, 2008; Daxner, 2010; Goddard and

Puukka, 2008; Mahrl and Pausits, 2011, cited in Pausits, 2015, pp. 270). There is also “the need for greater contextualization of research and opening in the direction of the markets” and society (Gibbons *et al.* 1994, cited in Pausits, 2015, p. 271).

The trend of decentralization, transfer of responsibilities from the central level to local levels has given universities the freedom to redefine their mission. Entrepreneurial response has become a necessity for universities that want to be a viable component of the fast-growing world of knowledge (Clark, 2001).

In this context, the entrepreneurial component is a new dimension to the university that meets the third mission. The term „entrepreneurial university” was first used by Burton Clark (1998a) in his book „Creating Entrepreneurial Universities: Organizational Pathways of Transformation.” Lazzeroni and Piccaluga analyze the course of universities towards an entrepreneurial model characterized by their direct involvement in the exploitation of research results, more intense collaboration with industry and involvement in regional economic development (Lazzeroni and Piccaluga, 2003). Assessing the challenges of HEIs in achieving the third mission, Rubens, Spigarelli, Cavicchi and Rinaldi, 2017, saw that smaller universities implementing the third mission gives to the economic development a more regional or local approach (Rubens *et al.*, 2017).

3. Research Methodology

The main research question is if the active involvement of universities in S3 implementing creates effects on their entrepreneurial potential.

The research methodology is based on a qualitative approach, using an analysis in terms of universities’ contribution to regional development. In the framework of indicators proposed by Regional Innovation Scoreboard, the analyse assessed the contribution of the universities from North-East region of Romania to regional innovation. The methodology is designed to look for a set of indicators from all of the 8 development regions in Romania, relevant for universities contribution to regional development. The selected indicators also reflect the capacity of HEIs to assume the third mission, that is to be able to adopt the entrepreneurial approach and to become a knowledge provider for regional economy. Universities can influence regional economic growth by disseminating their knowledge to the private market. The entrepreneurial university is defined by activities that can generate entrepreneurship such as patenting, licensing, creating new companies, facilitating technology transfer through incubators and science parks and facilitating regional economic development (Rothaermel *et al.*, 2007, pp. 707).

In this context, the analysis is looking for identifying the regional differences within the countries, but also to look for best performances from Europe and take them as a benchmark. Regional Innovation Scoreboard is a tool derived from the European Innovation Scoreboard aiming at performance assessment of regional innovation systems, across the European Union states. 27 indicators grouped into



four main types – Framework conditions, Investments, Innovation activities, and Impacts, and 10 innovation dimensions, measure the performance in innovation. Regional Innovation Scoreboard for 2017 is using the same measurement framework as European Innovation Scoreboard (EIS), but is limited to using regional data for 18 of the 27 indicators used in the EIS.

Measuring regional innovation performance emerged as a result of the importance given to regions, the “engines of economic development” in European Union. Regional Innovation Systems need better monitoring, therefore Regional Innovation Scoreboard provides the statistical facts reflecting region’s profile in innovation.

The RIS framework is grouping Europe’s regions into four innovation performance groups, according to their performance on the Regional Innovation Index, relative to that of the EU. This groups are: the Innovation Leaders, the Strong Innovators, the Moderate Innovators and the Modest Innovators. Their performance on innovation varies between more than 20% above the EU average (for the Leaders) and below 50% of the EU average (for the Modest group).

The regional performance is evaluated based on the indicators presented in the table below. The selected indicators for the present analyse are also indicated in the same table.

Table 2. Regional Performance Indicators

Regional Performance Indicators	Selected Indicators
Population having completed tertiary education	✓
Lifelong learning	✓
International scientific co-publications	✓
Most cited scientific publications	✓
R&D expenditures in the public sector	✓
R&D expenditures in the business sector	✓
Non-R&D innovation expenditures	✓
SMEs with product or process innovations	✓
SMEs with marketing or organisational innovations	✓
SMEs innovating in-house	✓
Innovative SMEs collaborating with others	✓
Public-private co-publications	✓
EPO patent applications	✓
Trademark applications	✓
Design applications	✓
Employment in medium-high tech manufacturing and knowledge-intensive services	
Exports of medium-high technology-intensive manufacturing	
Sales of new-to-market and new-to-firm innovations in SMEs	

Source: European Commission, The Regional Innovation Scoreboard report, 2017

The data collected from the Regional Innovation Scoreboard webpage are referring to 2017, the most recent available report. The qualitative approach consisted in analysing the selected indicators, relevant for Romanian universities, included in the above report for 2017 and identifying their main challenges within the contribution to regional innovation, particularly to implementing the Regional Smart Strategy (RIS3). On the other hand, secondary data from official sources (North East Regional Development Agency, Eurostat) were used for empirical analysis carrying out.

4. Results

Using Regional Innovation Scoreboard we find a comparative assesment of 220 regions within European Union, Serbia, Norway and Switzerland.

Europe's regions have been classified into regional Innovation Leaders (53 regions), regional Strong Innovators (60 regions), regional Moderate Innovators (85 regions), and regional Modest Innovators (22 regions).⁴

North-East region is one of the Romania's and European Union's lagging regions.

The selected indicators reflecting research and education contribution on the innovation dimensions are presented below:

Table 3. Research and education contribution on the innovation dimensions

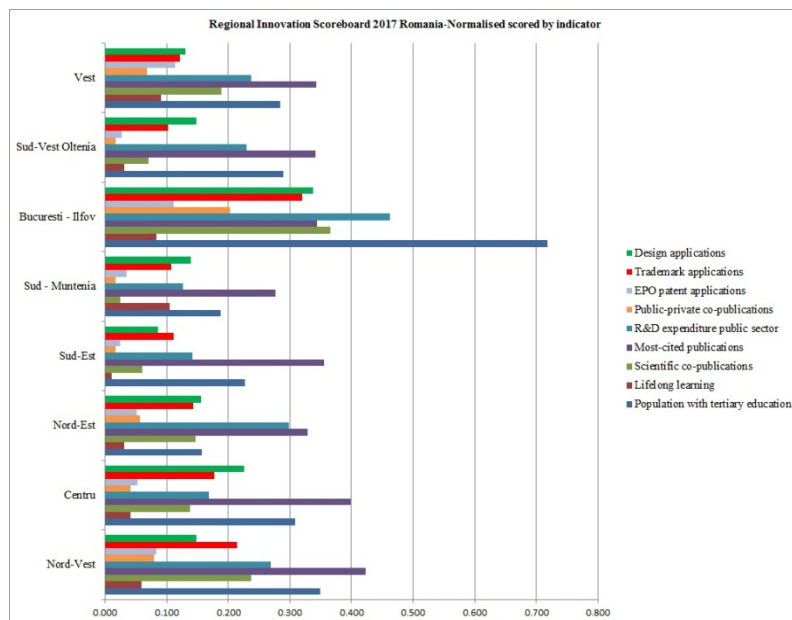
Innovation Dimenssion	Indicators
Framework Conditions	Population aged 25-34 with tertiary education
	Lifelong learning
	International scientific co-publication
	Most-cited co-publication
Investments	R&D investments in the public sector
Innovation activities	Public-private co-publications
	EPO patent applications
	Trademark applications
	Design applications

Source: Regional Innovation Scoreboard Report, 2017

Nord-Est region of Romania is a Modest innovator, compared to the country, and also the EU. Comparative to country, the region has the lowest score for population with tertiary education, and among the lowest scores for life-long learning indicator. An advantage is high score for R&D expenditures, second place after București-Ilfov region. The figure below illustrate the scores for above selected indicators, for each of the development regions in 2017.

⁴ Read more at https://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en.



Figure 3. Regional Innovation Scoreboard 2017 Romania

Source: own representation

According to the objectives of Europe 2020 Strategy, E.U. will allocate 3% of GDP to R&D activities. Eurostat data shows, that even if in 2016 the Gross Domestic Expenditure on the R&D in the EU-28 increased with 0.4% comparative with 2015, the gap between EU and USA remains. In this regard, for 2015 the level of expenditures was equal to two-thirds (66.6 %) of that recorded by the United States. Research and Development Intensity (defined as a R&D as a percentage of gross domestic product).

The highest R&D intensity in EU-28, in 2016, is in Sweden (3,25%) and Austria (3,09%). Together with Cyprus and Latvia, Romania is characterized by smallest ratios in EU (with less than 0.5% R&D intensity, according to Eurostat data for 2016).

If we correlate this information with Regional Innovation Scoreboard for 2016 and 2017 results, we see that Stockholm region in Sweden is the most innovative region in European Union. Also, Austria has two regions (Südösterreich and Ostösterreich) situated in top- 3 Strong Innovators.

From exploring of official statics, some relevant data for Regional Innovation System of North- East development region of Romania are presented below:

-With a population of 3,221,183 inhabitants, as of 2018 (Eurostat, January 2018), representing 16.49% of the total population of the country, the North-East Region has the largest number of inhabitants among the eight development regions.

-The North-East Region has the lowest GDP per capita among all the Romanian regions, with €5,900 per inhabitant as compared to €9,600 in Romania as a whole and just 39% of the EU average (Eurostat, 2017).

The region is considered a large higher education community, with local HEIs having high positioning in the national rankings. The region educates 13% of the national population enrolled in HEIs by using 18% of the country's teaching staff (Marinelli *et al.*, 2017).

During 2014-2016, from the analysis of the regional context regarding the R & D sector and the innovation potential for the period included in the "Regional Framework Document for the Strategy for Regional Research and Innovation through Intelligent Specialization NORD-EST", there are some aspects specific to the region, such as:

- public universities are leaders in terms of both student enrolment and research „production” and are the only ones that benefit from institutional public funds;
- higher education institutions (compared to other public research organizations) annually conclude most major research agreements with regional firms (approximately 65 per year between 2014 and 2016);
- there is a growing tendency for consultancy agreements with regional firms;
- the ability to transfer inventions to the economy and to capitalize on them is rather low;
- the limited motivation to set up spin-offs founded by faculty members, with only two such structures in the region, one explanation being that the legal framework in place in Romania is quite unclear.
- positive dynamics of centres of excellence and higher education research in the region (12 centres of excellence and 79 research centres were created after 2007);
- the presence of 9 regional clusters, most of them are affiliated to the Cluster Association of Romania (CLUSTERO).

The North-East region of Romania was one of the case studies included in the project Higher Education and Smart Specialization (HESS). The project developed for one year starting with 2016, by Joint Research Council (JRC) of European Commission, was concentrated on exploring the contribution that Higher Education Institutions (HEIs) can have on Smart Specialisation Strategies (S3). The JRC Report regarding the North East region outlines for HEIs both challenges related to S3 achievement and support activities to be developed in S3, in the context of a region with an early stage of the regional innovation system. (Marinelli *et al.*, 2017).

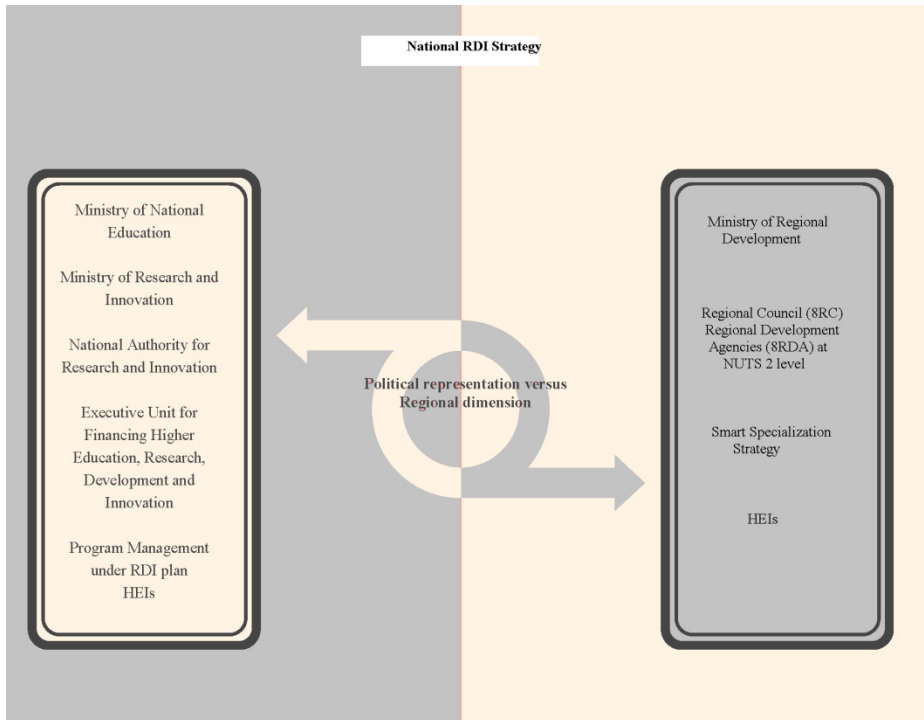
Relevant for this study, here are some challenges for HEIs concerning development of S3, included in the above Report:

- The main educational policy drivers are Ministry of Education and Ministry of Research and Innovation, top decision makers representing a higher education system strong centralized on the national level; on the other side, the eight development regions of Romania have only an administrative role, with limited



power in the field of education, research and innovation policies. These development regions are subordinated to Ministry of Regional Development and Public Administration. Therefore, there is a “fragmentation of the governance of regional innovation system” (Marinelli *et al.*, 2017) which generates specific challenges for achieving S3 (figure 3);

- The universities in the region are supporting smart specialization process mainly through teaching activities, which are connected to the regional innovation needs. However, the competencies for entrepreneurship have not enough representation in the curricula. They agreed on the demand for entrepreneurship and business management courses;
- Technology transfer activities are low developed. Universities have not improved yet the administrative capacity for supporting technological transfer activities. On the other side, the university-industry collaboration is at the beginning, as the region is in it's early regional innovation development, therefore the channels for knowledge exchange must be improved;
- Continuous education and long-life learning is a critical subject for achieving S3 in the region. HEIs must adapt their teaching activities in order to respond to the workforce needs and develop new competencies;
- There is a need for social engagement with business communities when designing the study programmes. Developing master studies addressing S3 priorities would be beneficial for graduate's access to labour market;
- There is no specific funding for research activities within S3 priority areas. Intra-regional and interdisciplinary collaboration among HEIs are important in the context of demands of S3 priorities related to the social and economic facts;
- Legislative, economic and cultural factors are the main barriers identified by the universities related to development of the technology transfer activities in the region, as following:
 - Legislative: even if the national education legislation provides technology transfer among the HEIs missions, there is no state funding allocated for these kind of activities;
 - Economic: the low-tech character of the local/regional economy and also the lack of the awareness of regional firms about potential benefits of engagement in knowledge transfer activities;
 - Cultural factors related to low capacities of HEIs in applied research and on the other side, the business culture of companies, which prefer ready-made solutions.

Figure 4. Political representation versus Regional dimension in North-East S3

Source: own representation

S3 priorities in North-East Romania are the result of a direct involvement of HEIs in the region to identification and selection of priorities, throughout the Entrepreneurial Discovery Process (EDP). The NE Romania S3 is based on horizontal and thematic (vertical) priorities, as presented in the Table 3.

The effects on the entrepreneurial potential of the universities involved in S3 implementing can be estimated using the structuring of third missions activities into three dimensions (Carrión *et al.*, 2012, p. 1219)

The three dimensions which are characterizing third mission activities are: Continuing Education, Technology Transfer&Innovation and Social Engagement.

Continuing Education is including „all learning activities undertaking through life, with the aim of improving knowledge, skills and competences with a personal, civic, social and/or employment related perspective (European Commission, 2001, cited in Carrión *et al.*, 2012, p. 1219).

Technology Transfer&Innovation is related to „the movement of an idea, tacit knowledge, know-how, technical knowledge, intellectual property, discovery or invention resulting from research carried out at universities into a non-academic environment, where it can lead to social and commercial benefits at local, regional, national or global levels (Carrión *et al.*, 2012, p. 1219).



Social Engagement is referring to “the role of universities to engage with its civic, cultural, industrial and business communities and the main activities that the university organises aimed to society at large or to specific sectors of the society to enrich them on the cultural or developmental field” (Carrión *et al.*, 2012, p. 1219).

The main smart specialization fields for North-East Region of Romania, included in S3 are: Agrofood, Biotechnologies, ICT, Textiles and New materials, Tourism, Environment. These are connected to “third mission” dimensions: Continuing Education, Social Engagement, Technology Transfer&Innovation. Therefore, S3 priorities are related to all three dimensions above described, which are characterizing third mission of the universities (see Table 4 in the Annex).

Conclusions

The Regional Innovation Scoreboard proved that performance over time changes. The assesment provided by Regional Innovation Scoreboard (2017 Report) shows that Nord-Est region of Romania is a Modest innovator, compared to the country, and also the EU. On the other hand, the North-East Region has the lowest GDP per capita among all the Romanian regions and just 39% of the EU average. Despite of the low level of economic development, the region has an important endogenous potential given by the demographic profile, but also by the research development field.

Although universities made efforts to adapt after 1990 to a new role as RDI players, the links between universities and industry remain weak. Taking into consideration the chronic underfunding of research, R&D activities in the academic environment depend only on project funding.

Higher Education Institutions (HEIs) were directly involved in S3 development, through the Entrepreneurial Discovery Process. The governance structure of S3 includes HEIs. Still, the separation between political representation and regional dimension in governance of regional innovation system, could generate challenges in achieving S3 objectives.

A series of legislative, economic and cultural factors were identified by the universities as the main barriers to development of the technology transfer activities in the region: no funding allocation for technology transfer activities, the low-tech character of the local/regional economy, low capacities of HEIs in applied research and on the other side, the business culture of companies, which prefer ready-made solutions.

Universities can support the regional innovation in general and S3 (RIS3) in particular by fulfilling education and research missions but also their „third mission”.

HEIs would increase the impact of their third missions if they integrate the regional dimensions into their education and research activities and engage more actively with civic, cultural and business communities.

Universities involvement in Regional Smart Specialization process can improve their capacity of assuming the „third mission”, through activities mainly centred on the following dimensions:

- Continuing education, by providing life-long learning services to meet workforce needs,
- Technology transfer and innovation, by improving their administrative capacity for technology transfer activities,
- Social engagement, by participating in decision-making together with local administration, but also by collaborating with business community.

North-East regional S3 priorities indicates that universities in the region can create regional innovation and development through their third mission achievement, therefore, there is a positive effect on their entrepreneurial potential. The main limitations of the study are related to a restricted approach for conceptual insights into regional innovation systems and contribution of universities' to smart specialization process.

Future research should address a more detailed analyses of the strong decline in innovation performance of North-East Region of Romania and how universities can contribute to gap reducing.

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Annexes

Table 4. North-East S3 Priorities and „Third Mission” dimensions

Horizontal Priorities	Vertical Priorities	S3 Result Indicators	Dimensions related to “third mission” supporting S3
Horizontal Priority 1 Development of Innovation competencies developing among new generation Measure 1.1 Promoting partnerships between regional education institutions to synchronize training offer with the current level of innovation in smart priority areas Measure 1.2 Promoting partnerships with regional education institutions to develop extracurricular activities, promoting creativity and innovative attitudes Measure 1.3 Promoting partnerships with regional education institutions to develop extracurricular activities, promoting creativity and innovative attitudes	Agrofood Biotechnologies ICT Textiles and new materials Tourism Environment	Number of functional „curricula partnerships” in the region in smart domains	Continuing Education
		Number of „interdisciplinary curricula” developed in state universities	Continuing Education
		Number of pre-university and university teachers who participated in study visits / technology fairs in smart domains	Continuing Education
		Number of students and master students who participated in study visits/ training / internships in smart enterprises	Social engagement
Horizontal Priority 2 Supporting innovative enterprises in North	Agrofood Biotechnologies ICT	Number of students and master students participating in competitions of innovative ideas and projects organized in the Region	Social engagement
		Number of students and master students participating in competitions of innovative ideas and projects organized nationally or internationally	Social engagement

Horizontal Priorities	Vertical Priorities	S3 Result Indicators	Dimensions related to “third mission” supporting S3
East Region Measure 2.1 Support for turning innovative ideas into business ideas Measure 2.2 The development (creation, extension, endowment and accreditation) of Technology Transfer and Science and Technological Parks infrastructures and the skills of their own staff to diversify the supply of technology transfer services to market the results of the research Horizontal Priority 3 Supporting the initiatives of clusterization and internationalization Measure 3.1 Creating and strengthening business networks and clusters	Textiles and new materials Tourism Environment Agrofood Biotechnologies ICT Textiles and new materials Tourism Environment Agrofood Biotechnologies ICT Textiles and new materials Tourism Environment	Number of new innovation incubators and living labs Number of companies engaged in business support structures in the North-East Region Number of „simulated enterprises” that translate into practice innovative ideas of students Number of innovation infrastructure and technology transfer created / expanded or upgraded Number of companies engaged in TT entities Total number of companies integrated into business networks and / or clusters set up at regional level Number of inter-cluster and inter-network cooperation actions Number of people within business networks and clusters participating in training projects in management Number of projects developed in partnership on Smart	Technology Transfer&Innovation Technology Transfer&Innovation Technology Transfer&Innovation Technology Transfer&Innovation Technology Transfer&Innovation Social engagement Social engagement Social engagement Social engagement Social engagement



Horizontal Priorities	Vertical Priorities	S3 Result Indicators	Dimensions related to “third mission” supporting S3
Measure 3.2 Promoting interregional cooperation (especially thematic platforms S3) and international businesses Horizontal Priority 4 Technical assistance Measure 4.1 Developing the implementation, monitoring and evaluation systems of the S3 strategy Measure 4.2 Improving the administrative capacity of North-East Regional S3 governance structures Measure 4.3 Developing a continuous system of entrepreneurial discovery at the regional level		domains Number of projects promoted in the region Number of monitoring reports Number of participants in the evaluation and knowledge transfer activities Number of smart development solutions as a result of EDP	Social engagement Social engagement Social engagement

Source: North -East Region S3⁵

⁵ Read more at http://admnordest.ro/user/file/news/17/RIS3_Nord-Est_05_12_2017.pdf.

CROSS-BORDER COOPERATION ELEMENTS ALONG ROMANIAN-UKRAINIAN BORDER – EMPIRICAL EVIDENCES

Marcela ȘLUSARCIUC*

Abstract

The study aims to identify several elements that influence the cooperation between Romania and Ukraine, also paths or fields for cooperation, as the local and regional stakeholders perceive. The field research had as subjects the potential applicants for cross-border projects in the eligible area of Romania-Ukraine Joint Operational Programme 2014-2020. The main research questions were related to the factors that encourage and block the cross-border cooperation, partnership aspects (partners, weaknesses or strengths, envisaged fields of cooperation), strategic ideas for the cross-border area development, universities involvement in the area. Comparing data from field researches applied at different times and groups we realized that in some aspects different groups give a different importance to the factors that encourage or block the cooperation, also, in the last research the relevance that the cross-border programmes have in the area to promote cooperation and partnership.

Keywords: cross-border cooperation, Romania-Ukraine, partnership

Introduction

The border between Romania and Ukraine is the second longest bilateral border between a Member State and a partner country and, while the first longest – Finland – Russian Federation – crosses taiga, therefore not so populated, the border we use for study sums 8,022,042 inhabitants included in the administrative units along the border. They are un-proportionally shared among the two countries - 26% on the Romanian side of the border and 74% on the Ukrainian side due to the difference between the administrative units – counties (Romania) and regions (Ukraine)¹. In the frame of European Union programming documents that are as base for encouraging the cross-border cooperation, along the four generations of cross-border programmes (CBC) the inclusion of Romanian and Ukrainian administrative units was different. Therefore, the pilot generation of Phare EBI

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¹ Read more about JOP Romania-Ukraine 2014-2020 (2015) at www.ro-ua.net.

CBC² and the Neighbourhood Programme Romania-Ukraine (Joint Programming Document, 2006) covered all the border administrative units, such as: Romania – Satu Mare, Maramures, Suceava, Botosani, Tulcea, and Ukraine – Zakarpattia, Ivano-Frankivsk, Chernivtsi, Odessa. The design and the implementation of the programmes was also un-balanced because the leadership and the budget management belonged exclusively to the Romanian partners, but the partnership format was mandatory Romanian-Ukrainian with no restrictions on the number of partners on each side of the border or total. The 2007-2013 generation of CBC programmes split the border in two parts: Satu Mare and Maramures (Romania) with Zakarpattia and Ivano-Frankivsk (Ukraine) were included in Hungary-Slovakia-Romania-Ukraine Joint Operational Programme (JOP)³, while the rest of the counties and oblasts were included in Romania-Ukraine-Republic of Moldova JOP⁴. In case of the former, as Ukraine was the only Partner Country included and in order to comply with EU regulation, the inclusion of a Ukrainian partner in the projects was mandatory. In case of the latter, the projects had to be implemented in partnership that will always involving partners from Romania and at least one partner country. But in the calls for proposals both programmes required four cooperation criteria that should be considered in the projects of all nature, while mandatory was to satisfy at least two: joint project development, joint project implementation, joint staffing and joint financing (Joint Managing Authority - Romanian Ministry of Regional Development and Housing, 2009)⁵. This was an important step for the cross-border cooperation as the Ukrainian partners had more involvement and responsibilities in the leadership and the financial management of the projects. In the last generation of programmes, 2014-2020, the entire border area Romania-Ukraine was covered by the Romania-Ukraine JOP (JOP Romania-Ukraine 2014-2020), as detailed above in the first generations of programmes, but also the Romanian counties and Ukrainian regions included in 2007-2013 in the Hu-Sk-Ro-Ua JOP 2007-2013 are now included in the core area for the similar programme Hu-Sk-Ro-Ua JOP 2014-2020. Moreover, eligible entities from the Suceava county (Romania) and Chernivtsi region (Ukraine) may have access to the programme as partners from adjoining areas⁶. The four criteria are kept as to be

² Read more about Phare CBC EBI (2003) at http://www.mie.ro/_documente/cbc/2003/ebi/index.htm.

³ Read more about Hungary-Slovakia-Romania-Ukraine Joint Operational Programme (2008) at http://www.huskroua-cbc.net/uploads/editors/JOP-HUSKROUA%2030092014-amended_final.pdf.

⁴ JOP Romania-Ukraine-Republic of Moldova (2008), (retrieved from http://www.ro-ua-md.net/images/stories/File/Joint_Operational_Programme.pdf).

⁵ Read more about the calls for Proposals Hu-Sk-Ro-Ua 2007-2013, Hungary-Slovakia-Romania-Ukraine ENPI Cross-Border Cooperation Programme at www.huskroua-cbc.net/en/closed_call_for_proposals.

⁶ Hungary-Slovakia-Romania-Ukraine Cross-border Cooperation Programme 2014-2020 (2016), (retrieved from <https://huskroua-cbc.eu/documents/programme-documents>).

considered, but with differences among the programmes calls for proposals – the Hu-Sk-Ro-Ua JOP mentions all four to be observed while the Ro-Ua JOP asks as mandatory at least joint staffing and joint financing.

The reasons for this introductory review of the programmes where the administrative units from Romania-Ukraine border are included reside in the variation and the diversity of the formal conditions where the cross-border cooperation developed. We use this argument as to underline that the field researches that we mention in this paper were held in different conditions, depending on the time of research, and there are difficulties to have some fixed issues or conditions as to be able to measure a variation in time. Therefore, we will have an incomplete comparative approach and a quite eclectic collection of information. Still, we try to make the best use of the data we collected in various stages and, where similar type to compare, where different, to add, as to identify the aspects that can help to maintain or build cooperation bridges or the aspects that can hinder the cooperation, therefore need intervention where is possible.

The main research questions we posed in the most recent field research were related to the factors that encourage and block the cross-border cooperation (what would be the hierarchy in a proposed list in some cases or what are the factors that respondents propose, in some other cases), partnership aspects (how many partners they have, what are the weaknesses or strengths of the partnership, envisaged fields of cooperation), strategic ideas for the cross-border area development, universities involvement in the area. For this paper we used the answers for only some of the questions, meaning the factors that encourage and block the cross-border cooperation, partnership aspects (partners, weaknesses or strengths) and universities involvement in the area. In the following section we will describe the methodological aspects from previous researches and the last one as guidelines for connecting the empirical evidences along the years in our researches.

1. Methodological aspects

In this paper we put together data from previous and actual on field studies. Therefore, we had differences in the methodological approach, in some cases we had the similar group of respondents, in some cases the same area or similar questions. Despite the fact that all the field researches mentioned here have not a red thread, they are connected with each other in a way or other.

The first survey was a preliminary one, in December 2011, applied to the potential applicants and beneficiaries of the Joint Operational Programme Romania-Ukraine-Republic of Moldova (Slusarciuc, 2013) in the locations and during the information events that were organized in the whole cross-border programme area.

The survey was applied in the period November-December 2011, in the three programme countries, in 12 locations: Romania – Suceava, Botoșani, Tulcea, Galați, Vaslui, Ukraine – Chernivtsi and Odessa, Republic of Moldova – Chișinău,



Cahul, Rezina, Soroca, Ștefan Vodă. There were distributed around 800 questionnaires out of which over 300 questionnaires were returned, and 254 were considered valid. The distribution of respondents was proportional with the number of events in each of the countries and with the number of participants for each session. The respondents were former or actual beneficiaries or partners, former applicants or partners or potential applicants. The survey marked one of the first steps and the answers were used to formulate the following instruments – the interview guide and the experts' questionnaire we will refer to later.

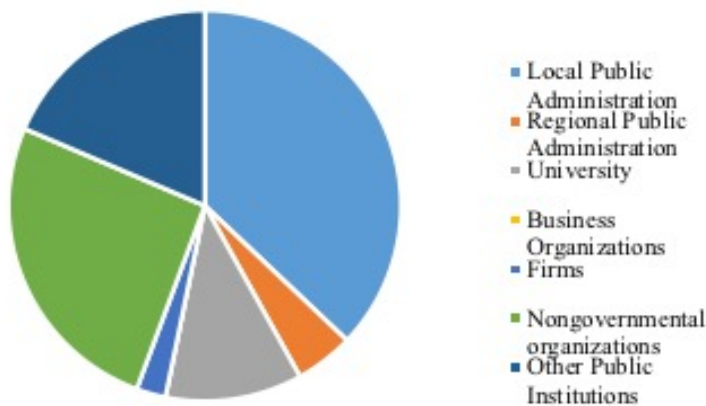
During October 2012 – March 2013 nine interviews with beneficiaries or partners involved were applied, from the projects granted by the first call for proposals JOP Ro-Ua-Md. In the selection of the beneficiaries we used as criteria: out of 83 projects list of financed grants we considered a minimum of 10% of beneficiaries as a relevant ratio (at least 8-9 interviews); representativeness for all three countries, also respecting the proportionality between countries as number of projects and funds granted (4 beneficiaries from Romania, 2 from Ukraine and 3 from Republic of Moldova), representativeness for the programme priorities, availability for interview and the costs and accessibility limitations. The interviews are a valuable source in terms of partnership issues, both good practices or strengths and drawbacks or weaknesses, the detailed results were included in a previous work while here we mention the ones relevant for this paper (Slusarciuc, 2013).

One following step was the application of 31 questionnaires to experts in spring 2013, guided by three representativity criteria: the first one, to cover local, regional and national level, the second one, to cover all three countries, Romania, Ukraine, Republic of Moldova, and the third one, to be from different types of entities, from public administration, nongovernmental, research (universities) and business fields. The detailed results and methodology were published in a previous paper (Slusarciuc and Prelipcean, 2013). The expert questionnaire included hierarchies-like questions built on the previous research results as mentioned above, similar with the ones designed by the Delphi method. The questionnaire was designed gradual, starting with general cross-border issues, then aspects of previous and actual cross-border financial instruments contribution in the area, followed by aspects regarding the structure of the programme in place at that time and the partnership issue as relevant in cross-border cooperation.

In November 2013, under coordination of Regional Office for Cross-Border Cooperation Suceava for Romania-Ukraine Border (RO CBC Suceava), it was conducted a stakeholders' survey (Șlusarciuc, 2014). The survey targeted general stakeholders with involvement in the cross-border cooperation or with potential future involvement, in Suceava and Botosani counties, Romania. Even the area was only in Romania and only in a part of the Romanian-Ukrainian border, 77 valid questionnaires were applied, respondents being representatives from variate types of entities: public administration (ex: county councils, cities administrations, county institutions), nongovernmental organizations and business associations (chambers of commerce and industry, business support organizations). The

questionnaire was focused on the development needs of a smaller part of cross-border area between Romania and Ukraine. The study is relevant for this paper due to the inclusion of a pair of questions with hierarchical approach on the factors that support or block the cross-border cooperation between Romania and Ukraine. In case of this survey and the experts' survey we faced a similar error - some of the stakeholders did not rank some of the items, case in which in the database the answer was counted as '0' value but it was counted in the number of answers. Some of the detailed results are in the paper mentioned above while here we use the ones relevant for this paper.

Figure 1. Distribution of respondents by the type of entity



Source: own representation

The most recent survey was conducted in the spring 2018, the distribution having the support of RO CBC Suceava, as the questionnaire was applied to potential applicants of JOP Ro-Ua 2014-2020 that attended the information events organized in the border area. The questionnaire had mostly open question and was filled in by 124 respondents, 58 Romanians and 66 Ukrainians. The methodology is described in the following but for the present paper we use the answers of six questions: the first five factors that contribute to the cross-border cooperation between Romania and Ukraine, the first five factors that block to the cross-border cooperation between Romania and Ukraine, the number of partners on the other side of the border, strengths and weaknesses of the partnership, and cooperation with universities in the area.

Regarding the structure of the respondents and issues of representativity, the following charts show the distribution of respondents as type of entity and coverage of the administrative units from Romania and Ukraine. The corresponding figures are in the tables 1 and 2.

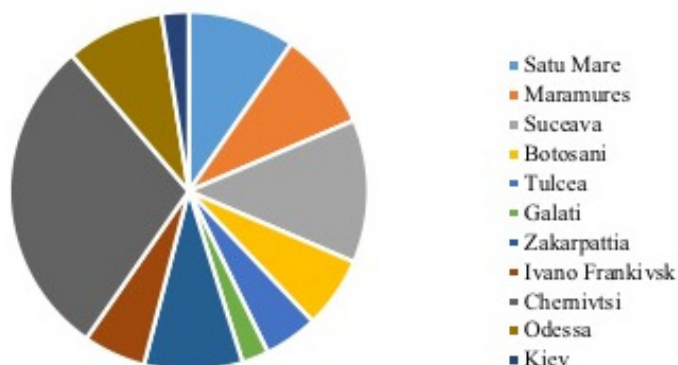


Table 1. The number of respondents per type of entity

Local Public Administration	46
Regional Public Administration	6
University	14
Business Organizations	0
Firms	3
Nongovernmental organizations	32
Other Public Institutions	23
Total	124

Source: own calculation

Even if it appears that the highest rate has the local public administration, in fact they are maybe the most important group of CBC project applicants and therefore, carriers of cross-border cooperation, due to their number and long-term stable financial sources. One of the limitations is that, considering that at this type of programme information events may attend more representatives of one entity, it could be that there are more questionnaires filled by representatives from one entity. Anyhow, we did not specifically intend to target entities, but more individuals involved or with interest of involvement in cross-border projects, therefore cross-border cooperation. As concerns the coverage of the counties in Romania and regions in Ukraine, we notice that there are Chernivtsi (UA) and Suceava (RO) the leading administrative units, fact that may be explained by at least two factors: the first is related to the possible number of participant at the event (correlated with a during time interest of potential applicants from these administrative units) and the second could be related to the low interest in filling the questionnaire. Anyway, for the present paper, the documentation of these factors is less relevant.

Figure 2. Distribution of respondents by administrative unit (county/region)

Source: own representation

Table 2. The number of respondents per administrative unit

Romania	58
Satu Mare	12
Maramures	11
Suceava	16
Botosani	8
Tulcea	6
Ukraine	66
Galati	3
Zakarpattia	11
Ivano Frankivsk	7
Chernivtsi	36
Odessa	11
Kiev	3
Total	124

Source: own calculation

The questionnaire was structured on different issues as in the Table 3 and it was applied in Romanian and Ukrainian language, depending the country where it was applied.

Table 3. The structure of the questionnaire

Question code	Issue	Type of question
1	Identification data - name of the entity - type of entity - city/county-region/country - level of responsibility of the respondent in the entity	Open List of options Open List of options
2	Minimum 5 factors that contribute to the cross-border cooperation between Romania and Ukraine ranked as importance*	Open list
3	Minimum 5 factors that block the cross-border cooperation between Romania and Ukraine ranked as importance*	Open list
4.a.	The number of partners on the other side of the border	Open numerical
4.b.	Details about the main partners (name, type of entity, city, partnership domain, how old is the partnership)	Open
5.a.	The strengths of the partnership(s) where the entity of the respondent was involved	Open list



Question code	Issue	Type of question
5.b.	The weaknesses of the partnership(s) where the entity of the respondent was involved	Open list
6.a.1./2./3.	Intention about future partnership and field of cooperation	Dichotomic Dual choice Open
7.	Minimum 3 needed actions to be included in a development strategy for the cross-border region Romania-Ukraine	Open list
8.a.	Development facilities offered by the local administration from the respondent location	Dichotomic Open
8.b.	Development facilities offered by the local administration from the respondent' partner location	Dichotomic Open
9	Cooperation with the university in the area	Dichotomic Open

*The importance order was implicit from the most important to the less important as based on the order that the respondent reminds it.

Source: own calculation

For the present paper we use the answers of six questions: the first five factors that contribute to the cross-border cooperation between Romania and Ukraine, the first five factors that block to the cross-border cooperation between Romania and Ukraine, the number of partners on the other side of the border, strengths and weaknesses of the partnership, and cooperation with universities in the area, namely the questions 2, 3, 4.a., 5.a., 5.b., 6.a.1./2., 9 (the dichotomic part of the question). The identification data (question 1) are presented in this methodological section.

For purpose of easy understanding of the references to each of the field researches we will use the following coding:

- PS - preliminary survey, December 2011
- BI - interviews with beneficiaries, October 2012 - March 2013
- EQ - questionnaires to experts, spring 2013
- SS - stakeholders' survey, November 2013
- PAQ - potential applicants' questionnaire, spring 2018.

The paper is structured partly on comparative view in case of similar answers from different studies - for the encouraging and blocking factors for cross-border cooperation, followed by partnership aspects and universities involvement in the cross-border cooperation. There will be following papers that will be focused on the remaining questions, namely 4.b., 7, 8.a., 8.b., and 9 (the open part of the question), where also, by case, results of the questions presented in this paper will be used.

2. Empirical results across surveys

2.1. Cross-border cooperation encouraging factors

In the EQ, the second question was to make a hierarchy of the factors that contribute to the development of the cross-border cooperation in Romania-Ukraine-Republic of Moldova area, the list proposed containing the following factors ordered as in the questionnaire: the existence of common values, identification of common trade and economic issues, visa facilitation, management of the population migration, people to people contacts, contacts between institutions and local/regional administrations, political cooperation, financial cooperation, need for investments. The order proposed was based on PS and BI, also on discussions with RO CBC experts and university academics involved in cross-border cooperation, but without a strict methodology of hierarchisation.

The experts order the items as in the following: the existence of common values, contacts between institutions and local/regional administrations, identification of common trade and economic issues, people to people contacts, need for investments, political cooperation, visa facilitation, financial cooperation and last, management of the population migration. If we look at the table where we put together the proposed order with the one made by experts, we may conclude that, except the first rank - the existence of common values and penultima rank, financial cooperation, the ordering is different.

Table 4. The factors that contribute to the cross-border cooperation in Romania-Ukraine-Republic of Moldova area (EQ)

Questionnaire order	Experts order
the existence of common values	the existence of common values
identification of common trade and economic issues	contacts between institutions and local/regional administrations
visa facilitation	identification of common trade and economic issues
management of the population migration	people to people contacts
people to people contacts	need for investments
contacts between institutions and local/regional administrations	political cooperation
political cooperation	visa facilitation
financial cooperation	financial cooperation
need for investments	management of the population migration

Source: Slusarciuc and Prelipcean, Intervention priorities for economic development in the crossborder area Romania-Ukraine-Republic of Moldova - A WOT analysis approach, 2013

It is interesting to notice that an administrative issue as visa for Ukrainians, that was named many times by the ones involved in CBC projects as a problem



(before the visa waiver in September 2017), was placed by experts in the bottom of the list, while the contacts between institutions and local/regional administration was considered as second important.

The experts had open area to make proposals for other factors but only 4 proposals of factors that contribute to the cooperation were named, the overcoming of negative stereotypes, the right behaviour at the border crossing point, the harmonization of the legal frame and tourism.

In the SS, the question about the encouraging factors was similar as in the case of experts, only that mentions the cross-border cooperation between Romania and Ukraine, and there are few differences in the list of factors: the facilities in getting the visa, contacts and partnerships between public institutions and local/regional administrations, people to people contacts, identification of common economic issues and development of local/regional strategies, need of investments in common interest areas, common values.

The stakeholders' order of items was the following: identification of common economic issues and development of local/regional strategies, contacts and partnerships between public institutions and local/regional administrations, need of investments in common interest areas, people to people contacts, facilities in getting the visa, common values.

If we do the same comparison between the proposed order and the stakeholders' order, we notice again that the visa issue is not considered as helping the cross-border cooperation but most, the identification of common economic issues and development of local/regional strategies and, contacts and partnerships between public institutions and local/regional administrations.

Table 5. The factors that contribute to the cross-border cooperation in Romania-Ukraine area (SS)

Questionnaire order	Stakeholders' order
the facilities in getting the visa	identification of common economic issues and development of local/regional strategies
contacts and partnerships between public institutions and local/regional administrations	contacts and partnerships between public institutions and local/regional administrations
people to people contacts	need of investments in common interest areas
identification of common economic issues and development of local/regional strategies	people to people contacts
need of investments in common interest areas	facilities in getting the visa
common values	common values

Source: Şlusarciuc, Matrix for Cooperation in the Cross-Border Areas, 2014

If further we put together the experts hierarchy and the stakeholders hierarchy we may conclude few aspects that we can correlate with the fact that the first group of respondents (the experts) are involved in national and regional level decision making or academics, while the second group of respondents are from local level decision making, local administration, business representatives, and non-governmental organizations, but more involved in direct cross-border cooperation through projects.

We can notice two ideas: a more pragmatic and business oriented view of stakeholders as far as the common values are placed on the last rank compared with the first rank on the experts list, and the elements that worth to be taken in the frame of this paper are the group of four factors that are placed in the first part of rank with a slight difference of order: *identification of common economic issues and development of local/regional strategies, contacts and partnerships between public institutions and local/regional administrations, need of investments in common interest areas, and people to people contacts*, in condition of different initial ranking proposed through the two questionnaires.

Table 6. The factors that contribute to the cross-border cooperation comparison of hierarchies (EQ and SS)

Experts order	Stakeholders' order
the existence of common values	identification of common economic issues and development of local/regional strategies
contacts between institutions and local/regional administrations	contacts and partnerships between public institutions and local/regional administrations
identification of common trade and economic issues	need of investments in common interest areas
people to people contacts	people to people contacts
need for investments	facilities in getting the visa
political cooperation	common values
visa facilitation	
financial cooperation	
management of the population migration	

Source: Șlusarciuc and Prelipean, Intervention priorities for economic development in the crossborder area Romania-Ukraine-Republic of Moldova - A'WOT analysis approach, 2013; Șlusarciuc, Matrix for Cooperation in the Cross-Border Areas, 2014

In the last survey, PAQ, we had 103 respondents that answered out of 124 for the open question regarding the contributing factors to the cross-border cooperation between Romania and Ukraine, with a total of 425 answers to be processed, some with similar meaning. We did not work on ranking but on how often an item was mentioned. We grouped the items in three categories: factors that



contribute from outside the cross-border region (77 answers), factors from the region (245 answers) and factors connected with the partnership between entities/people (103 answers). We faced similar difficulty in placing some of the items in a group or other, as there were too general expressed, such as: common culture or infrastructure development. From the factors outside the region the most often mentioned are joint CBC programmes and granting (most nominated), membership to similar organizations, interest in cooperation with neighbour country, existence of various fields of cooperation, national level partnerships, free visa regime. Inside region and outside partnership factors, by far most of the items, we mention the most frequent answers: neighbourliness/geographic proximity near border or common border, common culture/history/patrimony, development interest, common problems. The most mentioned factors inside the partnership are: previous cooperation/partnership, experience in activity/previous projects, previous joint projects. It seems that the existence of the cross-border cooperation programmes had a significant role in boosting the cooperation along the border between Romania and Ukraine, and the several generations of programmes formed long-term partnerships. The factors outside the region are opportunities for a SWOT analysis of the cross-border region while the inside region and inside partnership factors are strengths in terms of the same analysis, therefore issues that can be exploited on long term basis.

2.2. Cross-border cooperation blocking factors

In the EQ, the third question was to make a hierarchy of the factors that block the development of the cross-border cooperation in Romania-Ukraine-Republic of Moldova area, the list proposed containing the following factors ordered as in the questionnaire: existence of different legal systems, membership to different supranational structures (EU Member State/EU Partner Country), economic gaps, historical events, language differences and territorial disputes. As in the case of the encouraging factors the order proposed was based on PS and BI, also on discussions with RO CBC experts and university academics involved in cross-border cooperation, but without a strict methodology of hierarchisation.

The experts' hierarchy of the factors that block the development of the cross-border cooperation in Romania-Ukraine-Republic of Moldova area was: different legal systems, membership to different supranational structures (EU Member State/EU Partner Country), economic gaps, language differences, territorial disputes and historical events. If we look at the similar table where we put together the proposed order with the one made by experts, we may conclude that the ranking of the items in the experts' opinion is the same with the one proposed by the questionnaire.

Table 7. The factors that block the cross-border cooperation in Romania-Ukraine-Republic of Moldova area (EQ)

Questionnaire order	Experts order
existence of different legal systems	different legal systems
membership to different supranational structures (EU Member State/EU Partner Country)	membership to different supranational structures (EU Member State/EU Partner Country)
economic gaps	economic gaps
historical events	language differences
language differences	territorial disputes
territorial disputes	historical events

Source: Slusarciuc and Prelipcean, Intervention priorities for economic development in the crossborder area Romania-Ukraine-Republic of Moldova - A WOT analysis approach, 2013

In the open area to make proposals for other factors experts had 5 proposals of factors that block the cooperation, namely the visa issues, the wrong behaviour of the officers at the border crossing point, the lack of common strategies for economic and social cooperation, the lack of short and medium term plans for the implementation of those strategies and the excessive duration of the projects assessment.

In the SS, the pair question - to make a hierarchy of the factors that block the cross-border cooperation in Romania-Ukraine area, the proposed list had: membership to supranational structures (EU Member State/EU Partner Country), lack of local/regional strategies, political instability, major economic gaps, significant differences between the political and administrative systems of the two countries and communication difficulties. The list had differences in order and on some items compared with the EQ list.

The stakeholders' order of items was the following: lack of local/regional strategies, political instability, membership to supranational structures (EU Member State/EU Partner Country), significant differences between the political and administrative systems of the two countries, major economic gaps, and the last, communication difficulties. In case of comparison between the proposed order and the stakeholders' order, we notice again that the communication difficulties are on the last place on the list, while the immediate issues that are affecting local life are the first on the list - lack of strategies and political instability (the last one can be connected with the moment of survey when in Ukraine was after the Russia intervention in Crimea and the start of Eastern conflicts).



Table 8. The factors that block the cross-border cooperation in Romania-Ukraine area (SS)

Questionnaire order	Stakeholders' order
membership to supranational structures (EU Member State/EU Partner Country)	lack of local/regional strategies
lack of local/regional strategies	political instability
political instability	membership to supranational structures (EU Member State/EU Partner Country)
major economic gaps	significant differences between the political and administrative systems of the two countries
significant differences between the political and administrative systems of the two countries	major economic gaps
communication difficulties	communication difficulties

Source: Şlusarciuc, Matrix for Cooperation in the Cross-Border Areas, 2014

Table 9. The factors that contribute to the cross-border cooperation comparison of hierarchies (EQ and SS)

Experts order	Stakeholders' order
different legal systems	lack of local/regional strategies
membership to different supranational structures (EU Member State/EU Partner Country)	political instability
economic gaps	membership to supranational structures (EU Member State/EU Partner Country)
language differences	significant differences between the political and administrative systems of the two countries
territorial disputes	major economic gaps
historical events	communication difficulties

Source: Şlusarciuc and Prelipcean, Intervention priorities for economic development in the crossborder area Romania-Ukraine-Republic of Moldova - A'WOT analysis approach, 2013; Şlusarciuc, Matrix for Cooperation in the Cross-Border Areas, 2014

If further we put together the experts hierarchy and the stakeholders hierarchy we have only some soft possible conclusions considering the differences among the proposed items: in case of similar items it seems that the group of the ones directly involved in the cross-border cooperation are not giving to much importance to the membership to supranational structures (EU Member State/EU Partner Country) or the economic gaps, while being more focused on the immediate issues like lack of local/regional strategies and political instability.

In the recent survey, PAQ, we had 90 respondent that answered out of 124 for the open question regarding the blocking factors to the cross-border cooperation between Romania and Ukraine, with a total of 304 answers to be processed, some with similar meaning. Similar as the previous factors, we did not work on ranking but on how often an item was mentioned and we grouped the items in three categories: factors that contribute from outside the cross-border region, factors from the region and factors connected with the partnership between entities/people. We faced similar difficulty in placing some of the items in a group or other, as there were to general expressed, such as: border crossing or mass-media. The most mentioned factors that we group as outside region are the following: different legislation, border procedures and difficulties for crossing, bureaucracy, the recent Ukrainian provisions related to the Romanian nationals, unstable geopolitical situation. By far, the most mentioned factor that we grouped as inside region and outside partnership is the language difference, then, bad infrastructure, lack of information, differences in mentality. Inside partnership factors nominated as most frequent are the lack of knowledge / abilities / experience in project management, the lack of financial / technical / specialization resources, and the lack of interest/involvement. In the frame of a region SWOT analysis the factors outside the region are threats, while the factors inside the region and inside the partnership are weaknesses.

2.3. Cross-border partnership aspects

The first field research that included significant qualitative data about partnership was the BI where, during the interview, the questions “What are the most important points that define a good partnership in the projects? Are these points fulfilled in your case?” was tackled. In the following we list an extract of the most important quotes from the interviews (Slusarciuc, 2013). The interviews were held in Romanian or English language.

- “It is important that the partners have similar experience about the project management. Otherwise, the most prepared partner will have to be patient and help the other to improve and be educated in this matter.”
- “The people involved are very important, the openness and availability to help being a plus to the partnership.”
- “The existence of the budget on the Ukrainian side is a complex issue that supposes a good preparation and knowledge as well as availability to work for a good management of financial documents.”
- “The first issue of a good partnership would be the common interest, the second the commitment and the third is the fairness, all three generating a positive reaction of the partners.”
- “It is good when the partners can develop common products of the projects, for example common touristic offers and when the partners can benefit from each other experience or knowledge.”



- “In the context of cross-border projects the trust is very important, also, in case that one of the partners will become suspicious about the actions and intentions of the other during the process, the second time will not join this partnership.
- “The financial contribution as involvement of all the partners is an element that can challenge and help a partnership.”
- “The reliability and the dedication are points that define a good partnership in order to run a successful project.”
- “In the partnership, firstly it is important that the planning be done jointly and secondly to follow the established schedule and to respect the terms of the agreement. In the planning stage all the parties should express their needs, comments or disagreements and to find the best version that can be good for all through consensus and flexibility.”
- “In the case of different languages of partners, the way of working is to ask clarification when there are issues of different meanings and to assure that all parties have the same understanding of a certain aspect. Also, the idea of language barrier can be overpassed.”
- “The partners should be really involved in the project and a project where the partners are formally is going to fail or not to be a real project. The involvement should be along all the activities.”
- “The partners should be aware of their common goals and figure out the best ways to reach them. In case of different visions, they should communicate and focus on the common points.”
- “The helping points in a partnership are the intelligence, tolerance and the common understanding of the joint objectives, also the good will for having a common project.”
- “A good partnership is the one that continues after the end of the projects in other new projects or activities with different sources of funding. Also, it is defined by the human relation that goes to a friendship and exchange of useful information between the teams of the project partners, frequent communication by email or skype.”
- “An important issue that defines a good partnership is the homogeneity of the partners, meaning their field of action and the approaches they have about that field. To this there can be added: a good communication, the same language, the continuity of the nominated staff from each partner.”
- “The first thing that define a good partnership would be seriousness, another one the desire to affirm in their field, and a third, to learn and to learn from each other. Another feature would be to count on the partners, to be responsible in organizing the activities drawn in the project design and to manage the budget.”

- “The partnership should be agreed between institutions or structures with a common interest of making things of whom should benefit the communities from both sides of the border.”
- “Another issue needed for a good partnership is a common language, regardless that it is one of the partners’ language or it is a third one, such as English. It is important the partners to find their own common language to exchange ideas.”
- “An important feature for a good partnership is the distance in the sense that having a partner placed to a long distance there is the risk of losing the warmth of the relationship. The short distance allows more frequent visits and meetings between partners.”

We keep as relevant a list of keywords that we can group in three: individual traits - the ones that belong to the people involved in the partnership, entity traits - the ones that characterize the entities involved in the partnership, and partnership traits - the ones that are characteristic for how the partnership relation is build. We consider as qualitative information that we can use further as adding to any work meant to improve the partnership in cross-border relations.

We take as relevant from previous work (Slusarciuc, 2013) two concluding aspects regarding the partnership: one related to the partnership network that should improve the situation in cross-border region Romania-Ukraine and the other one related to the features of a good partnership. We adjusted some of the referring that were more focused on projects/programmes and we give a more general dimension.

The partnership network, when is about cross-border cooperation between two countries, Romania and Ukraine, should consider a vertical partnership dimension approach on each side of the border; and a horizontal partnership dimension across the borders between partners who often differ from each other. Vertical partnerships dimension relies on the relationships across the EU level, the national level and the regional/local levels on each side of the border. Horizontal partnership dimension relies on the relationships between the partners (organizations/structures) on both sides of the border.

Besides the BI, within the previous research we held interviews with other bodies involved in cross-border cooperation between Ukraine and EU member states and as result we identify list of features that help building a good partnership that we formulate with more general terms, regardless the involvement in a specific cross-border programme or not: joint preparation of the strategy/projects, joint implementation of the strategy/projects, joint team for the project/strategy work, joint financial contribution to the strategy/projects, partnership generates new ideas and projects, long-term partnership, good communication, mutual support, mutual trust, similar experiences, openness and availability to help, existence of a common interest, involvement and commitment, fairness and tolerance.



Table 10. Traits that make a partnership successful

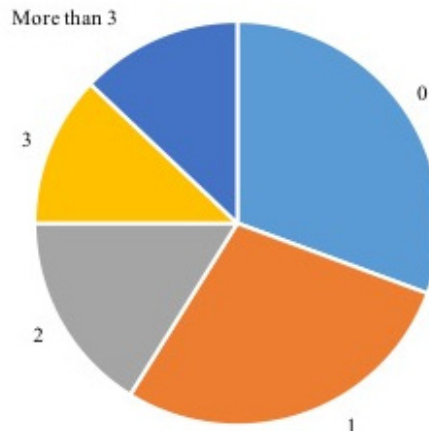
Individual traits	similar experience patience availability to help openness good preparation and knowledge commitment fairness trust reliability dedication respect of the terms of the agreement intelligence tolerance seriousness responsibility
Entity traits	similar experience availability to help openness availability to work for a good management flexibility real involvement homogeneity of the partners common language continuity of the team desire to affirm in their field
Partnership traits	common interest development of common products of the projects mutual benefits joint planning consensus common understanding of the joint objectives common goals and interest frequent and good communication focus on the common points exchange of useful information continuity of the partnership mutual learning proximity as distance

Source: own representation based on the interviews

In the PAQ research 86 respondents out of 124 (aprox.70%) answered that they have at least a partner on the other side of the border. This information may prove the level of partnership development in the Romania-Ukraine cross-border region, especially if we correlate with the data processed form the question regarding

the future partnerships. Most of the respondents have more than one partner, fact that may indicate a high degree of partnership working experience in the area.

Figure 3. Distribution of respondents regarding the number of cross-border partners they work with



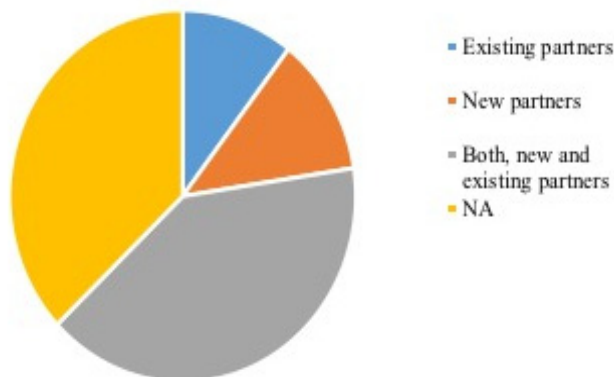
Source: own representation

Out of all the respondents 94% intend future partnerships, out of which, with new partners, with existing partners or with both, new and existing.

Figure 4. Intentions regarding future partnerships



Source: own representation

Figure 5. Preferences regarding the future partnerships

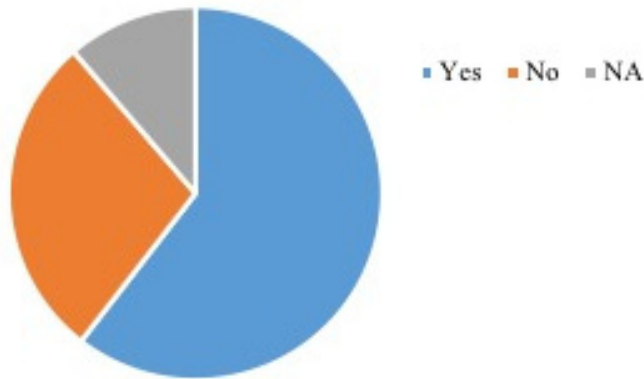
Source: own representation

Concerning the open answers about the strengths and weaknesses of the partnership we had 66 respondents that listed 194 items for partnership strengths and 38 respondents that listed 67 items for partnership weaknesses. The most nominated strengths are the experience in cross-border projects or other EU programmes, traditional partnership, professionalism/competence, knowledge of English language (required by the EU programmes), interest for cooperation. It worth mentioning again the contribution that the frame of the cross-border programmes offered as significant contribution to the development of cross-border partnerships. The number of items listed as weaknesses of the partnership is the lowest and the most mentioned items are the language difference and the legal differences.

2.4. Involvement of universities in the cross-border area

Based on a previous work on development poles with cross-border potential we identified that the universities are important centers in a partnership network for cross-border regions (Slusarciuc, 2016), reason for including this question in our recent research. In the present paper we only refer to the quantitative data, following in a future paper a work on the list of nominated universities and a mapping of them.

Out of all respondents 60% cooperate with universities from their area, on the same side or on the other side of the border.

Figure 6. Cooperation with the universities in the area

Source: own representation

The results give information regarding the high potential that the actual partnership network has and the opportunities that universities along the border have to explore.

Conclusions

An interesting first conclusion is that the respondents in the previous researches, both the experts and the stakeholders, had strong opinions on the importance/hierarchy of different factors that encourage or block the cross-border cooperation as they were less influenced by the already given hierarchy (as we notice there are significant differences between the order on the given list and the order proposed by different groups).

We noticed a more pragmatic and business oriented view of stakeholders as far as the common values are placed on the last rank compared with the first rank on the experts list, and the elements that worth to be taken in the frame of this paper are the group of four factors that are placed in the first part of rank with a slight difference of order: *identification of common economic issues and development of local/regional strategies, contacts and partnerships between public institutions and local/regional administrations, need of investments in common interest areas, and people to people contacts*, in condition of different initial ranking proposed through the two questionnaires. As this group is relevant for both categories of respondents we should consider as relevant and “bricks” for building long term cooperation network and possible regional strategies. Most of the factors from the previous researches can be identified in the answers of the last survey where it was open question about the factors contributing to the cross-border cooperation. Interesting is the high number of answers related to the existence of the cross-border programmes and previous joint projects. If we connect the data



from previous and last researches related to this aspect - the encouraging factors, we can conclude that the cross-border programmes, that granted joint projects and had as one of the aims to boost the cooperation in the border areas, fulfilled the designed role.

In case of the blocking factors we noticed a totally different approaches among the categories of respondents in case of previous researches where a hierarchy was required. It is therefore difficult for us to conclude a strong structured opinion. In case of the open questions, if we consider the most popular answers, there is a strong emphasis on different legislation and border crossing procedures as factors outside the region (as decision about the aspects mentioned), language difference (as factor inside the region) and poor abilities related to the project management or project related fields. Anyway, in the view of a strategic approach of the cross-border area, all the proposed blocking factors mentioned at least twice or the ones with similar meaning should be considered.

In case of the collected data on partnership we propose to keep as relevant a list of keywords that we can group in three: individual traits - the ones that belong to the people involved in the partnership, entity traits - the ones that characterize the entities involved in the partnership, and partnership traits - the ones that are characteristic for how the partnership relation is build. We consider as qualitative information that we can use further as adding to any work meant to improve the partnership in cross-border relations by preparing tools and training material that capitalize the existent knowledge in terms of partnership building. As data show, universities are included by most of the actors in the area as active partner, therefore it should not be neglected the opportunity to build educational programmes or at least courses on practical learning of "how to partnership". There is an important area where the lessons learnt by the previous project teams, the existent educational logistic and the cross-border programme structures can join forces as a good governance exercise and to figure out the best way to develop the partnership required abilities that looks like are of utmost importance in the cross-border projects but it seems that not only.

If we connect the data regarding the intention for future partnership which is very high (94% of the respondents) with the information regarding the factors that block the cooperation or with the mentioned weaknesses of the partnerships we may say that there are enough incentives for cooperation that make people to overcome the blockages or the partnership weaknesses, therefore there is a strong intention for long-term relations and bases for building networks and long-term development strategies of the regions in the cross-border area between Romania and Ukraine, even in a frame of geopolitical instability and internal political struggles in both countries. It may be that the periphery may have an effect on keeping communities more focused on their needs and less affected by the tensions in the centers. This could be a topic to explore, both theoretical and empirical, in future multidisciplinary researches - if the proximity may have benefits not only the shortcomings.



A possible future work on the collected data may be to group and analyse by more specific areas where there are historical or traditional partnerships and cooperation, such as: Satu Mare, Maramureș (RO) with Zakarpattia, Ivano Frankivsk (UA); Suceava, Botoșani (RO) with Chernivtsi (UA); Tulcea (RO) with Odessa (UA) and also connect or use in related researches with more focused and practical approaches for each region.

We acknowledge the limits and the thin methodological continuity that sometimes had to be adjusted to the changes of the frame of cooperation in terms of programmes (bilateral to trilateral and back to bilateral), therefore it was difficult to keep constant more elements. Also, in the case of the last research, there is a need of a more structured way to analyse optimal the answers to the open questions and perhaps a second survey that should have a more targeted and well selected group of respondents with a lower degree of randomization.

The eclectic and in some cases comparative approach showed differences of perspective along time and groups of respondents (experts/stakeholders/potential applicants). The finding is explainable due to the events that marked the border area and the two countries involved and also influenced the cross-border communities and cooperation. We find an optimistic sign in the declared desire for partnership/cooperation of the respondents and also in the good involvement and role of universities in the area.

Considering that the volume of qualitative data and the different words used to show similar things, we need more refined tools for processing as to have more meaningful results as to formulate adequate recommendations, good practices or paths to build a resilient and strong network partnership network and region along the Romania-Ukraine border. Another step would be to process the questions not used for this paper and to connect with the findings of this paper and the previous or more recent theoretical researches in the field.

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ASSESSING FINANCIAL PERFORMANCE OF COMPANIES MANUFACTURING INDUSTRIAL GOODS. EVIDENCE ON PERFORMANCE DYNAMICS IN THE PERIOD BEFORE AND AFTER THE CRISIS

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Abstract

With a purpose of bringing bring back into discussion the usefulness of financial analyses using financial ratios, the study has three aims: to assess the financial performance of a sample of companies manufacturing industrial goods; to make financial performance forecasts; to identify various measures consolidating liquidity and profitability. The study suggests a reinterpretation of traditional approach to financial performance assessment and discusses the relevance of criticism towards traditional assessment methods (dealing mainly with the consequences and not the causes, lack of strategic orientation). The empirical research showed that insufficient liquidity and low level of return on equity were the main causes for the worsening of financial performance of studied companies. Although the analysis of profits and sales shows an increase in cascade, profitability ratios of equity and sales remain affected by too high operational costs. The results indicate that the decisions adopted as a result of new circumstances (specific to periods before and after crisis) have impacted business sustainability.

Keywords: financial performance, liquidity, return on equity, return on sales

Introduction

Company performance is influenced by a set of internal and external factors. The main objective of company management is to deal with this influence (in order to eliminate factors having a negative influence and take advantage of positive ones). Therefore, managers should monitor performance and critical factors for achieving success in companies they run. It is not only managers, who are directly interested in company's performance, but also its shareholders, creditors, trade

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partners, employees, the state, etc. (Table 1). This is the reason why performance assessment has been highly researched (Salem *et al.*, 2012).

Table 1. Company performance stakeholders

Stakeholders	Aims
Managers	Company financial performance
Shareholders	Company market value
Investors	Size of dividend collections
Creditors	Recovery and remuneration of funds
Suppliers, intermediaries	Business solvency and sustainability
Clients	Satisfaction (value creation)
Employees	Stable workplace and better remuneration
State	Proper tax behaviour

Source: own processing

As most goals of stakeholders enable a monetary quantification, the assessment of financial performance has been the main starting point in research studies. Higher financial performance could be reached and become sustainable only when financial function is correlated with other functions of the company (production, marketing, research-development, human resources).

Financial performance, defined as the degree to which company resources are managed with efficacy and efficiency, is essential for ensuring sustainable development. Theoretical and empirical management studies enabled the design and development of adequate methods for assessing performance. First methods were based on using mainly the financial and accounting information. Later, studies focused on developing multi-criteria models incorporating also non-financial indicators. For each of these methods, a set of advantages and disadvantages were identified (Narkunienė and Ulbinaitė, 2018) stressing out the fact that there is no generally valid method that would enable us to assess and monitor the performance of any company.

In order to bring back into discussion the usefulness of financial analyses based on financial ratios, the study has three aims: to assess the financial performance of a sample of companies manufacturing industrial goods for a period exceeding a cycle of ten years (the data playing the role of underlining the efficiency of traditional methods for assessing performance); to make financial performance forecasts in order to identify the vulnerability of financial performance; to identify various measures consolidating liquidity and profitability so that the goal of ensuring any company's sustainability be reached. Even though performance assessment has been seen as one of the most difficult tasks for company management, it has remained to be one of the main requirements for a company to reach its undertaken goals.

One of the requirements of academic research refers to the fact that the researcher must contribute to the development of "valid knowledge to support

solving organizational problems” (Huff *et al.*, 2006). To respect this, the study proposes an original model of multidimensional analysis of financial performance that will be useful to both researchers and practitioners. Therefore, the study begins with presenting the state of the art in the field of financial performance assessment (providing support for identifying new research directions). To support practitioners, the study analyses the information that describes the performance path for a sample of companies (during the pre- and post-crisis period) and identifies a number of measures that can contribute to consolidating the financial performance of companies.

1. Measuring financial performance - state of the art

Several authors (Ayako *et al.*, 2015) state that although there is rich literature on financial performance of listed companies, the results of studies remain inconclusive both in terms of measuring instruments and the determining factors. That is why the debates on performance assessment are still a priority for practitioners and theorists.

As it has already been mentioned, the first assessment methods (called *traditional methods*) were based on using mainly financial and accounting information (such a ratio analysis, Du Pont analysis). Later, research oriented towards new methods (called *modern methods*) based on (Narkunienė and Ulbinaitė, 2018):

- a) accounting data (economic value added, activity-based costing, market or shareholder value added);
- b) quality management (ISO standards model, European foundation quality management model, service quality model and six sigma model);
- c) causal relations theory (critical success factor model; results and factors model);
- d) assessment of business processes (business process model, supply-chain operations reference model and the performance pyramid);
- e) system balancing (Balance scorecard, the performance prism and dynamic multidimensional performance model);
- f) performance assessment multi-criteria methods (geometric mean, simple additive weighting, TOPSIS, ELECTRA, PROMETHEE, VIKOR, COPRAS).

Financial performance assessment systems developed in two stages (Rajnoha *et al.*, 2016). In the first phase (1880-1980), financial indicators that laid at the basis of assessment were profit, return on investment (ROI) and productivity. These were grouped on three levels: liquidity indicators, profitability indicators, equity structure indicators and market value indicators. In the second stage, due to changes on the world market, performance assessment put at its core strategic priorities associated with product/service quality and flexibility of companies for ensuring the maintenance of a competitive advantage. Table 2 shows the stages in the development of financial indicators used in performance assessment.



Table 2. Stages in the development of financial indicators used in performance assessment

Stages and indicators			
First generation	Second generation	Third generation	Fourth generation
Profit margin	Profit growth	Return on equity (ROA, ROE, ROI)	Value for owners (EVA, CFROI, FCF)

Source: Pavelkova and Knápková, 2005

The limitations of traditional measurement systems (based on profit margin and profit growth) triggered a revolution in measuring company performance (Kennerley and Neely, 2002). Studies dropped the concern for maximizing profit and oriented towards company value growth (Kiseľáková *et al.*, 2016).

The main aspects attributed to traditional methods of financial performance assessment were promotion of short-term decision and lack of strategic orientation (Bourne *et al.*, 2003), and dealing mainly with consequences and not the causes determining a specific performance. (Kiseľáková *et al.*, 2016).

Consequently, new methods extend the scope of performance assessment by moving it towards assessment of company management quality, and establishment of company value for clients and other stakeholders, respectively (Moullin, 2007). In this context, the concept of corporate sustainability developed and increased the number of stakeholders interested in company performance (Lozano, 2015). So, performance assessment systems took into account three dimensions (financial, social and environmental) and provided to companies support needed in short and term-long management (Searcy, 2012).

The new approach to performance management systems does not abandon financial analysis. Conversely, these favour the achievement of higher financial performance (increasing the overall performance of companies) and intensify the positive influence of companies on society and the environment (Belás and Gabčová, 2015).

The option for a specific method of performance assessment depends on the set goal, specific features of assessed companies and the means used for assessment. In the wide range of options, there is a common feature: an efficient method of performance assessment should not exclude the aspects related to financial management of resources. Financial resources, like any other resources (materials, human resources, etc.), should be managed efficiently for ensuring successful operation of any company. Irrespective of company's structure, type of ownership, area of business or size, managers should make sure that its financial functions (especially planning and control) are efficiently put into practice and correlated with company's other functions. They should monitor a series of financial ratios viewed as instruments for financial performance analysis.

We support the view that "company performance is the measurement of what had been achieved by a company which shows good conditions for certain period of time" (Batchimeg, 2017, p. 23). Financial performance assessment

processes highlight the efficiency and efficacy of management. Performance assessment has been defined as a process of calculating the efficiency and efficacy of actions based on a set of indicators (Neely *et al.*, 1995). As performance was accepted as a barometer presenting the current business situation and trends in its development, performance assessment also incorporated the identification of future development trends of a company. The review of the main aspects that revitalised the research on the line of performance assessment (respectively of financial performance) emphasise that the researchers' efforts were based on the positive heuristic. The proof is that the new methods of performance assessment have not abandoned the financial analysis, but have integrated it in a wider context to highlight the efficiency and effectiveness of management from the perspective of many categories of stakeholders.

2. Methodology

Financial performance studies (March and Sutton, 1997; Lee, 2009; Hamann *et al.*, 2013) point out that research is exposed to risks related to: measuring instruments, sample representativeness and choice of data sources. Regarding the measuring instruments, we have noticed that for the assessment of the financial performance two methods of analysis are frequently used: the analysis based on the financial rates (which allows the diagnosis of the financial health of the companies) and the analysis of the cash flow (which allows the managers to manage the liquidity - for operational, financial and investment activities - so as to ensure the sustainability of the business). In this study we focused on rates' analysis rate analysis.

In order to avoid the risks associated with the lack of homogeneity of the sample, we focused the analysis on the following steps: out of total companies listed on Bucharest Stock Exchange during 2006-2017, only non-financial companies were selected (90 companies); then, after eliminating end-use goods and service-providing companies, we have selected only the company's manufacturing industrial goods (31 companies); out of these, we have selected only the companies having recorded profit in all 12 studied years (10 companies). To increase the level of homogeneity of the final sample, the companies were grouped by type of business: group A (two companies manufacturing car parts and accessories); group B (two companies manufacturing rubber goods and abrasives); group C (two companies, airplane manufacturer and a company manufacturing motors and turbines); group D (two companies manufacturing measuring, checking and control instruments and devices); group E (rolling stock manufacturer); group F (a company manufacturing plastic boards, foil, tubes and profiles).

The study analysed the period between 2006 and 2017. This period was selected due to our concern to describe a performance profile for cycle of ten years so that financial performance could be assessed for a period before and after the crisis.



The research regarding the data sources revealed that secondary sources are frequently used (primary sources - based on observation - are criticized because they are not relevant for longer periods of time). Therefore, the data panel needed for analysis was built using secondary sources (annual financial statements and audit reports). To identify the meaning and significance of collected data (current assets - stocks, receivables, cash, short-term liabilities, sales, own equity, profit and number of shares), the first step of financial analysis included the calculation of compound annual growth (CAGR - *Compound Annual Growth Rate*). To formulate consistent conclusions regarding management efficiency, strengths and weaknesses of companies, future development indexes, etc., we have used a set of ratios (profitability, sales and liquidity) and statistical methods (trends, correlations, tables and charts). To build the assessment model, we considered the indicators describing past, current and results. So, we obtained an extension of the traditional model assessing financial performance. Making use of information from annual financial statements (for 2006-2017), we made the performance profile that includes: return on capital employed (ROCE), earnings per share (EPS) and liquidity ratios (LR) (table 3). This profile reflects only the consequences of financial decisions.

Table 3. System of indicators used in the analysis

Indicators	Ratios	
Return on capital employed	Return on equity = (Net profit / Own equity) *100,	ROE = NP / OE *100
	Net profit margin ratio = Net profit / Total sales,	MR = NP / TS * 100
	Cash to sale ratio = Cash / Total sales,	Cs = C/TS
Earnings per share	Profit per share = Net profit / Number of shares,	Ps = NP / Sh
Liquidity ratios	Current ratio = Current assets / Current liabilities,	Cr = CA / CL
	Quick ratio = Liquid assets / Current liabilities,	Qr = LA / CL
	Cash ratio = Cash / Current liabilities,	Chr = C / CL

Source: Own processing

To overcome the first disadvantage of classical assessment methods (dealing mainly with the consequences and not the causes), we used updating instruments (compound annual growth rate) assessing the dynamics (growth/decrease) of indicators for the analysed period, as long as the variables may explain the results, these will be viewed as causes. To overcome the second limitation attributable to traditional models (lack of strategic orientation), we made forecasts for designing the future profile of performance. For the same purpose, we analysed the dynamics of indicators in the phases of economic growth and decrease. Data processing was made using the package “Data analyse” of Excel. Going by these methodological benchmarks, the research began with data analysis and interpretation. Based on the results obtained, a series of suggestions and conclusions regarding the dynamics of the financial performance of the selected companies were formulated.

3. Data analysis and interpretation

3.1. Return on equity

Return on equity (ROE) is an autonomous and complete criterion of economic efficiency (Tudose, 2008, p. 190) showing “the size of company financial performance during one period” (Simatupang *et al.*, 2019, p. 86). To assess the dynamics, ROE could be compared to average interest rate of loans on the banking market (compared to which it should be higher).

Table 4 shows that some companies recorded a worsening of financial performance during the 12 years (that is why the compound annual growth rates were negative for profit and equity). As annual average compound growth rate of net profits ($\overline{CAGR_{NP}} = 2.3\%$) is lower than annual average growth rate of equity ($\overline{CAGR_{OE}} = 3.5\%$), ROE is the negative average compound growth rate ($\overline{CAGR_{ROE}} = -5.6\%$).

Overall, weak performance of analysed companies may be explained by the fact that:

- before 2006, analysed companies had low levels of net profits (compared to size of used equity);
- during 2007-2013, *average return on equity* for the 10 companies was lower to annual interest rate; the highest gap was in 2009, the year when national economy had an abrupt economic contraction (the year when crisis began in Romania).

The highest levels of average return on equity (24.5% and 14.1%) were observed in category “C” companies (manufacturers of high value goods - airplanes, motors and turbines). The lowest level had the company manufacturing rolling stock (category “E”), for which, the average ROE is 2.7%. Data from Table 4 show that only two of the ten companies recorded an average return on equity higher than 10%. For these companies (category “C”), 6 of 12 annual values of ROE are higher than 14.1% and 25.8%, respectively.

The highest spread of values was recorded for last category (manufacturer of plastic material, for which, $STDEV_P = 8.8$), and the lowest was recorded by the manufacturer of rolling stock (for which, $STDEV_P = 1.9$).



Table 4. Return on equity

Firm's group	CAGR (%)			ROE								
	NP	OE	ROE	Min	Max	Average	Median	STDEVP				
A	40.0	7.6	30.2	0.03	13.2	3.7	2.9	3.8				
	13.4	3.5	2.3	0.2	14.1	6.3	7.1	3.9				
B	-21.7	-3.2	-22.2	0.2	27.8	3.8	1.6	7.3				
	2.6	-1.0	1.4	0.8	16.4	7.3	6.2	4.6				
C	12.2	5.2	0.4	11.2	28.8	16.8	14.1	5.7				
	10.9	14.3	2.6	3.8	34.6	24.5	25.8	8.2				
D	-0.7	2.9	-8.1	1.0	18.7	7.4	5.4	5.5				
	4.7	-2.5	-9.1	1.3	15.2	7.4	6.8	3.7				
E	-38.3	-7.7	-39.1	0.01	6.0	2.7	2.6	1.9				
F	0.0	16.0	-14.2	0.1	28.8	6.7	3.6	8.8				
Average	2.3	3.5	-5.6	1.9	20.4	8.7	7.6	5.3				
Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ROE (%)	14.0	9.1	4.5	5.6	5.8	6.8	8.0	7.4	11.5	12.3	9.9	9.2
Source: Own processing												
Interest rate (%) ^{a)}	11.6	10.4	15.3	14.8	14.1	12.1	11.3	10.5	8.4	6.7	5.7	5.5
Growth rate ^{b)}	7.7	6.9	8.3	-5.9	-2.8	2.0	1.2	3.5	3.9	4.8	6.9	2.5
Inflation ^{c)}	6.6	4.8	7.9	5.6	6.1	5.8	3.3	4.0	1.1	-0.6	-1.5	1.3

Source: ^{a)} <http://www.bancherul.ro>; ^{b)} <https://ec.europa.eu/eurostat>, ^{c)} <http://www.insse.ro>

This first step of the financial analysis enables the identification of several significant causes of moderate performance of Romanian companies: type and profitability of operations; value and profitability of goods; length of production cycles; degree of responsibility of managers (in compliance with agency theory); efficiency and degree of competition of markets for company products; the degree of their visibility on these markets (reflected in the intensity of promotion activities). The analysis of the nature of these causes reveals that the financial performance does not depend exclusively on financial aspects.

3.2. Net profit margin ratio

The ratio between net profit and total sales (known as *net profit margin*) shows the efficiency in company's use of resources (materials, human, financial, informational, time) for manufacturing and selling products at profit.

Average compound annual growth rate of net profit ($\overline{CAGR_NP} = 2.3\%$) is lower than average compound annual growth rate of total sales ($\overline{CAGR_TS} = 6.5\%$). Therefore, *average net profit margin* is a negative average compound annual growth rate ($\overline{CAGR_NP/TS} = -3.6\%$). It shows that the efficiency of operations of sample companies decreased. At group level, Table 5 shows that companies in

group “C” had, for each 100 RON of sales, 9.4 and 20.0 RON profit, respectively. Other companies had, an average, between 2.4 and 7.5 RON profit for each 100 RON of sales.

Table 5. Net profit margin

Firm's group	CAGR (%)			Net profit margin ratio, MR = NP/TS*100								
	NP	TS	NP/TS	Min	Max	Average	Median	STDEVP				
A	40.0	3.6	35.1	0.02	7.6	2.4	1.8	2.3				
	13.4	9.3	3.7	0.2	8.1	3.9	4.1	2.3				
B	-21.7	-0.1	-21.7	0.3	51.5	7.5	3.1	13.5				
	2.6	-2.5	5.2	0.3	7.4	3.5	3.5	2.0				
C	12.2	7.6	4.2	6.2	15.8	9.4	7.4	3.7				
	10.9	15.3	-3.9	3.3	28.6	20.0	20.4	5.8				
D	-0.7	4.7	-5.2	0.4	8.2	2.6	2.1	2.1				
	4.7	0.8	3.9	1.7	7.1	4.5	4.7	1.7				
E	-38.3	13.6	-45.7	0.01	20.6	7.5	5.4	7.4				
F	0.0	13.0	-11.5	0.0	22.6	5.5	2.8	6.2				
Average	2.3	6.5	-3.6	1.2	17.8	6.7	5.5	4.7				
Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MR (%)	12.3	7.0	4.0	6.3	5.4	6.8	5.5	4.8	7.7	8.0	6.3	6.1

Source: own processing

Table 5 shows sporadic improvement that could not allow going back to levels before the crisis. Small gap between average and median values (correlated with the values of standard deviations - STDEVP) explain the sporadic improvements (without major variations).

Difficulties in ensuring satisfactory profit margins may be associated with financial and non-financial causes: low profitability of products (due to high operational costs), low competitiveness of companies (compared to competing companies), low quality or “too expensive” quality of products, weakening of relations with clients (attracted by offers of competition), lack of visibility on the market (in the absence of intense promotion, local products – sometimes having higher quality – these do not attract the interest of clients making manufacturing companies promote low price policies). Identifying and reviewing these issues is a precondition for improving overall performance, as well as financial performance.

3.3. The cash to sale ratio

This ratio compares the cash balance at the end of the year with the income from sales, it indicates the efficacy of current funding policies; a low value showing not only the insufficient cash stock but also the absence of buffer funds ensuring liquidity in case of delayed collections.



Table 6. Cash to sale ratio

Firm's group	CAGR (%)			Cash to sale ratio Cs = C / TS								
	Cash	TS	C/TS	Min	Max	Average	Median	STDEVP				
A	17.7	3.6	13.6	0.001	0.27	0.07	0.04	0.08				
	-10.3	9.3	-17.9	0.001	0.03	0.01	0.005	0.01				
B	-17.5	-0.1	-17.4	0.0003	0.12	0.02	0.005	0.03				
	4.9	-2.5	7.6	0.012	0.05	0.03	0.02	0.01				
C	-15.4	7.6	-21.4	0.002	0.34	0.08	0.02	0.11				
	6.5	15.3	-7.7	0.122	0.36	0.17	0.15	0.07				
D	13.2	4.7	8.1	0.012	0.08	0.04	0.03	0.02				
	8.8	0.8	8.0	0.005	0.08	0.05	0.04	0.02				
E	8.4	13.6	-4.5	0.010	0.35	0.13	0.07	0.13				
F	-4.2	13.0	-15.3	0.013	0.19	0.08	0.07	0.05				
Average	1.2	6.5	-4.6	0.02	0.19	0.07	0.04	0.05				
Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
C/TS	0.09	0.06	0.06	0.11	0.07	0.07	0.09	0.05	0.05	0.06	0.07	0.04

Source: own processing

Although the volume of sales had been growing in the analysed period (average compound annual rate of 6.5%), cash stocks of sample companies were moderate (Table 6). Only five companies in the sample had a higher pace of growth of liquidity compared to pace of revenue collection from sales. Negative state of other companies generates a negative compound annual growth rate for this indicator. This is the consequence of the fact that collections from sales are immediately used for making current payments (invoices, salaries, instalments).

In the period before the crisis (2006), the average cash to sales ratio was 100:9 (showing the fact that of 100 collected RON only 9 RON remain at company's disposal for a long period of time), decreasing to 100:4 at the end of the period. Considering the low level of this ratio (cash to sales ratio), we could infer that the issue of liquidity is associated with that of business profitability (consistent growth of sales is burdened by high operational costs making liquidity from sales be distributed immediately after paying invoices, salaries, taxes, etc.). It could be also linked to set of other reasons (financial and non-financial), such as too high operational costs, lack of agreements with suppliers/business partners (allowing more relaxed payment of invoices), long periods for collecting payments from clients (for this sample, receivables amount to 57.4% of total current assets), high volume of stocks exceeding current production needs (for this sample, it amounts to 31.3% of total current assets, and liquidity is 11.2%).

3.4. Profit per share

This ratio reflects the actual profitability of company shares. Table 6 shows that four of the ten companies maintained the same number of shares for the entire

analysed period (those whose CAGR_Sh is zero); five increased share capital by issuing new shares (due to incorporating new reserves from revaluations or conversion of other debts; only one company issued shares to attract new sources of funding); one company decreased its share capital by cancelling 4% of its own shares. Therefore, overall during this period, there have not been identified consolidations of cash flows.

Table 7. Profit per share

Firm's group	CAGR (%)				Profit per share, Ps = NP / Sh							
	NP	Sh	NP/Sh	Min	Max	Average	Median	STDEVP				
A	40.0	3.9	34.9	0.000	0.24	0.07	0.04	0.08				
	13.4	0.0	13.4	0.002	0.24	0.09	0.088	0.07				
B	-21.7	2.1	-23.4	0.0263	4.50	0.62	0.250	1.19				
	2.6	0.0	2.6	0.061	1.26	0.59	0.52	0.38				
C	12.2	2.2	9.7	0.081	0.37	0.17	0.12	0.11				
	10.9	2.0	8.7	0.121	3.21	2.10	2.52	1.00				
D	-0.7	-0.4	-0.4	0.013	0.60	0.17	0.15	0.16				
	4.7	0.0	4.7	0.006	0.04	0.02	0.02	0.01				
E	-38.3	0.0	-38.3	0.000	0.30	0.13	0.12	0.09				
F	0.0	3.0	-2.9	0.000	0.14	0.03	0.02	0.04				
Average	2.3	1.3	0.9	0.03	1.09	0.40	0.39	0.31				
Average NP/Ns	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
	0.66	0.26	0.08	0.24	0.28	0.39	0.48	0.38	0.50	0.56	0.48	0.48

Source: Own processing

For this sample, average annual profit per share ratio (from 2006 to 2017) was decreased from 0.66 to 0.48 without taking into account profit distribution for dividends (table 7). The most favourable situation is a profit of 2.10 RON per share. The analysis of standard deviation for the companies does not show major variation for *profit per share ratio*. Main causes that led to low profit per share are: dividend policy, share degree of concentration (ownership dispersion and lack of majority representation in general meetings of shareholders), degree of involvement of shareholders in company decisions, degree of share remuneration on the national financial market, functionality of financial markets, costs and profitability of the monetary market. The analysis of the nature of these causes reveals that the financial performance depends on both internal and external factors.

3.5. The liquidity ratio

Current ratio. Table 8 shows the ratio between current assets and current liabilities for 2006-2017. Generic reference interval for this indicator is [1-2].



Financial theory states that sub-unit values of the indicator indicate that the company does not have enough liquid assets to cover its current debts. In contrast, it is accepted in practice that current liquidity lower than 0.8 is a negative sign (especially for companies funded through operation credits).

Table 8. Current ratio

Firm's group	CAGR (%)			Current ratio, Cr = CA / CL								
	CA	CL	Cr	Min	Max	Average	Median	STDEVP				
A	8.0	-0.2	8.2	0.7	1.8	1.2	1.2	0.4				
	8.8	3.5	5.1	0.9	2.5	1.6	1.8	0.5				
B	1.9	-3.2	5.2	1.2	2.8	2.0	2.0	0.5				
	4.1	-1.0	5.1	0.9	1.7	1.3	1.3	0.2				
C	12.2	5.2	6.6	1.7	6.5	3.5	3.4	1.5				
	12.4	14.3	-1.6	2.2	4.6	3.2	3.1	0.8				
D	4.6	2.9	1.7	0.7	1.1	1.0	1.0	0.1				
	10.6	-2.5	13.4	0.7	3.0	1.8	1.9	0.7				
E	-5.1	-7.7	2.8	1.3	5.0	3.4	3.7	1.3				
F	2.5	16.0	-11.7	0.5	5.1	1.3	0.7	1.4				
Average	6.0	2.7	3.5	1.1	3.4	2.0	2.0	0.7				
Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
CA/CL	1.7	2.2	1.6	2.0	2.0	2.4	1.9	1.8	1.9	1.9	2.6	2.4

Source: own processing

If the indicator exceeds the upper limit of the specified interval, the company has an excess of liquidity (for which there is no alternative with higher profitability). In this case practice also showed that sectors with high asset turnover need higher current liquidity to operate efficiently.

Table 8 shows that companies in the sample mainly have average current liquidity ratios exceeding the upper limit of the reference interval (especially at the end of the analysed period). This seems to indicate an excess of current assets compared to current liabilities. Section 3.3. has already provided evidence on the structure of current assets. An overall picture will be made after the analysis of the other two liquidity ratios (quick ratio and cash ratio).

As the average annual compound growth rate of current assets ($\overline{CAGR_CA} = 6.0\%$) is higher than the average annual compound growth rate of current liabilities ($\overline{CAGR_CL} = 2.7\%$), current ratio shows a positive average compound growth rate ($\overline{CAGR_Cr} = 3.5\%$). Except a few exceptions, the average and the median have close values so the standard deviations are low (showing a homogeneity of current ratio values).

The quick ratio reflects the degree to which a company holds enough liquid assets (receivables and cash) to pay its short-term debts. Reference values for this

indicator are [0.65-1]. In practice, lower values are accepted for this ratio only if stocks have a higher share in total current assets.

Table 9 shows the state of liquidity without the influence of stocks (stocks were eliminated from total current assets). For the entire analysed period, there was a major excess of current assets compared to current liabilities. It indicates a too high volume of liquidity or a too high volume of receivables (amounts to be collected); although the explanation may be inferred using the details related to the structure of current assets (mentioned above), final conclusion will be made after the analysis of cash ratio - Table 10.

Table 9. Quick ratio

Firm's group	CAGR (%)			Quick ratio, Qr = LA / CL								
	LA	CL	Qr	Min	Max	Average	Median	STDEVP				
A	8.6	-0.2	8.8	0.3	1.5	0.7	0.7	0.4				
	6.7	3.5	3.2	0.6	1.7	1.0	1.1	0.3				
B	1.9	-3.2	5.3	0.5	1.1	0.8	0.8	0.2				
	6.3	-1.0	7.3	0.3	0.8	0.6	0.6	0.2				
C	11.4	5.2	5.9	1.3	5.2	2.8	2.6	1.2				
	13.4	14.3	-0.8	0.8	2.5	1.6	1.7	0.4				
D	10.2	2.9	7.1	0.4	1.0	0.7	0.7	0.2				
	10.6	-2.5	13.4	0.5	2.5	1.5	1.5	0.6				
E	-3.3	-7.7	4.8	1.1	4.3	2.6	2.7	1.0				
F	-0.5	16.0	-14.3	0.3	3.8	0.9	0.4	1.1				
Average	6.5	2.7	4.1	0.6	2.4	1.3	1.3	0.6				
Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
LA/CL	1.15	1.28	0.88	1.24	1.41	1.67	1.21	1.20	1.26	1.24	1.78	1.66

Source: own processing

Huge gaps between the two dynamics become more evident if we analyse the average *compound annual growth rate*. The gap between $\overline{\text{CAGR_LA}}$ (6.5%) and $\overline{\text{CAGR_CL}}$ (2.7%) is positive (in the sense that the liquid assets grow by a higher compound annual rate than current liabilities) but not necessarily favourably (as they position the rates outside the reference interval. As in the case of current ratio, the average and median have close values therefore the standard deviations are also low.

The evolution of quick ratio matches the dynamics of economic growth. The highest value (within the reference interval) was recorded in 2008 (the year when the effects of crisis started to be felt in the Romanian economy).

The cash ratio reflects the ability of companies to pay their short-term debts using the most liquid assets (liquidity/cash). Reference values for this indicator are [0.35-0.65].



Table 10. Cash ratio

Firm's group	CAGR (%)			Cash ratio, Chr = C / CL								
	C	CL	Chr	Min	Max	Average	Median	STDEVP				
A	17.7	-0.2	18.0	0.001	0.76	0.19	0.07	0.23				
	-10.3	3.5	-13.3	0.00	0.12	0.04	0.02	0.04				
B	-17.5	-3.2	-14.7	0.00	0.40	0.06	0.01	0.12				
	4.9	-1.0	5.9	0.03	0.16	0.07	0.07	0.04				
C	-15.4	5.2	-19.5	0.01	1.63	0.44	0.10	0.54				
	6.5	14.3	-6.8	0.30	1.29	0.73	0.58	0.33				
D	13.2	2.9	10.0	0.02	0.17	0.09	0.09	0.04				
	8.8	-2.5	11.6	0.03	0.90	0.42	0.39	0.26				
E	8.4	-7.7	17.5	0.25	1.96	1.08	1.06	0.63				
F	-4.2	16.0	-17.5	0.03	1.72	0.25	0.11	0.45				
Average	1.2	2.7	-0.9	0.1	0.9	0.3	0.3	0.3				
Average	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
C/CL	0.37	0.38	0.30	0.58	0.32	0.37	0.35	0.21	0.22	0.22	0.39	0.35

Source: own processing

Table 10 shows that lack of cash stocks is the most serious problem in the analysed companies. For five of ten companies, the *compound annual growth rate* of liquidity was much higher than the *compound annual growth rate* of current liabilities; companies had liquidity in the entire period, sporadic improvements not allowing a favourable interpretation of the dynamics.

The analysis from the perspective of average annual rates of compound growth show a big gap between liquidity and current liabilities, this aspect (normally favourable) should be interpreted with prudence when annual series appear with extremely low values. The years after the crisis (2008 - 2012) were unfavourable (in terms of liquidity stocks) and companies managed to recover but only for short periods of time (2009-2012 and 2016-2017, respectively).

4. Findings and suggestions

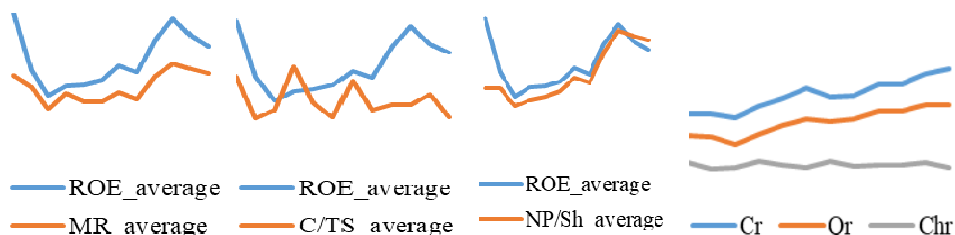
To formulate relevant conclusions, starting from the descriptive statistics, we determined the statistical dependence of the analysed variables. Table 11 shows details on the degree of correlation of return on equity (ROE) with factors analysed as determinants of performance. Correlation coefficients (calculated as pairs) show that the analysed indicators have similar variations (of different intensity). The most intense correlation is between ROE and net profit margin ratio and cash to sale ratio. Considering the area of analysis, statistics recognises the minimum value of correlation of 0.3. So, only profit per share and quick ratio remain outside the area of interest.

Table 11. Analysis of relationships between variables

Correlation									Covariance								
	ROE	MR	NP/Sh	C/TS	Cr	Qr	Chr	Gr		ROE	MR	NP/Sh	C/TS	Cr	Qr	Chr	Gr
ROE	1								ROE	5.93							
MR	0.91	1							MR	0.03	0.00						
C/TS	0.72	0.87	1						C/TS	0.04	0.00	0.00					
NP/Sh	0.15	0.09	-0.17	1					NP/Sh	0.01	0.00	0.00	0.00				
Cr	0.39	0.55	0.83	-0.28	1				Cr	0.28	0.00	0.01	0.00	0.08			
Qr	0.47	0.59	0.86	-0.23	0.98	1			Qr	0.28	0.00	0.01	0.00	0.07	0.06		
Chr	0.23	0.21	0.09	0.90	0.07	0.14	1		Chr	0.03	0.00	0.00	0.00	0.00	0.00	0.00	
Gr	0.43	0.30	0.25	-0.37	-0.08	-0.04	-0.48	1	Gr	4.35	0.02	0.03	-0.02	-0.10	-0.05	-0.08	16.79

Source: own processing

As two measurement variables were used (percentage and index), covariance was also analysed. It confirms the relation between ROE and the economic growth dynamics (Figure 1).

Figure 1. ROE and economic growth rate (evolutions and trends)

Source: own representation

Using the information that had been collected earlier, we built the performance profiles of companies in the analysed sample. Figure 2 presents in detail the performance path (retrospectively and prospectively) of each company. The thick line (black) shows the evolution of economic growth during 2006-2017. Except two companies, (category “C”), all other companies show a dynamic that harmonizes with the economic growth dynamics.

The first description of the performance profile of companies enables us to observe the following:

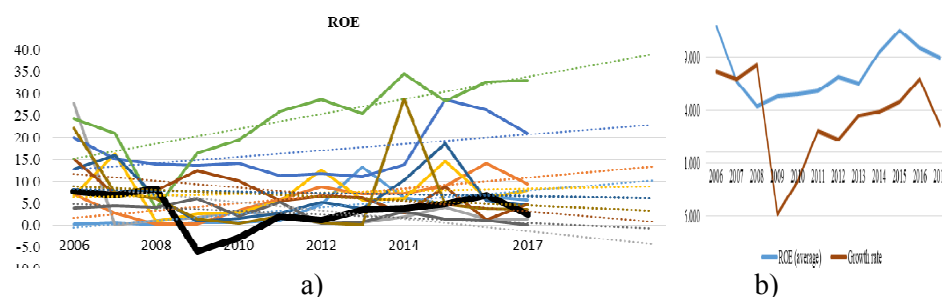
- During the period before the crisis, 7 of 10 companies recorded financial profitability (ROE) higher than 10%;
- During 2008-2009, financial performance worsened (in the context of economy affected by crisis);
- starting with 2010, financial performance improved but at the end of 2017 it was lower than in the period before the crisis;



- In terms of forecasts (for the period 2018-2020), the situation remains unfavourable; 7 of 10 companies having a financial profitability below 10%.

Figure 2. ROE and economic growth rate (evolutions and trends)

a) ROE (for all firms) and growth rate, b) average ROE and growth rate



Source: own representation

During 2006-2017, current ratio and quick ratio contributed to the consolidation of financial performance. In contrast, the trend indicates higher values than the accepted limits, therefore, financial managers should focus on monitoring the size of stocks and receivables. Measures may include: a) limitation of stocks only to the ones ensuring the continuity of production processes; b) adoption of more restrictive payment policies for clients (payment at the time of delivery). These measures will generate additional cash flow and the *cash ratio*.

Financial performance of the two companies affected by insufficient liquidity (cash stocks) even at the end of the 3 years of forecast. Therefore, financial managers should design strategies adequate for cash flow management with the view not only of ensuring compliance with financial rules but also to establish buffer stocks minimizing the liquidity risk. Although data show that a company may survive without enough cash, it should be noted that financial performance consolidation may be seriously affected. To avoid under/over sizing of cash stocks, it is vital that budgets of payment and receipts be made.

Studies (Sen, 2010) showed that liquidity is less important than solvency in relatively quiet times as a solvent company is able to find funding to cover its eventual problems of liquidity. In the period before the crisis, there is a general tendency of the system to become more and more indebted (Iancu, 2010) leading to increase in the degree of vulnerability. During crisis, *liquidity may become more important* than solvability (Bernanke *et al.*, 1988).

Considering the fact that crisis had been felt later in emerging economies, the highest rate of economic growth was recorded in Romania in 2008 (8.3%). The crisis started to have an influence in 2009, the year when economy had a decrease of 5.9%. In this scenario, we may explain the liquidity issues faced by the ten

analysed companies. Sudden passage from a normal state to crisis did not give time to companies to take measures for liquidity consolidation (2009-2011), changes in funding behaviour (diminishing the dependence on debts) brought back the vulnerability towards funders and also increased the risk of insufficient assets with high liquidity.

During 2006-2017, company performance was affected by low levels of liquidity stocks compared to sales. The solution is evident: by solving the problem of insufficient liquidity stocks, *cash/total sales* ratio will increase the efficacy of current funding policies. To improve this situation, financial managers should achieve a balance between profitability and liquidity. The difficulty of this strategy is fuelled by the fact that more liquid assets have a lower profitability (and less liquid assets have higher profitability). To identify the best use of liquidity, financial managers should make periodical forecasts regarding receipts and payments in cash so that they could take measures for maintaining optimal balance of liquidity without affecting profitability and liquidity.

Moreover, efficient management of liquidity - sustaining development not only for ensuring company survival but also its development - is a pre-requisite for growing profitability, and it also provides strategic advantages in economically difficult periods (Veronika *et al.*, 2014).

Conclusions

In this study, we started from the premise that financial performance provision is a pre-requisite for grounding a strategy for improving the overall performance of a company. Therefore, the study suggests a reinterpretation of a traditional approach to assessing financial performance and brings evidence on the usefulness of financial analyses. Without exaggerating the qualities of traditional methods or performance assessment, we agree with the views of earlier authors stating that financial ratios “are no substitute for a crystal ball. They are just a convenient way to summarize large quantities of financial data and to compare firms’ performance” (Brealy *et al.*, 2017, p. 704). The significant financial ratios are utilized to reveal changes in the company financial position and performance and to illustrate the trends and nature of the changes. This approach is justified as modern methods do not deny the usefulness of traditional methods and only extend the scope of the assessed aspects; to increase the relevance of assessment, modern methods of performance assessment compete the financial analysis with analyses of non-financial indicators. The argument is pertinent as long as it is accepted that performance covers several areas.

Also, the study provides evidence on lack of relevance of two criticisms brought to traditional methods of financial performance assessment based on ratios: promotion of short-term decisions (lack of strategic orientation) and dealing mainly with consequences and not the causes determining a specific performance. To argue against the first criticism, we included in our research the analysis of trends



(based on retrospective analysis of a period characterised by expansion, crisis, recession and recovery). The analysis of the state and predictions is the guarantee for adequate grounding of decisions ensuring not only company survival but also its balanced development. Empirical research has shown that identifying the causes that determine a certain level of financial performance allows to find out some details that exceed the area of financial analysis. This expanded view of business, reinforced by trend analysis, is the foundation for strategic business orientation.

Concerning the second criticism, we did not deny the fact that financial analysis (using information from supporting documents of companies) mainly deals with consequences. This is only a partial reality. In a systematic approach to companies, a financial analysis (making use of not only of knowledge but also experience and intuition) indicates a set of internal and external causes of performance (of financial and non-financial nature). Therefore, we proved (based on logical deduction) that financial performance of analysed companies depends on a set of financial (company profitability and liquidity, product profitability, volume of sales, dividend policy, turnover speed of clients/suppliers, etc.) and non-financial factors (product quality, length of production cycles, degree of responsibility of managers and degree of involvement of shareholders in company decisions, product visibility on the market, efficiency and degree of competitiveness on distribution markets of company products). Empirical research has shown that when historical data is used for forecasting, financial analysis is no longer limited to evaluating consequences. In this context, financial analysis provides information that explains the dynamics of targeted performance indicators.

Finally, performance depends both on internal and external factors. Only if all efforts converge towards the same goal (sustainable company development), performance assessment indicators may have balanced growth trends. This study shows that:

- Determinant factors of financial performance belong both to internal (volume and dynamics of assets, debts, sales, profits, behaviour and degree of exposure to risks assumed by financial managers) and external environment of the company (crisis, financial market, distribution market, etc.);
- Depending on the state of economy and its internal health, companies develop their own strategies for adapting to the socio-economic context in which they operate; the companies in the analysed sample prove that a company may go through a period of crisis/post-crisis at the expense of liquidity and profitability;
- Decisions adopted after unforeseen new events based only on ensuring survival affect company sustainability.

In the context of the research, we considered performance as an artefact according to which we assess the success of a business in the context of a free, competitive and globalized market. For the evaluation of the performance we used financial indicators and we only capitalised the financial-accounting information

(which allowed us to focus the research only on the financial performance). The statement of the results was based on logical deductions that exceed the area of financial analysis. This is the reason for which in future research we intend to extend the analysis on other performance determinants, especially of non-financial nature. The final goal of the efforts will be to highlight the usefulness of financial analysis in the context of multi-criteria performance assessment.

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EUROPEAN DIPLOMATIC ACTION IN THE CONTEXT OF NOVEL CHALLENGES RELATED TO GLOBAL CLIMATE MIGRATIONS

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Abstract

Civil wars in Darfur or Syria showed what the global effects of migration could be and proved the importance of creation of multi-stakeholder partnerships. The consensus is not easy to find but only a global partnership for the migration climatic challenge can create proper conditions for successful and sustainable action. The European Union should assume its leading role in establishing a universal approach of “climate migrations”, based on its fundamental values: respect of human rights and global security. This article reviews the efforts to develop the understanding of the importance of global and cross-organisational involvement regarding migration in the context of climate changes. It highlights the initial effort to regulate and define the concepts of migration and refugees’ seekers by international organisations. More specifically, the article concentrates on more recent efforts to formulate common actions and policies crossing the European Union borders and passing by the international organisations and NGO’s involved in this matter.

Keywords: migration, novel challenges, global, border

Introduction

In the new context related to the growing importance of climate change issues it is important that the European Union be prepared to identify efficient solutions in the field of “migration diplomacy”. Migration matters are linked to other areas of state interest and diplomacy, including security, economic, identity, soft power, and public diplomacy. Among other aspects, the future of the EU’s external actions will be focused on cross-border population movement. The migrant crisis of 2015 was the starting point of what is commonly known as “the refugees and migrant crisis” (EP, 2015; EC, 2017). In a foreseeable future, climate changes and the lack of efficient public policies to counteract the new challenges in the countries of origin of migrants will generate new migratory and refugees’ flows directed towards the European Union (EP, 2018). By facing these new challenges

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the European institutions will be constrained to re-design their action and to create new policies linking foreign relations and population mobility.

EU strategies and policies in external actions need to be directed towards an increase of legal protection, but also to work on the cross-border conflicts topics. The states and the law governance ought to put forward realistic host-state policies for climate refugees and migrants, be it for members of the diaspora(s), internal migrants or climate migrants. The same vision must be adopted at national and supranational levels by the EU member states. Climate migration and migration diplomacy are two of EU's major future challenges. Migration diplomacy describes "the states' use of diplomatic tools, processes, and procedures to manage cross-border population mobility" (Thiollet, 2011). Globalization processes have diminished and illegitimated states' sovereignty in issues related to migration, and revealed the importance of new international actors' action and engagement in matters beyond the reach of national states' authorities.

The topic of climate refugees and migration will create a new potential of cooperation between public and private institutions but also between national states and international organizations that will highlight the aspects related to cross-border mobility management at international level. Conflicts, violence, natural disasters and climate changes are already producing multiple and complex challenges for the cooperation in the field of security, law enforcement, irregular migration control, protection of migrants and refugees. The European Union has an important role to play in order to regulate a realistic supranational migrant policy and to promote respect of international agreements in a context of novel challenges generated by climate migration.

One of the fundamental issues is the apparent difficulty of defining specific concepts. Environmental refugees or climatic migration can be voluntary, involuntary, temporary, permanent, internal, cross-border but it can also be caused by multiple forms of problems: conflicts, wars, natural disasters, etc. The dilemma is to find an international migration and refugees regime which responds to the increasingly climatic challenge and create an emergent proactive and supranational process. Finding solutions for this problem was complex in the 1950's, with the creation of refugees and asylum seekers protection's parameters in the post-World-War II period, but it is not an easy endeavour in the actual context neither. Multilateral cooperation is usually not the first option neither it is the initial response to this emergent problem. In the field of the climatic migration a multitude of actors are playing key roles aimed at defining multilateral arrangements.

Furthermore, ethical aspects and respect of human rights are of key importance when approaching topics related to migration, in a classical sense (Hudson, 1984; Hing, 2006; O'Neil, 1984). The novel challenges related to migrations generated by climate change bear a new load of ethical and moral aspects that need to be discussed and understood in order to identify an efficient approach for the consequences of this complex yet ever growing phenomenon.



1. The definition dilemma of migration concept and patterns in the context of climate challenge

Academic research and developments related to policy debate on the link between climate (or, in a larger sense, environment) change and migration patterns are at present hindered by a number of structural difficulties. Among these, the most evident by its omnipresence and bearing heavy consequences over the reported findings and the proposed solutions is the conceptual discussion on the “correct” and “most adequate” terms to be used when addressing the categories of persons who undertake migration paths attributed (directly or indirectly) to climate (environment) change. The term “environmental refugees” was first used in a 1985 United Nations Environmental Program report, to define “people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of life” (El-Hinnawi, 1985). A decade later, a similarly broad definition was given by Myers and Kent, who referred to environmental refugees as to “persons who can no longer gain a secure livelihood in their traditional homelands because of environmental factors of unusual scope, notably drought, desertification, deforestation, soil erosion, water shortages and climate change, also natural disasters such as cyclones, storm surges and floods” (Myers and Kent, 1995). In an attempt to restrict the concept by referring merely to “climate refugees” who are seen as victims of a set of largely undisputed climate change impacts, Biermann and Boas gave yet another definition, in 2010: “climate refugees ... are people who have to leave their habitats, immediately or in the near future, because of sudden or gradual alterations in their natural environment related to at least one of three impacts of climate change: sea-level rise, extreme weather events and drought and water scarcity” (Biermann and Boas, 2010). This definition stems out of a detailed analysis of the causes leading to displacement of persons that can be attributed to climate change, as well as of the types of migration: voluntary/involuntary, temporary/permanent, internal/cross-border. A 2011 Foresight report on the ways in which migration patterns are influenced by changing environment states that environmentally induced migration usually refers to “any people who are forced to move, temporarily or permanently, within or beyond the borders of their country of origin, due to a sudden onset of disaster or gradual environmental degradation” (Foresight, 2011).

Either restricting their assumptions and thus basing their definitions on the narrower concept of climate change, or speaking in a broader manner about evolutions of the global environment, researchers seem to agree that there is no universal definition of environmentally induced migration (Biermann and Boas, 2010; Maertens and Baillat, 2017). The use of the term “refugee” in relation to persons undergoing displacement as a result of climate (or, in a broader sense, environmental) change has been heavily criticised over the past decades. For some



researchers, the figure of climate refugee is analytically flawed, normatively problematic and legally impracticable (Bettini *et al.*, 2016). Nonetheless, the use of this term poses an inherent question of responsibility thus leading to the consideration of the issue of climate justice. For others, associating persons displaced as a result of a disturbed environment to the concept of “refugees” is positive, due to the term’s strong moral connotation closely linked to empathy and societal protection, in most world cultures and religions (Biermann and Boas, 2010). Introducing the notion of (human) rights into the debate over environmentally induced migration phenomena is facilitated by the use of the term “refugees” and provides for normative legitimacy for policy interventions (McAdam, 2012). A possible way to tackle the lack of an international consensus on the concept of “climate (or environmental) refugees” vs. “climate (or environmental) migrants”, or “displaced persons due to change in their traditional environment”, would be to attempt a definition of a series of concepts, instead of searching one universally accepted term. Additionally to the causes and types of migration phenomena that can be attributed to climate change, a third criterion should be based on an estimated degree of importance of the environmental driver of migration. Environmental change can be in some cases the foremost migration driver and thus be considered as a direct cause of displacement of persons, but in the majority of cases environmental change affects other migration drivers - economic, social, political and demographic - and plays the role of an indirect cause of displacement (Foresight, 2011). Depending on the impact of the environmental driver on other pillars (notably, on the most powerful economic driver) - or on its primordial role on triggering migration phenomena, a series of gradual concepts ought to be defined. In this logical approach, the concepts of “climate migrants” or “climate refugees” (after an eventual settlement of legal and normative disputes over the term of “refugee”) would refer to displaced people forced or stimulated to migrate in a situation where the environmental driver undoubtedly played an uncontested first role. In other cases, intermediate (or gradual) concepts should be constructed and put in use.

2. Ethical aspects. A brief overview between alarmist and ‘migration as adaptation’ approaches

Different ways of defining terms related to migration (or displacement) induced by climate (environmental) change can often be explained by an application of various values grids. As stated above, the use of the term “refugees” to designate populations subject to displacement as a result of climate change clearly opens the way for a human rights defence discourse. In this optics, climate refugees are seen as the ‘human face’ of climate change (Gemenne, 2011), helping the subject to make its way into public awareness, and serving *in fine* the cause of climate change mitigation. Introducing the rights dimension into the climate refugees theme brings along the notions of responsibility, and engagement in favour of populations that



become vulnerable as a consequence of climate change. It should be noted here, that a holistic approach of vulnerability is necessarily taking into account persons who are undergoing migration experiences, as well as those who are left behind or “trapped” in unfavourable situations generated by environmental change (Foresight, 2011). These aspects are important in the underlying process of defining and attributing responsibilities regarding climate (in)justice.

The first mention of the concept of “environmental security” appeared in the Brundtland Report in 1987 (UN, 1987). It is strongly linked to the idea that human movements generated by environmental change will raise not only economic and social concerns, but will also evaluate into a top-priority security issue in the future. More than two decades later, in 2009, the UN Secretary General referred to climate change as to a ‘threat multiplier’ (UNSG, 2009), two years later he defined it as a “threat to international peace and security”. Climate change and therefore migration, its most immediate and most visible effect, is viewed primarily as a security issue. In this set-up negative consequences of climate (environment) change may be tackled by deployment of security policies. This process, defined of “securitisation” of climate change (Trombetta, 2008) is simultaneous and competing with that of “climatisation”, which refers to the framing of migration, security and conflict as issues relevant to the climate change agenda. According to Maertens and Baillat, the process of *climatisation of migration*, security and conflict may also be used as “a tool to dramatize and humanise climate change, while it also shines light on issues unrelated to climate change”, as it has been observed during the COP21 event at the end of 2015 (Maertens and Baillat, 2017). As an illustration of the process of climatisation of migration within the United Nations Framework Convention on Climate Change (UNFCCC) regime, we mention here the Cancun Adaptation Framework that encourages parties “To enhance action on adaptation [...] by undertaking, *inter alia* [...] Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at the national, regional and international levels” (UNFCCC, 2010). Understanding of how climate change affects human mobility, migration and displacement has been encouraged by the Doha Decision of 2012 (UNFCCC, 2013), whilst the Paris Agreement concluded as a result of COP21 establishes a Task Force on displacement under the auspice of the Warsaw International Mechanism for Loss and Damage (UNFCCC, 2016).

In the light of the ‘securitisation’ vs. ‘climatisation’ strategies applied in the public discourse migration appears both as a consequence of environment-related conflicts, and as a trigger of future conflicts. Although migration itself is a multi-causal phenomenon with environmental issues being just one among other competing drivers (Foresight, 2011), the scarcity of empirical evidence conducts to a conclusion that a clear link between climate (environment) induced migration and violent conflicts may not be established yet. Nevertheless, numerous alarmist scenarios featuring tens and hundreds of millions of climate refugees originating



from the South and threatening national and international security, especially in the North, have been developed over the past several decades. References to recent conflicts that are sometimes attributed to “climate change conflict” category will be given in another section of this chapter.

Proliferation of alarmist scenarios and their misuse by some political forces in the North countries may lead to counterproductive and xenophobic measures adopted by the governments of these countries, intended to ‘protect’ against waves of “violent” climate refugees. In this case, responsibility to counteract potential negative effects of migration generated by climate change lies upon the States that need to take on the responsibility to secure their population and prevent human rights violations (Bettini *et al.*, 2016). In the liberal interventionist paradigm, this core principle extends beyond national borders and applies to other States that are unable or unwilling to do the same. Largely implemented in the 1990’s, this interventionist paradigm is being continuously modified since the beginning of the years 2000, by the introduction of the concept of ‘resilience’. It is generally accepted, that a resilient individual or community is able to withstand, adapt to and recover from external disturbances. Applied to climate change – which is viewed as an unavoidable external disturbance – resilience means that affected communities must adapt. A double shift is therefore operated: first, responsibility for climate change mitigation lies no longer upon central States but with individuals or relatively small groups of individuals (family, village, local community); second, the ‘climate refugee’ narrative enters into a harsh competition with another narrative, that views migration induced by climate change as an adaptation strategy. Although it held a dominant position until recently, the ‘climate refugees’ discourse linking climate change to mass displacement and (in)security is considered to be a rather maximalist and alarmist approach (Morrissey, 2012; Gemenne, 2011). It calls for a response in terms of security management, focusing on implementation of specific mechanisms of humanitarian emergency. On the other hand, the ‘migration as adaptation’ paradigm calls for another type of response, constructed on elements of development management. From this latter standpoint, financial and social remittances are considered as a positive outcome of the migration phenomena, contributing to reinforcing individual (and community) capacity to adapt to climate change. In the following section we will see that the shift in the climate change – migration nexus, i.e. the transition from the ‘climate refugees’ to the ‘migration as adaptation strategy’ is not yet fully accomplished, as the figure of the climate refugee has seemingly experienced a renaissance in the context of the Syrian conflict and of the Mediterranean migrants (Gemenne, 2015).



3. Migration challenge, diplomacy and human security in a multidimensional and globalized world

Climate challenges are transnational and the policy solutions for them can be funded only at the supranational or international level. Climate diplomacy plays a strategic role because climate security issues are often not relevant with the national (state) or the local level. The European Union, the North-Atlantic Treaty Organization (NATO) and the United Nations Security Council (UNSC) are among the most important intergovernmental organizations (IGO's) that have a large interest in the process of dealing with global climate security problems (Dellmuth, 2018). However, climate security risks are directly linked to governance efforts across policy areas, such as security, diplomacy, peace and conflict, development, migration, etc.

As an IGO, the European Union plays a very important role in the global climate security governance. The EU institutions share conceptualizations and theoretical outlooks and provide deep knowledge about these topics, but at the same time the effectiveness across these policy areas of climate security and the challenges related to it is not so preminent. Institutional changes, concerted actions of member states and EU-level climatic and migration policies do not suffice in their actual form because they are not strong enough to protect European citizens from natural cataclysms and disasters, sudden or chronic climate risks. Furthermore, the effects of climate changes are indirectly influencing the field of security and vulnerability in a larger context: water and energy infrastructure, interdependencies in the supply chain of key commodities, social and political institutions, economical development, etc.

Climate change has a multidimensional impact. Understanding climate migration as a new challenge for the European diplomacy and simultaneously its impact on human security is one of the objectives of this research. We will put an emphasis on the difficulties faced by the European common migration policy and will discuss the "migration crisis" of 2015 in an attempt to illustrate the functioning of European institutions in a situation of emergency and crisis management. Also, climate security, "as a condition where people, communities, and states have the capacities to manage stresses emerging from climate change and variability" (Adger, 2010) plays an important role in the acknowledgement and the discourses of policymakers. Secularizing climate change and the notion of human security will induce the untrue idea that the migration crisis is only about a half of the problem rather than relating to a holistic approach of the issue. In specialized research "failed secularization" appears to be an instrumental act that has been permitted by the IGO's in order to legitimize actions or policies that disadvantage vulnerable groups (Adger, 2010).

Since 2008, within the EU the climate security challenge was considered insignificant, the academic community seeing that the secularization of "climate refugees", diplomacy and conflict prevention shaped the wrong discourses



(Trombetta, 2014). “In the context of migration, the EU has linked the notion of ‘environmental migrants’ to a growing extent to climate change, which has influenced EU policies in Southern Mediterranean countries” (Geddes, 2015) and adopted a broad definition of security. Combining state and human security is necessary for the IGO’s working in partnership because the solutions of the migrants’ crisis are about human beings. Multiple governance is integrated by the IGO’s in their climate security challenge because international actors such as NATO, EU, the United Nations (UN), or the UN Refugee Agency (UNHCR) are engaged with a mandate of environment, development and humanitarian affairs. In this context the question of reinforcing state security was legitimated and brought the idea that States need to maintain the focus on the military forces in order to remain strong in front of climate change effects. It’s the case for NATO, but also for the EU, as the Union wants to build a European army and to reinforce its external frontiers with a more efficient Europol and Frontex. The European External Action Service (EEAS) aims to develop an efficient assessment methodology creating a European Coast Guard Agency that will enhance security of EU citizens. A new Action Plan was signed recently by the executive Directors of Frontex and Europol, its main objective being to reinforce cooperation and favour a better structural exchange of information and more efficient border guards activities in order to protect the external frontiers but also to have targeted actions against criminal groups and terrorists¹. A new standing corps of 10 000 staff will be prepared in 2027, double if compared with the actual staff (EP, 2019).

4. Climate challenges from the perspective of global security governance and the security risks

The EU is combining state and human security prospective in the field of migration policy. The risks caused by environmental change are inter-related with regional crisis that affect people and their security. Statistical data show that the climate issue is the first preoccupation of citizens and at the same time it is perceived as the first threat, together with the overcrowding of population and the deterioration of the environmental setting (Ortiz-Paniagua, 2017).

The growing degree of preoccupation regarding issues related to environmental change and migration policy does not lead to a state of convergence upon definitions of terms, origins of migration waves or ways to tackle negative effects. Instead, one may witness the emergence of a number of theories highlighting the importance of climate topics and their effects on migration policy, as well as the need for application of security measures. At the European level, policymakers have increasingly engaged in the analysis of the EU common migration policy, given the complexity of the 2015 migrant crisis. In order to protect citizens, military force and reinforcement of external frontiers are crucial

¹ Read more about Frontex (2019) at <https://frontex.europa.eu/media-centre/news-release/europol-and-frontex-sign-new-joint-action-plan-NS6YYK>.

for the prevention of climate security risks. Moreover, the challenges related to climate issues are trans-boundary, the climate security risks also and awareness of this fact pushes coordination of policy areas in the field of the environment to be linked with such topics as maintaining peace, climate security and human rights (McBean, 2011). More integrated governance is necessary at the European level. Besides, the incising problems call for more cooperation and a strengthened synergy in order to ensure global solutions for the global climate security challenge. Concrete agreements, policies and formal arrangements need to be formalized in order to shape the actors' behaviour but also to emphasize the institutional changes in the context of the rise of transnational problems such as climate challenge or migration. States are affected, non-state actors such as NGO's or civil society (Keohane, 2005) are too, along with vulnerable people. New governance approaches and policies on climate security matters need to be adjusted in order to find solutions and to evaluate the conditions under which this global challenge can be countered at the domestic or national level.

5. The complex link between conflicts and environmental security attributed to climate change

Civil war in the Darfur region of Sudan was the first case of a conflict attributed to climate change. In an article published in The Washington Post in June 2007 the UN Secretary General Ban Ki-Moon explained that the conflict in this region is a direct consequence of climate warming that induced reduction of rainfall leading to a sharp decrease in available resources and in fine a harsh territorial competition between local groups of sedentary and nomad populations (Ban Ki-Moon, 2007). This viewpoint was sustained by other articles published by different scholars, explaining the violence in Darfur by the mere superposition of persistent poverty, environment degradation and climate warming (Felli, 2016). The idea of climate change generating large masses of climate (environmental) migrants producing disorder is not new. At the end of the 1980's the development of the concept of "environmental security" conducted to the identification of environmental migrants as potential sources of threat for the national security of Western countries. An emblematic example used to illustrate this fear of environmental refugees surging in large numbers along American coasts and 'invading' the national territory is that of the Haitian "boat people" (Matthews, 1989). Other similar studies depict apocalyptic scenarios, of hordes of poor and hungry persons from the South entering richer countries in the North and spreading chaos and despair (Pearce, 1989; Tickell, 2001). The fact that these standpoints have been sometimes expressed by influential policy makers (Jessica Matthews, American strategist or Crispin Tickell, advice to Prime-Minister Margaret Thatcher) means that the process of 'securitisation' of migration phenomena induced by climate change succeeded in fixing the subject on the political agenda,



but in a way that is opposite to migrants' interests and rights, by depicting them as a threat for national security (Felli, 2016).

Another more recent case of violent conflict attributed to climate change is the Syrian civil war that started in March 2011. In this case severe droughts during several years prior to the beginning conflict have forced internal displacement of large masses from rural areas to ill-equipped urban areas, left without appropriate support by the Assad regime (Malm, 2014). The 'refugees crisis' of 2015 in the European Union is partially, though indirectly, attributed to climate change. The Syrian crisis in its multidimensional aspects has channelled numerous research publications over the past years. All of them do not share the deterministic viewpoint, linking climate change manifested by severe droughts that have occurred at the end of the years 2000's to the internal turmoil that burst into a violent civil war, generating as a consequence millions of internal and international refugees. Indeed, things are more complicated than that. A mono-cause interpretation leaves space to a historical retrospective, where climate change is just one of the many factors leading to conflict. Lack of a fair resource distribution system, highly-corrupt state apparatus, disrespect of human rights, unsound patterns of economic development over the past several decades – these and other factors seem to have played a primordial role in the eruption of protests and the outburst of internal violence in Syria since March 2011.

Similarly, in-depth analysis taking into account internal developments in Sudan over several decades (since the end of the 1960's) disqualifies the conflict in Darfur as a 'climate change conflict'. Whilst climate change leading to a more pronounced scarcity of resources in the region has triggered violence, concrete causes of the turmoil are rooted in long-lasting political and economic processes that have been implemented in order to favour highly-productive, export-oriented mechanised agriculture in the Valley of the Nile (Verhoeven, 2011). Detrimental to peripheral regions like Darfur, application of these policies aggravated regional rivalries, accentuated economical marginalisation and accumulation of frustration over diminishing resources on a local level.

Both examples depicted above illustrate the difficulties occurring in the attempt to apply theoretical models elaborated by researchers to concrete situations. It is rather difficult, if not impossible, to evaluate the number of 'climate refugees' in the aftermath of the Darfur and the Syrian conflicts (the latter not yet being terminated at the moment of writing of this article). Moreover, attributing a conflict to the "climate change conflict" category is not a simple endeavour, especially after an evaluation of the historical context, of local political and economic processes and of disturbances of long-lasting power equilibriums on a national and regional level. From an ethical viewpoint, attributing conflicts solely to climate change factors would diminish the share of responsibility of autocratic and undemocratic regimes. This aspect adds to the complexity of the matter, making it even more difficult to label large masses of displaced persons into categories related to the concepts of "climate refugees" or "climate migrants".



6. What global governance for climate (environmental) migrants/refugees?

One of the main aspects of critique related to the concept of climate/environmental refugees is the inadequacy of this notion to the existing definition and framework of the term ‘refugee’. The current regime of protection of refugees is provided for by the 1951 Geneva Convention Relating to the Status of Refugees and its 1967 Protocol Relating to the Status of Refugees. Under these frameworks protection is restricted to individual political refugees fleeing their countries because of state-led persecution, thus not covering ‘climate refugees’ (McGregor, 1994). Two regional conventions – the 1969 Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa and the 1984 Cartagena Declaration on Refugees – offer a broader definition of the term ‘refugee’, extending it to people fleeing from serious disturbance of public order, and referring to groups. Nonetheless, these two regional conventions do not make any specific mention regarding ‘climate refugees’.

The United Nations High Commissioner for Refugees (UNHCR) is at present the cornerstone of the international system of refugee protection. This institution functions under the 1951 Geneva Convention and its Protocol of 1967. In 2007 the UNHCR covered 11.4 million refugees worldwide; together with the asylum seekers, returnees, stateless persons and a portion of internally displaced persons, the institution dealt in 2007 with a number of 31.7 million persons (UNHCR, 2008). In little over a decade, these figures more than doubled: as of June 2018, the number of refugees surged to an unprecedented 25.4 million persons, whilst together with the asylum seekers, stateless persons and internally displaced persons under the institution’s mandate the figure amounts to almost 80 million persons (UNHCR, 2018).

At present ‘climate refugees’ are not covered by the UNHCR mandate. Although based on few research works, attempts to empirically estimate the number of climate refugees in the future seem to generate figures that largely exceed the current number of refugees under the protection of UNHCR. Depending on the source, estimated figures range between 200 million (Myers and Kent, 1995), revised to 212 million (Myers, 2002) and 300 million (Christian Aid, 2007) ‘climate refugees’ by the year 2050. This amounts to between 8 and 12 times more than the present number of refugees under the UNHCR mandate (!).

In the created situation Biermann and Boas proposed a Protocol on Recognition, Protection and Resettlement of Climate Refugees (the “Climate Refugees Protocol”) to the United Nations Framework Convention on Climate Change (Biermann and Boas, 2010). Based upon 5 governing principles (planned re-location and resettlement, resettlement instead of temporary asylum, collective rights for local populations, international assistance for domestic measures and international burden-sharing), the ‘Climate Refugees Protocol would be the foundation of a future global governance system of environment/climate induced migration. Arguments in favour of such a sui generis regime for governing climate



change – migration nexus include the possibility to forecast and plan massive population movements, raising the level of preparedness to handle future crisis. Three types of financial mechanisms – general development funding agencies, environment-related funds and a new funding agency especially conceived for climate refugees – negotiated both by receiving and donor countries, would provide for protection and compensation to climate refugees. As an addition to this proposal of funding mechanism, we suggest identification of a specific method to raise additional funds from private companies in industrialized countries. Responsibility for climate change over the past two centuries does not lie exclusively with the governments of industrialized countries – the notion of climate justice should find its application also to private companies with a significant contribution to industrial processes that have led to anthropogenic climate change.

7. Common migration policy in the EU as a response to the global challenge of the climate transformations

During the last seven decades Europe was a continent of peace and was transformed into a land of immigration. Public policies were deployed in order to facilitate exchanges and to create a Union of countries favouring the free movement of persons. The first efforts to regulate movement of persons have their origins in the Treaty of Rome from 1957. Afterwards regulations were improved by the inclusion of families of those who migrate in order to pursue their economic activities. In the 1970's, 1980's and the 1990's the immigration and asylum question was in the centre of the policy debate. Common policy was shaped in order to organize labour migrants, refugees and asylums seekers but also to redefine collective borders. We are witnessing today the emergence of a unique regional migration regime in Europe (Lavenex, 2003). Regarding refugees and asylum seekers, they are protected nominally by the global refugees' regime, as described in the previous section. The emergent migration and asylum regime of the European Union are formal arrangements but the rules are negotiated with varying degrees of obligations.

As a response to climate change and the migration crisis from 2015, the EU explores its effective power in order to strengthen its common migration policy, by reinforcing external borders and stressing on the need to articulate uniformly applicable policies at the gates of Europe. The 2015 crisis showed that unilateral policy-making needs to be reinforced by multilateral arrangements. In recent years millions of people have fled for Europe from conflict, terror and persecution in their own countries (Syria, Afghanistan, Iraq, etc.). In 2015 there were 1.83 million illegal crossings at the EU's external borders (EP, 2015). European Commission's initial plan was completely ineffective, as multilateralism appears as a desirable option but in practice the existing policies were estimated to be inadequate for the magnitude of the problem. Member states decided that they will be involved in receiving the migrants according to the established quotas, but applying these

principles into reality turned out to be difficult. The Commission had to take the lead of developing a harmonized plethora of national regulations in order to create an efficient common migration system. Reinforcement of the asylum system and sharing responsibility between EU countries is at the heart of the Common European Asylum System (CEAS), taking its legal roots in the Dublin regulation.

The Common European Asylum System aims to offer appropriate status to any third country national requiring international protection in one of the Member States. The Stockholm Programme, adopted on 10 December 2009 for the 2010-2014 period, reaffirms “the objective of establishing a common area of protection and solidarity based on a common asylum procedure” (Stockholm Programme, 2009). July 2013 was a very important moment for the asylum because the Eurodac Regulation (Eurodac Regulation, 2013) was created with the Dublin III Regulation (Dublin Regulation, 2013), the Reception Conditions Directive (Directive 2013/33, 2013) and the Asylum Procedures Directive (Directive 2013/32, 2013). These texts are the most important concerning the migrant and asylum procedure. In 2015 the European Commission created a new European Border and Coast Guard with the aim of reinforcing the management and security of the EU's external borders and supporting national border guards.

The Commission adopted in May 2015 a European Agenda of Migration setting up a better cooperation between the EASO, the European Border and Coast Guard Agency (formerly Frontex) and Europol. An emergency relocation mechanism for a total of 160 000 people in need of international protection was adopted as a principle of solidarity. The EURODAC is an asylum fingerprint database.

On a global level, in September 2016 the United Nations General Assembly unanimously adopted the New York Declaration for Refugees and Migrants (UNHCR, 2016)². The purpose of the international community is to respond to large movements of refugees and migrants.

The European Union created budgetary instruments in the area of asylum: the Asylum Migration and Integration Fund (AMIF), with an allocation for 2014-2020 recently increased from EUR 3.31 billion to EUR 6.6 billion. EU wants to strengthen and develop all aspects of the CEAS, its internal and international dimensions, including the budget. In order to be ready to provide full operational support on asylum procedures in the future, the Commission proposes a budget of EUR 1.25 billion for the 2021 - 2027 period. Other funds, such as the European Social Fund, the Fund for European Aid to the Most Deprived and the European Regional Development Fund also allocate financial resources, mostly to support the integration of refugees and migrants.

The European Parliament also has a role in the field of asylum. It ensures the principle of fairer sharing of the burden borne by the member state at EU's external borders. Complex combinations of factors determine institutional change for the

² UNHCR, (2016), (retrieved from <https://www.unhcr.org/57e39d987>).



migration policy of the EU, the notion of security as a common military capacity and institutional synergies. The main advantage for the future of the EU is the effectiveness of a complementary mixed-methods and institutions in order to find the best solutions for this policy area and the security of citizens living on the European territory. The degree of institutionalization of these new governance arrangements need to prove their effectiveness over time and in the context of specific events as natural disasters, natural catastrophes, climate changes (Young, 2011). Given the trans-boundary nature of climate migration, an efficient system can be created with the national and local but also European level governance. Governments, NGO's and IGO's need to work together for a better level of human security. Without cooperation and an effective Common European Asylum System that will legalize all the asylum seekers, the action will be suboptimal and invite climate migration policies to failure (Vignon, 2018). Synergies become essential for realizing the preservation of local, national and European security in today's more global world. Migration needs to be an adaptable strategy able to increase the resilience of vulnerable communities to the environmental crisis (Rothe, 2017).

Conclusions

The lack of an international consensus on the definition of the term designating persons suffering and forced to be displaced as a consequence of climate change (or, rather, as a consequence of security issues related to climate change) is not a purely academic or research artefact. Beyond scientific debate, it is a matter of principle which is closely linked to the approach adopted by States, Inter-Governmental Organizations or civil society regarding the understanding of the climate - migration nexus. The need for a new, multi-level (multi-category) definition for persons undergoing climate (or environmental) migration is obvious - its identification would be the starting point of common international efforts in the field.

Global governance of climate change, migration and security issues is very complex, sometimes overlapping in terms of institutions, mandates and international financial aid, but also leaving many uncovered spots. In this sense, identifying common definitions and concepts related to this domain would greatly facilitate the design of new international institutions, the channelling of financial resources and the implementation of large-scale international programs needed in order to address the needs of the most vulnerable populations. Recognition and repartition of responsibilities is more than a purely 'philosophical' or 'ethical' issue - indeed, after decades of principles enunciation and declarations of good will the time for concrete action has come. Finding ways for a larger participation in the funding of a global governance system of climate change and migration (extending the financial responsibilities on private business) is a key challenge.

Whilst reaching a consensus within the EU member states is not a simple endeavour, significant progress has been made during the last several decades.



Climate challenges are transnational and policy solutions for them can have a solid foundation at supranational or international level. The 2015 crisis demonstrated to European stakeholders that unilateral policy-making needs to be reinforced by multilateral arrangements. Furthermore, international conflicts and environmental security affects all of us, on all continents and in all countries. By leaving behind its status of passive observer of migration processes occurring in regions of its close neighbourhood, the European Union aims at becoming an active player, forging not only a common migration and asylum policy, but also making use of diplomatic tools in order to prevent massive emigration from countries of origin. By doing so the EU enforces its role as a major player on the international diplomatic arena, placing itself in a central position of the future climate change and migration global governance system.

The humanitarian emergency in climate change has a multidimensional impact. 'Climate refugees' are not covered by the UNHCR mandate or by international law. Being part of a complex system of cause-effect relationships but also part of a multi-causal phenomenon related to environmental issues, migration refugees need international and regional protection. Resilience is not the only option for this issue. The foundation of a future global governance system is inevitable. International organisations, EU, states, business and civil society need to work together in a cross-border approach in the field of environment/climate migration topic in order to find practical long-term solutions. Financial mechanisms need to be created also. An international plan is needed for governing the climate change - migration nexus and massive population movements that are still to come. The level of preparedness and awareness is crucial in order to determine precisely how to handle the future crisis. Efficient management of climate change, including in its 'migrations' dimension is the responsibility of each government, IGO's, private companies and a general concern of each human being.

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Under the auspices of Romania's Presidency of the European Union's Council, the Centre for European Studies in cooperation with European Institute of Romania organized this academic event, addressed to those who show a genuine interest in enhancing their research skills in European studies and in contributing to developing a transnational network of contacts and cooperation. The two-day event transmitted knowledge about EU's opportunities and risks in today's increasingly volatile global context.

The 2019 EURINT international conference brought together relevant scholars, researchers, experts and civil society activists into a constructive exchange of views on scenarios laid out ahead for the European Union. The international cooperation between the specialists from universities or research institutes as well as policy makers and regional actors from European Union and its neighbourhood is one of the key methods of promoting connections between public institutions and private environment, and therefore create adapted, suitable solutions for the abovementioned challenges.



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