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CONDITIONALITIES IN THE RECOVERY PROCESS OF ECONOMIC GROWTH AND CONVERGENCE IN CENTRAL AND EASTERN EUROPEAN COUNTRIES[1]

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ABSTRACT. The polarization phenomenon observed in recent decades in the EU countries has become one of the issues discussed extensively in economic theory and regional policy. The development gaps deepened after the last two waves of enlargement to Eastern Europe, this fact generating serious challenges concerning the convergence process.

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The recovery of disparities is a necessity, especially given that the statistics on convergence indicators emphasize that the taken measures are often poor, they are not produced in accordance with the socio-economic and institutional framework of each state and obviously there is no potentiation of the synergy effects between all Community policies. Starting from these, in this article we intend to analyze in dynamics (the year 2000 compared to the year 2012) the convergence process in Central and Eastern European Countries (CEECs), in terms of three indices: Macroeconomic Stability Index (MSI), Governance Index (GI) and Entrepreneurial Climate Index (ECI), which have in their structure different indicators that define them. Resorting to an empirical analysis, the research results will highlight which constituent elements from each index contribute the most to the development process, and which is the inter-conditionality degree between the three indices. Based on determinative relations among the considered variables, we will draw up, in the conclusions, several measures that some CEECs should take in order to recover the development gaps.

KEYWORDS: macroeconomic stability, governance, entrepreneurial climate, Central and Eastern European countries.

JEL classification: E02, M21, O17, O43.

Introduction.

The 2008-2009 crisis has affected all the European countries to a different extent, and most researchers particularly focused on the Central and Eastern European countries (CEECs). Some experts of the European Union and the World Bank feared that by providing access to these countries to the West, even more confusion and vulnerability due to the crisis would be created. There are authors who state that the better integrated countries in the EU were faster and more intensely affected by the crisis through credit, FDI, and the banking system, which had flourished during the expansion period and faced a dramatic fall during the recession (Bartlett, Prica, 2012, p.30; Festing, Sahakiants, 2013). Other authors have stressed the budget deficit accumulation; some discussed the countries requiring financial support in the first period of the crisis (Rozmahel *et al*., 2013, p.4). Following these pessimistic findings in the literature on this subject, Aslund (2011, p.7) stated that "the financial crisis in CEECs has been remarkable for everything that did not happen". There was no major deflation, no chronic deficits, and no social movements against globalization, capitalism, Euro, or the European Union. This was mainly due to the implementation of the fiscal (reduction of public spending and the increase of indirect fiscality) and currency exchange policies.

The adjustments that European states needed to cope with in the context created by the current economic crisis are, to a great extent, substantial and hard to put up with for most of the population. Given the fact that the reduction of regional disparities represents a priority for the EU, economic analysts are particularly concerned about the following issues: what is the optimal solution in rebalancing the economic situation? How should we act? What mechanisms should be applied in order to enable the efficient convergence process? Does Europe need to reconsider development strategies, or would it suffice to improve the existing ones in order to achieve economic growth? These are only some of the currently arising challenges for which specialists strive to find solutions (Adamowicz, Walczyk, 2013; Tintin,

2013; Givens, 2013; Gardo, Martin, 2010). Thus, in line with other authors (Rozmahel *et al*., 2013, p.2; Headey *et al*., 1994), it is considered that the economic evolution of Central and Eastern Europe, before and after the crisis, is worth analysing, particularly from the integration process and the entrepreneurial environment perspective as well as from the institutional quality. This final factor determines the efficiency of the manner in which economic policies are adopted, because it patterns the framework within which decisions are made and the best solutions are sought in order to achieve growth in performance. The path to development in prosperous economies is enabled by the existence of stable institutions, efficient governance, and high quality of the entrepreneurial climate as well as political act.

The *primary aim* is to find, on the one hand, which components in the structure of 3 major index categories (Macroeconomic Stability Index – MSI, Governance Index – GI; Entrepreneurial Climate Index – ECI) significantly contribute to influencing the estimation of the importance degree of the causality between dependent and independent variables, and, on the other hand, to establishing the determination rapports that occurred among these indices. Based on determinative relations among the analysed variables, several measures that some CEECs should take in order to recover the development gaps will be provided in the conclusions.

1. Literature Review

Recent approaches manage to comprehensively explain the manner in which economic progress is influenced by the political factors, institutional, cultural, and ideological constraints on human behaviour (Stone *et al*., 2014; Maridal, 2013; Happaerts, 2012). There are still institutional rules incompatible with the economic performance and cohesion, and this is obvious in the institutions' focus on unproductive/redistributive activities, which disregard creativity. It has been found that developed countries, namely, Western Europe, tend to have friendlier business regulations, and the property rights are better protected (Beyer, Fening, 2012, p.35). As far as the transition countries are concerned, those which understood that the liberalization success implies property protection and freedom to initiate private business have managed to build a solid private sector able to strengthen competition and concentrate resources towards productive capital investments (Nicholas, Maitland, 2007). The international trade holds the key in the long term to the possible integration of other Eastern Europe economies. The increase of exports in Eastern Europe is vital in order to modernize the region, since the financing of capital and technology imports would, thus, be ensured (Mulas-Granadosa, Sanz, 2008; Curran, Zignago, 2012; Maltone *et al*., 2012). It may be consequently affirmed that Eastern Europe has developed a distinct form of capitalism. The institutional frameworks were unstable and highly volatile in the 1990s, which triggered radical mutations in individual behaviour: opportunism, bribery, biased behaviour etc. All these have obviously contributed to a development track, that is different from the one adopted by the Western European countries, which finally resulted in the economic disparity. Some of the CEECs had better "market memory" and managed to optimally adjust transition policies (Wright *et al*., 2008, p.402; Bardhan, 2005, p.512; Pomeranz, 2001; North, Thomas, 1973). It is particularly referred to the inter-conditionality relation between the new formal institutions and the initial cultural landmark, named by Boettke *institutional stickiness* (Boettke *et al*., 2008, p.333).

The *hypothesis of institutions* as an endogenous factor of development (Boettke *et al*., 2008, p.333) is related to the drive to invest in human, physical, and technological capital as well as in economic institutions, and it starts from the idea that prosperity is determined by

these investments. This is why economic institutions should be more important in the event of major investment opportunities. Moreover, if institutional arrangements are credible and people trust them, the path to prosperity is, to a great extent, guaranteed. In this context it should be mentioned that a major element which undermines the entrepreneurs' trust in the governance quality and gives population the feeling that long term economic advantages in the formal economy are insignificant is the phenomenon of corruption. However, due to the considerable efforts made in the last decades, especially as a consequence of integration in many countries, corruption is no longer put up with, and a serious progress in terms of its eradication has been registered. This change in terms of attitude is caused by the negative effects associated with the corruption (irrational resource allocation, low level of investments, reduction of competition and efficiency, increase in the public spending, low public incomes for essential goods and services, low productivity and private sector employment rates, lack of encouragement of innovation, increase of business costs, political instability, violence) and with a growing number of states which plead for democratic liberties and market economies (Dzhumashev, 2014; Blackburn, Forgues-Puccio, 2010; Tisne, Smilov, 2004). Creative entrepreneurial efforts, from the lower to the highest level of the society are promoted, and optimal means to build up businesses and enable investments with the support of formal and informal institutions, without excessive costs, are sought (Besley, Zagha, 2005; Williamson, 2004). In other words, it is desired to create a medium in which people have the ability to make decisions regarding the trade of goods, instead of the one where decisions related to property rights are centralized and people hide or dissimulate the valuable resources they own (Frunză, 2012). In this way welfare and average income levels grow, citizens' health improves, and education develops. More precisely a private property order is installed. Any action contrary to this order is the result of an institutionalized policy of property titles redistribution from the entitled owners to the other people (it is precisely what is called the private property "socializing"). Private property and entrepreneurial institutions enable the rational allocation and the use of resources by taking into account gain opportunities through innovation and coordination (Huerta de Soto, 2011, pp.47-65; Williamson, 1985). Entrepreneurship can turn into the engine of economy if provided with the solid ground of stable institutions and credible and efficient governmental policies (Baciu, Botezat, 2013, p.559).

2. Methodology and Data

This analysis, in the background of the crisis which generates vulnerability and uncertainty, is aimed to take into account some extremely important aspects regarding economic revival and competitiveness increase in CEECs, such as ensuring basic macroeconomic stability, the good quality of institutional management (fair legal systems, impartially applied contracts, safe property rights in the long term) as well as the motivation of entrepreneurs (by means of constitutional provisions leading to the better implementation of systems that will be able to monitor interest lobbies and cartels, for example). In order to deal with this phenomenon, most studies in the literature use such indicators as: GDP per capita, income, labour productivity, employment, presence and access to natural resources, unemployment, inflation rates, as well as FDI and trade flows, corruption, quality of legislation, turnover, newly established enterprises etc. (Sangnier, 2013; Aslund, 2012; Jalil *et al*., 2012; Šokčević, Štokovac, 2011; Frunză, 2011; Sadni-Jallab *et al*., 2008; Gerry *et al*., 2008; Hallerberg *et al*., 2007). Although studies on the relation between the quality of governance and the integration process have been carried out in the specialized literature

(Rozmahel *et al*., 2013), the analysis of the specific elements of the integration process in relation to the governance, institutions, and entrepreneurial environment in the Eastern and Central European countries has not yet been performed. This paper's contribution to the specialized literature resides particularly in a synthetic approach based on the composite indicators.

This is a dynamic analysis that has been carried out on the Central and Eastern European countries in years 2000 and 2012. It has been decided to choose these periods and countries in order to focus on their evolution on the path to development before and after the integration process. The following research methods have been used: *qualitative, comparative and empirical analysis* by means of which various indicators related to the macroeconomic stability, governance system, and entrepreneurial environment will be quantified, based on which the future economic direction of the Central and Eastern European countries will be identified. It has been mentioned that the carried out analysis takes into account various indicators which enabled to outline multiple aspects of the economic development: economic and social, quantitative and qualitative, which were dealt with from a mainly *transversal-comparative* approach by using the *uni-* and *multi-varied methods*. Thus, the work hypotheses are the following:

Hypothesis 1: the integration process triggers economic growth in Central and Eastern European countries;

Hypothesis 2: the quality of the state's institutions and governance influences the level of macroeconomic stability;

Hypothesis 3: the entrepreneurial climate is essential to economic revival[2].

When the mentioned hypotheses will be tested, that will be either confirmed or not, it will be possible to identify whether integration is a relevant factor in the development process, the manner in which formal and informal aspects interact within the economy, what lessons can be learned from the implementation process of various policies in order to improve, as much as possible, the situations in which the governance based on informal institutions dominates.

This research enables, by relying on the results of the analysis, to separate CEECs into two categories: a category of countries in which stability and good governance prevail, and the other in which countries are macro-economically unstable. In order to test the hypotheses, the databases have been constituted for the above mentioned periods which comprise indicators related to the 3 indices that have been elaborated, as presented in *Table 1* and *Table 2*. The necessary data has been collected from statistics, official reports, and databases of the World Economic Forum - The Global Competitiveness Report 2012–2013, WEF's annual Executive Opinion Survey, the World Justice Project Rule of Law Index 2013, the Heritage Foundation, the World Bank, the IMF, the Economist Intelligence Unit.

[2] Hypothesis 3 is based on the necessity to enable economic freedom in any state, which would ensure a functional market economy, an efficient institutional framework, which ultimately generates the stability of the macroeconomic environment and the efficiency of economic agents.

Table 1. Analysed indicators, year 2012

Macroeconomic Stability Index (MSI_{2012})	**Governance Index (GI_{2012})**	**Entrepreneurial Climate Index (ECI_{2012})**
1. Government budget balance (GBB_{2012}) 2. Gross national savings (GNS_{2012}) 3. Inflation (I_{2012}) 4. Government debt (GD_{2012}) 5. Country credit rating (CCR_{2012}) 6. GDP in PPS (GDP_{2012})	1. Integrity of the legal system (ILS_{2012}) 2. Judicial independence (JI_{2012}) 3. Political stability and absence of violence ($PSAV_{2012}$) 4. Respect of property rights (RPR_{2012}) 5. Rule of law (RL_{2012}) 6. Voice and accountability (VA_{2012}) 7. Intellectual property protection (IPP_{2012}) 8. Diversion of public funds (DPF_{2012}) 9. Irregular payments and bribes (IPB_{2012}) 10. Wastefulness of government spending (WGS_{2012}) 11. Burden of government regulation (BGR_{2012}) 12. Efficiency of legal framework in settling disputes ($ELFSD_{2012}$) 13. Efficiency of legal framework in challenging regulations ($ELFCR_{2012}$) 14. Transparency of government policymaking (TGP_{2012}) 15. Control of corruption (CC_{2012}) 16. Trustworthiness and confidence (TC_{2012}) 17. Public trust in politicians (PTP_{2012}) 18. Property rights regulations (PRR_{2012})	1. Business Freedom (BF_{2012}) 2. Fiscal Freedom (FIS_F_{2012}) 3. Investment Freedom (IF_{2012}) 4. Financial Freedom (FIN_F_{2012}) 5. Provision of government services to improve business performance ($PGSIBP_{2012}$) 6. Ethical behaviour of firms (EBF_{2012})

Source: WEF, World Bank, Heritage Foundation, IMF, Economist Intelligence Unit statistics, 2013.

Due to the fact that the collected data came from various sources and, consequently, their calculation methods vary, it has been decided to normalize it in order to uniform the databases and to eliminate the disparities among variables by using the assessment scale (0; 10) for 2012, where 10 signifies the maximum competitiveness of an indicator.

Table 2. Analysed indicators, year 2000

Macroeconomic Stability Index (MSI_{2000})	Governance Index (GI_{2000})	Entrepreneurial Climate Index (ECI_{2000})
1. Country credit rating (CCR_{2000}) 2. Government expenditure (GE_{2000}) 3. GDP in PPS (GDP_{2000})	1. Integrity of the legal system (ILS_{2000}) 2. Judicial independence (JI_{2000}) 3. Respect of property rights (RPR_{2000}) 4. Contracts and laws (CL_{2000}) 5. Government effectiveness (GE_{2000}) 6. Control of corruption (CC_{2000}) 7. Political stability and absence of violence ($PSAV_{2000}$) 8. Rule of law (RL_{2000}) 9. Voice and accountability (VA_{2000})	1. Business Freedom (BF_{2000}) 2. Fiscal Freedom ($FISF_{2000}$) 3. Investment Freedom (IF_{2000}) 4. Financial Freedom ($FINF_{2000}$)

Source: WEF, World Bank, Heritage Foundation, IMF, Economist Intelligence Unit statistics, 2013.

The situation regarding the assessment methods of indicators in 2000 was different as compared to 2012, when institutions used a far more generous range of indicators to describe the economic phenomenon (it has been used 30 variables for 2012 and only 16 for 2000).

3. Empirical Results and Discussions

In the first stage of the present analysis, the system of equations which takes into account each index is considered. Thus, for 2012 it is:

$$MSI_{2012} = \alpha_{MSI1\text{-}2012}x_{MSI1\text{-}2012} + \alpha_{MSI2\text{-}2012}x_{MSI2\text{-}2012} + \alpha_{MSI3\text{-}2012}x_{MSI3\text{-}2012} + \alpha_{MSI4\text{-}2012}x_{MSI4\text{-}2012} + \alpha_{MSI5\text{-}2012}x_{MSI5\text{-}2012} + \alpha_{MSI6\text{-}2012}x_{MSI6\text{-}2012} + \varepsilon_1 \quad (1)$$

$$GI_{2012} = \alpha_{GI1\text{-}2012}x_{GI1\text{-}2012} + \alpha_{GI2\text{-}2012}x_{GI2\text{-}2012} + \alpha_{GI3\text{-}2012}x_{GI3\text{-}2012} + \alpha_{GI4\text{-}2012}x_{GI4\text{-}2012} + \alpha_{GI5\text{-}2012}x_{GI5\text{-}2012} + \alpha_{GI6\text{-}2012}x_{GI6\text{-}2012} + \alpha_{GI7\text{-}2012}x_{GI7\text{-}2012} + \alpha_{GI8\text{-}2012}x_{GI8\text{-}2012} + \alpha_{GI9\text{-}2012}x_{GI9\text{-}2012} + \alpha_{GI10\text{-}2012}x_{GI10\text{-}2012} + \alpha_{GI11\text{-}2012}x_{GI11\text{-}2012} + \alpha_{GI12\text{-}2012}x_{GI12\text{-}2012} + \alpha_{GI13\text{-}2012}x_{GI13\text{-}2012} + \alpha_{GI14\text{-}2012}x_{GI14\text{-}2012} + \alpha_{GI15\text{-}2012}x_{GI15\text{-}2012} + \alpha_{GI16\text{-}2012}x_{GI16\text{-}2012} + \alpha_{GI17\text{-}2012}x_{GI17\text{-}2012} + \alpha_{GI18\text{-}2012}x_{GI18\text{-}2012} + \varepsilon_2 \quad (2)$$

$$ECI_{2012} = \alpha_{ECI1\text{-}2012}x_{ECI1\text{-}2012} + \alpha_{ECI2\text{-}2012}x_{ECI2\text{-}2012} + \alpha_{ECI3\text{-}2012}x_{ECI3\text{-}2012} + \alpha_{ECI4\text{-}2012}x_{ECI4\text{-}2012} + \alpha_{ECI5\text{-}2012}x_{ECI5\text{-}2012} + \alpha_{ECI6\text{-}2012}x_{ECI6\text{-}2012} + \varepsilon_3 \quad (3)$$

where α is the regression coefficient, $x_1,...,x_n$ designate the factors that compose the indices (independent variables) and ε is the standard error. The variance-covariance matrix that derives a set of covariances is obtained for each of these equations:

$$Cov\ (MSI_{2012/2000}, GI_{2012/2000}, ECI_{2012/2000}) = Cov\ (\alpha_{MSI1\text{-}2012/2000}x_{MSI1\text{-}2012/2000} + \varepsilon_1, \alpha_{GI2\text{-}2012/2000}x_{GI2\text{-}2012/2000} + \varepsilon_2, \alpha_{ECI3\text{-}2012/2000}x_{ECI3\text{-}2012/2000} + \varepsilon_3) = \alpha_{MSI1\text{-}2012/2000}\ \alpha_{GI2\text{-}2012/2000}\ \alpha_{ECI3\text{-}2012/2000}\ Cov\ (x_{MSI1\text{-}2012/2000}, x_{GI2\text{-}2012/2000}, x_{ECI3\text{-}2012/2000}) + \alpha_{MSI1\text{-}2012/2000}Cov\ (x_{GI2\text{-}2012/2000}, \varepsilon_2) + \alpha_{GI2\text{-}2012/2000}\ Cov(x_{MSI\text{-}2012/2000}, \varepsilon_1) + \alpha_{ECI3\text{-}2012/2000}Cov\ (x_{ECI3\text{-}2012/2000}, \varepsilon_3) + Cov\ (\varepsilon_1, \varepsilon_2, \varepsilon_3) = \alpha_{MSI1\text{-}2012/2000}\ \alpha_{GI2\text{-}2012/2000}\ \alpha_{ECI3\text{-}2012/2000} \quad (4)$$

This represents a prerequisite for the model; however, it is not sufficient, since there is a need to include fewer parameters able to clearly explain the positioning of CEECs within one category or another. This means that the equation system needs the share allocation of each residual parameter through regression. When this is achieved, the model is saturated, which means that the number of parameters is equal to the one of non-redundant elements and, therefore, to zero degrees of liberty. Thus, the applied regression models will generate different shares of indicators in estimating the degree of the importance of the causality among variables (dependent and independent). Moreover, in order to reach dependent variables relying on the accurate selection of the observed elements, it is essential to test the internal coherence on the inappropriate elements' measurement and identification scale. The internal coherence of the variables which form each index can be tested by using the *Alfa Cronbach test*:

$\alpha = \frac{V\,c}{1+(N-1)c}$, where "V" is the number of variables and "c" is the average of the correlations among variables. Internal coherence is generally achieved when $\alpha \geq 0.90$ (perfect causality). Therefore, it is obvious that when there are multiple variables (V is higher), the value of α is higher. In this analysis of 2012 V= 30 variables and the Cronbach's Alfa = 0.917, which emphasizes the significant internal coherence of the variables which constitute the aggregate index. In the year 2000 V = 16 variables and the Cronbach's Alpha = 0.876 (strong causality among variables).

In the year 2000 the equations become:

$$MSI_{2000} = \alpha_{MSI1\text{-}2000}x_{MSI1\text{-}2000} + \alpha_{MSI2\text{-}2000}x_{MSI2\text{-}2000} + \alpha_{MSI3\text{-}2000}x_{MSI3\text{-}2000} + \varepsilon_1 \quad (5)$$

$$GI_{2000} = \alpha_{GI1\text{-}2000}x_{GI1\text{-}2000} + \alpha_{GI2\text{-}2000}x_{GI2\text{-}2000} + \alpha_{GI3\text{-}2000}x_{GI3\text{-}2000} + \alpha_{GI4\text{-}2000}x_{GI4\text{-}2000} + \alpha_{GI5\text{-}2000}x_{GI5\text{-}2000} + \alpha_{GI6\text{-}2000}x_{GI6\text{-}2000} + \alpha_{GI7\text{-}2000}x_{GI7\text{-}2000} + \alpha_{GI8\text{-}2000}x_{GI8\text{-}2000} + \alpha_{GI9\text{-}2000}x_{GI9\text{-}2000} + + \varepsilon_2 \quad (6)$$

$$ECI_{2000} = \alpha_{ECI1\text{-}2000}x_{ECI1\text{-}2000} + \alpha_{ECI2\text{-}2000}x_{ECI2\text{-}2000} + \alpha_{ECI3\text{-}2000}x_{ECI3\text{-}2000} + \alpha_{ECI4\text{-}2000}x_{ECI4\text{-}2000} + \varepsilon_3 \quad (7)$$

Based on (1), (2), (3) and applying (4), for *the year 2012*, it follows:

$$MSI_{2012} = 0.770GBB_{2012} + 0.290GNS_{2012} - 0.163I_{2012} - 0.475GD_{2012} + 0.318CCR_{2012} - 0.039GDP_{2012} \quad (8)$$

$$GI_{2012} = 0.085ILS_{2012} - 0.143PSAV_{2012} + 0.388RPR_{2012} + 0.263VA_{2012} + 0.261DPF_{2012} + 0.043ELFCR_{2012} + 0.338TGP_{2012} + 0.012TC_{2012} + 0.021PRR_{2012} \quad (9)$$

$$ECI_{2012} = 0.231BF_{2012} + 0.268FISF_{2012} + 0.334IF_{2012} + 0.440FINF_{2012} + 0.163PGSIBP_{2012} + 0.192EBF_{2012} \quad (10)$$

It can be seen in equation (9) that in GI_{2012} some variables were excluded (JI_{2012}, RL_{2012}, IPP_{2012}, IPB_{2012}, WGS_{2012}, BGR_{2012}, $ELFSD_{2012}$, CC_{2012}, PTP_{2012}) and this is because they are not related to independence.

Analogously, starting from (5), (6), (7) and applying (4) in *the year 2000*, it results in:

$$MSI_{2000} = 0.899CCR_{2000} - 0.169GE_{2000} - 0.179GDP_{2000} \quad (11)$$

$$GI_{2000} = 0.156ILS_{2000} + 0.159JI_{2000} + 0.127RPR_{2000} + 0.103CL_{2000} + 0.128GE_{2000} + 0.150CC_{2000} + 0.100PSAV_{2000} + 0.175RL_{2000} + 0.154VA_{2000} \quad (12)$$

$$ECI_{2000} = 0.303BF_{2000} + 0.247FISF_{2000} + 0.343IF_{2000} + 0.429FINF_{2000} \quad (13)$$

It has been found by comparing the two periods (the year 2012 vs. the year 2000) that:

a. The equation (8) results reveal that the variable with the most significant influence on MSI in the year 2012 is the *Government budget balance (GBB)*, with a 77% rate of inter-conditionality, and, according to equation (11), the strongest influence on MSI is exercised by the *Country credit rating (CCR)* with 89,9% in the year 2000. This means that if GBB grows by one unit and the other variables of the index remain constant, the MSI value grows by 0,770 units. It has been noticed that the increase in *Inflation* (I) by one unit triggers the fall in MSI by 0,1631 units. Similarly the rise of CCR by one unit, while the other variables remain unchanged, triggers the rise in MSI by 0,899 units in the year 2000.

b. Equations (9) and (12) show that the most intense contribution to GI is made by the *Respect of property rights (RPR)* variable in 2012 and the *Rule of law (RL)* in 2000. A one unit increase of RPR in the context of unchanged variables triggers an increase by 0,388 of GI, and a one unit increase of RL will generate a 0,175 increase of GI.

c. ECI_{2012} was most strongly influenced by the *Financial Freedom (FINF)* variable, this tendency has been a constant since 2000.

In order to identify the connections established among the independent variables which form the 3 analysed indices (MSI, GI and ECI), the regression models' coefficients are presented in *Table 3*.

Table 3. Regression models' coefficients

Models	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
Model 1_MSI_{2012}	,995	,991	,972	,06983	2,370	53,539	,004
Model 2_GI_{2012}	1,000	1,000	.	.	,164	.	.
Model 3_ECI_{2012}	1,000	1,000	1,000	,00397	1,994	21543,971	,000
Model 1_MSI_{2000}	,842	,710	,564	,25256	1,517	4,887	,047
Model 2_GI_{2000}	1,000	1,000	.	.	2,478	.	.
Model 3_ECI_{2000}	1,000	1,000	1,000	,00151	2,004	679337,124	,000

Source: authors' calculations.

The analysis of the 3 models in 2012 and 2000 demonstrate the existence of deterministic relations in the case of variables which constitute models 2 (GI) and 3 (ECI), these findings are reinforced by the value of the significance level Sig=0,000 in both cases. Dynamically speaking it has been found that *the integration process has had positive effects on CEECs leading to macroeconomic stability in terms of the factors which influence the*

independence variation (in the case of Model 1_MSI_{2012}, R = 0,995 and R Square = 0,991 while, for the Model 1_MSI_{2000}, R = 0,842 and R Square = 0,710, *hypothesis 1 is , thus, confirmed*). Moreover, the F test confirms that the formulated regression models, by having all the parameters significantly different from zero, are valid. The models' volatility degree can be expressed by means of Durbin-Watson statistics which measures the first order correlation of residues. In the analysis of the *Durbin-Watson Significance Tables* values (99% minimal bound for all the described models except for the Model 1_MSI_{2000}, in which case there is 95% minimal bound because Sig.> 0,01) and application of $dU < DW < 4 - dU$, it has been discovered that:

a. In 2012, in the case of MSI_{2012} and ECI_{2012}, where k = 6 independent variables and N = 10 observable units (the CEECs), dU = 0,773 and for GI_{2012}, where k = 18 and N = 10, dU = -;

b. In 2000 dU for MSI_{2000} (k = 3, N = 10) is 1,816, for GI_{2000} (k = 9, N = 10), dU = -, and for ECI_{2000} (k = 4, N = 10), dU = 1,684.

It results from a) and b) that all the models meet the dU < DW < 4 – dU condition, and that there is consequently a lack of correlation of residual values.

In order to test hypotheses 1 and 2, in *Table 4* and *Table 5* the correlation analyses of the 3 indices will be performed.

Table 4. Correlations between MSI, GI, and ECI in 2012

		MSI_{2012}	GI_{2012}	ECI_{2012}
MSI_{2012}	Pearson Correlation	1,000	**,410**	,480
	Sig. (2-tailed)		,240	,160
	Sum of Squares and Cross-products	1,581	,695	,863
	Covariance	,176	,077	,096
	N	10	10	10
GI_{2012}	Pearson Correlation	,410	1,000	**,581**
	Sig. (2-tailed)	,240		,078
	Sum of Squares and Cross-products	,695	1,818	1,120
	Covariance	,077	,202	,124
	N	10	10	10
ECI_{2012}	Pearson Correlation	**,480**	,581	1,000
	Sig. (2-tailed)	,160	,078	
	Sum of Squares and Cross-products	,863	1,120	2,042
	Covariance	,096	,124	,227
	N	10	10	10

Source: authors' calculations

The strongest correlation in 2012 was between GI_{2012} and ECI_{2012} (Pearson correlation index= 0,518), which is denoted by the fact the two indices condition each other to a rate of 58,1%. In the context of efficient governance, the entrepreneurial climate is motivated (*hypothesis 2 is confirmed*). There is a 41% reciprocity rate between MSI and GI and a 48% between ECI and MSI.

Table 5. Correlations between MSI, GI, and ECI in 2000

		MSI_{2000}	GI_{2000}	ECI_{2000}
MSI_{2000}	Pearson Correlation	1,000	**,904****	,374
	Sig. (2-tailed)		,000	,287
	Sum of Squares and Cross-products	1,318	1,845	1,066
	Covariance	,146	,205	,118
	N	10	10	10
GI_{2000}	Pearson Correlation	,904**	1,000	**,304**
	Sig. (2-tailed)	,000		,393
	Sum of Squares and Cross-products	1,845	3,165	1,342
	Covariance	,205	,352	,149
	N	10	10	10
ECI_{2000}	Pearson Correlation	**,374**	,304	1,000
	Sig. (2-tailed)	,287	,393	
	Sum of Squares and Cross-products	1,066	1,342	6,163
	Covariance	,118	,149	,685
	N	10	10	10

Notes: **. Correlation is significant at the 0.01 level (2-tailed).

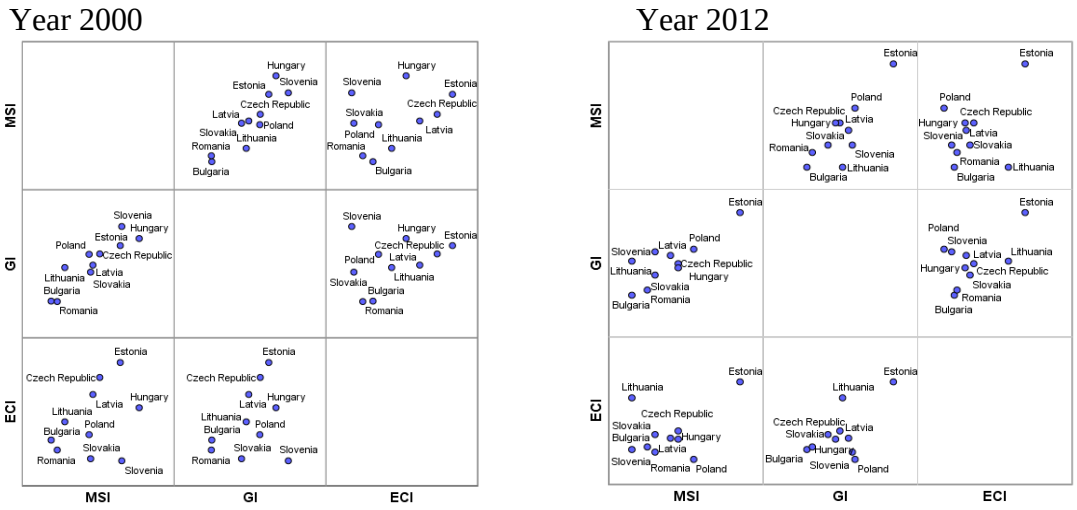
Source: authors' calculations

There is an almost a perfect relation (0.904) between MSI_{2000} and GI_{2000} in the year 2000; between MSI_{2000} and ECI_{2000} the causality is 37.4%. The gap in terms of the intensity of the MSI and GI relation as compared to 2012 should be noted as well. The explanation resides in the double difference in terms of the variables which constitute the GI index in the two periods (GI_{2000} = 9 variables and GI_{2012} = 18 variables), which enabled the occurrence of residual deviations.

After looking at the distribution matrix of CEECs according to the 3 indices, it can be seen that Estonia stands out from the other countries in all areas in 2012, when at the base of the distribution generally are the countries that joined the EU in 2007 (Romania and Bulgaria), within which the beneficial effects of integration are starting only from now on (Figure 1). After the analysis of two periods (year 2000 vs. year 2012), it has been found that the process of European integration has led to the repositioning of states, concerning the three components, this depends essentially on the effectiveness of applied public policies that were adapted to national specificity. It should be also noticed that those countries that have implemented coherent, consistent, and responsible governance have good values at macroeconomic stability. Based on this explanation a stronger relation between MSI and GI in year the 2000 (90.4%) was established. The difference that appeared in this relation before 2012 (41%) can be explained by the widening development gaps, arising from the enlargements in 2004 and 2007, and from the institutional chaos that occur primarily because of the economic and financial crisis, which delays the integration process.

After the scale of measurement of the 3 indices from 0 to 10 has been provided, it is seen in *Figure 1* that in terms of MSI in 2000 the top positions were occupied by Hungary, Slovenia, and Estonia, and in 2012 the situation has changed, on the first position there is Estonia, followed by Poland, Hungary, and the Czech Republic. Slovenia, Hungary, and Estonia stands out in 2000 in GI chapter, and the deterioration of the index values, that is decreasing in all analysed countries, is highlighted in 2012. This outlines, once again, the lack

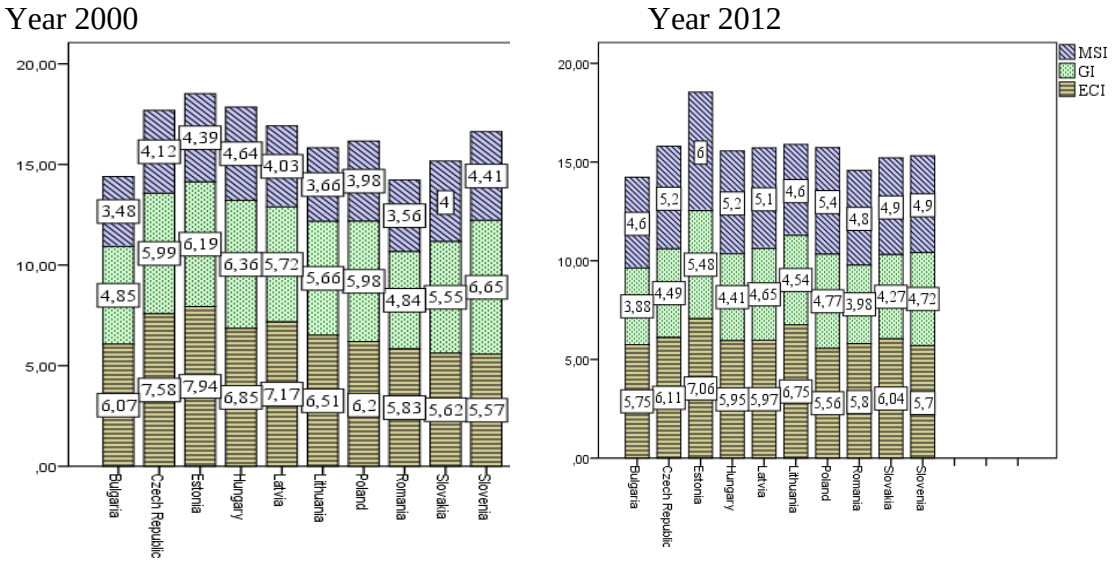
of coherent and effective measures in Central and Eastern Europe after 2000. The best governance in 2012 was in Estonia, followed by Poland and Latvia.



Source: authors' representation.

Figure 1. **CEECs Distribution Matrix by MSI, GI, ECI in 2000 and 2012**

The fragility of governance system led, among other things, to the deterioration of business climate, which explains the decrease of ECI in 2012 in comparison to 2000 in most analysed countries, except from the case of Lithuania (increase from 6,51 to 6,75), Slovakia (increase from 5,62 to 6,04), and Slovenia (increase from 5,57 to 5,7). Overall, the catching power of Estonia should be seen, which from MSI of 4,39 points in 2000 reached the value of the same index of 6 points in 2012 (*Figure 2*).



Source: authors' representation.

Figure 2. **The Values of MSI, GI, and ECI in 2000 and 2012**

The nearest neighbour analysis has been used for a more clearly positioning of CEECs in terms of the 3 indices that reflects on which states are the closest according to the recorded

values. Thus, 1 is the minimum value (country placed in the immediate vicinity) and 9 is the maximum value (country placed on the opposite side). Therefore, when looking at the *Table 6* it is seen that Romania has the closest neighbours in terms of MSI, GI, and ECI Bulgaria (distance 0,245 points) and Lithuania (distance 1,086 points), the country from which records of the greatest distance are in Estonia (2,728 points).

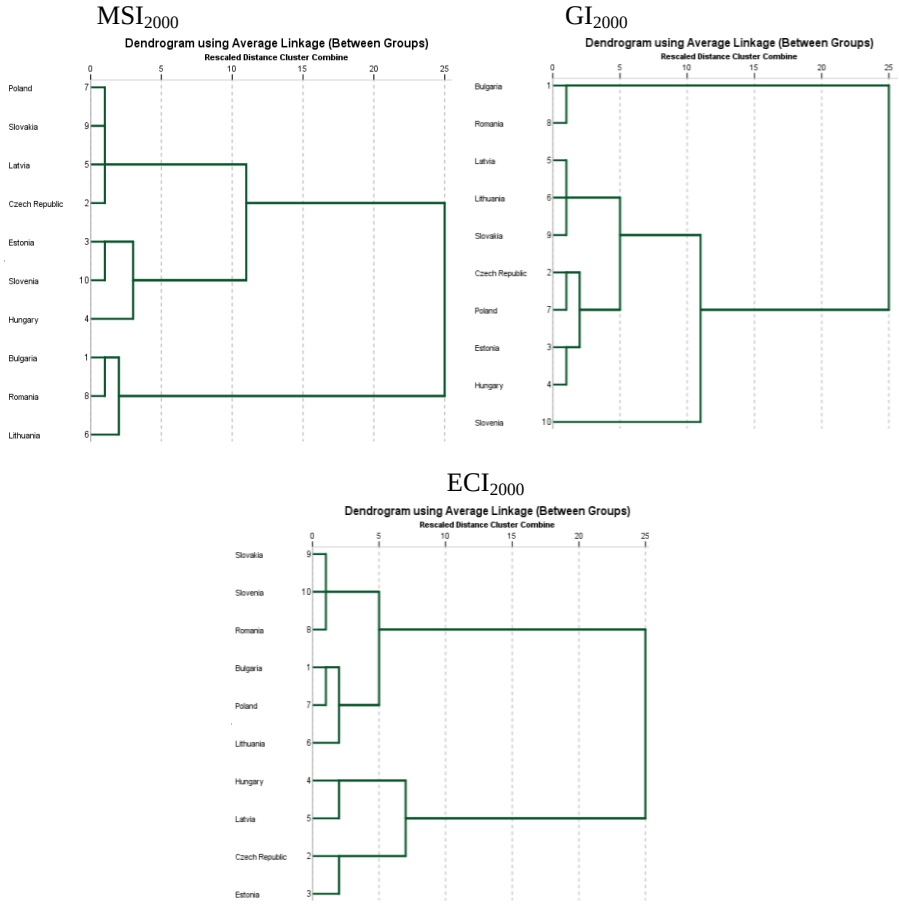
Table 6. Nearest neighbour analysis, year 2000

Focal Record	**Nearest neighbours/Nearest distances**								
	Build model: 3 selected predictors (MSI, GI, ECI); K=9								
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Romania (RO)	BG	LT	SK	PL	LV	CZ	SI	HU	EE
	0,245	1,086	1,106	1,486	1,697	2,174	2,489	2,651	2,728
Bulgaria (BG)	RO	LT	SK	PL	LV	CZ	SI	EE	HU
	0,245	1,017	1,243	1,521	1,639	2,104	2,589	2,673	2,686
	PL	LV	SK	BG	RO	CZ	ES	SI	HU
Lithuania (LT)	0,706	0,849	0,960	1,017	1,086	1,256	1,839	1,870	1,880
	PL	LT	RO	BG	LV	SI	CZ	HU	EE
Slovakia (SK)	0,683	0,960	1,106	1,243	1,322	1,407	1,736	1,760	2,188
Poland (PL)	SK	LT	RO	BG	LV	SI	CZ	HU	EE
	0,683	0,706	0,872	1,175	1,189	1,331	1,486	1,521	1,646
Latvia (LV)	CZ	LT	PL	EE	HU	SK	BG	RO	SI
	0,482	0,849	0,872	1,038	1,296	1,322	1,639	1,697	1,819
Czech Republic (CZ)	LV	ES	HU	PL	LT	SK	SI	BG	RO
	0,482	0,598	1,162	1,189	1,256	1,736	1,913	2,104	2,174
Slovenia (SI)	PL	HU	SK	LV	LT	CZ	EE	RO	BG
	1,175	1,194	1,407	1,819	1,870	1,913	2,064	2,489	2,589
Hungary (HU)	EE	CZ	SI	LV	PL	SK	LT	RO	BG
	1,033	1,162	1,194	1,296	1,331	1,760	1,88	2,651	2,686
Estonia (EE)	CZ	HU	LV	PL	LT	SI	SK	BG	RO
	0,598	1,033	1,038	1,646	1,839	2,064	2,188	2,673	2,728

Source: authors' calculations.

The starting point is in the nearest neighbour analysis, so the hierarchical cluster analysis has been used to allow grouping CEECs according to the 3 indices (*Figure 3*). Thus, in the case of MSI_{2000}, the formation of three clusters could be observed: the first cluster is composed by Poland, Slovakia, Latvia, Czech Republic; the second cluster consists of Estonia, Slovenia, and Hungary, and the third cluster is composed of Bulgaria, Romania, Lithuania; in the case of GI_{2000} it is formed: cluster 1 (Bulgaria and Romania), cluster 2 (Latvia, Lithuania, and Slovakia), cluster 3 (Czech Republic, Poland, Estonia, and Hungary), cluster 4 (Slovenia); in the case of ECI_{2000} are outlined three clusters: cluster 1 (Slovakia, Slovenia, Romania), cluster 2 (Bulgaria, Poland, Lithuania), and cluster 3 (Hungary, Latvia, Czech Republic, Estonia).

Therefore, cluster analysis comes to strengthen neighbours analysis, the grouping of states is made according to economic, governance and entrepreneurial characteristics that are relatively similar.



Source: authors' representation.

Figure 3. **Hierarchical Cluster Analysis, Year 2000**

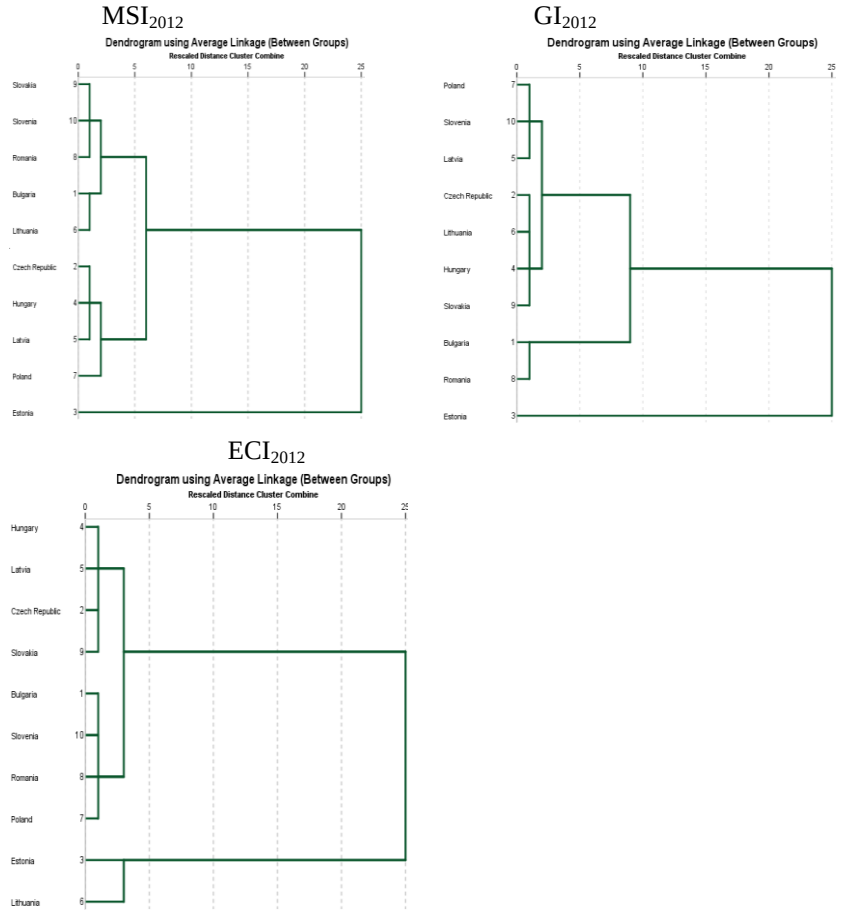
Table 7. Nearest neighbour analysis, year 2012

	Nearest neighbours/Nearest distances Build model: 3 selected predictors (MSI, GI, ECI); K=9								
Focal Record	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Romania (RO)	BG 0,319	SK 0,504	HU 0,810	SI 0,945	CZ 0,951	LV 0,968	PL 1,346	LT 1,475	EE 3,046
Bulgaria (BG)	RO 0,319	SK 0,756	HU 1,116	SI 1,136	LV 1,234	CZ 1,244	LT 1,568	PL 1,615	EE 3,324
Slovakia (SK)	HU 0,478	RO 0,504	CZ 0,518	LV 0,562	SI 0,722	BG 0,756	LT 1,093	PL 1,145	EE 2,570
Hungary (HU)	CZ 0,236	LV 0,333	SK 0,478	SI 0,667	PL 0,745	RO 0,810	BG 1,116	LT 1,378	EE 2,299
Slovenia (SI)	LV 0,468	HU 0,667	SK 0,722	PL 0,741	CZ 0,752	RO 0,945	BG 1,136	LT 1,481	EE 2,581
Czech Republic (CZ)	HU 0,236	LV 0,309	SK 0,518	SI 0,752	PL 0,861	RO 0,951	LT 1,211	BG 1,244	EE 2,108
Latvia (LV)	CZ 0,309	HU 0,333	SI 0,468	SK 0,562	PL 0,711	RO 0,968	BG 1,234	LT 1,269	EE 2,200
Poland (PL)	LV 0,711	SI 0,741	HU 0,745	CZ 0,861	SK 1,145	RO 1,346	BG 1,615	LT 1,976	EE 2,350
Lithuania (LT)	SK 1,093	CZ 1,211	LV 1,269	HU 1,378	RO 1,475	SI 1,481	BG 1,568	PL 1,976	EE 2,356
Estonia (EE)	CZ 2,108	LV 2,200	HU 2,299	PL 2,350	LT 2,356	SK 2,57	SI 2,581	RO 3,046	BG 3,324

Source: authors' calculations.

After a similar approach in 2012, presented in *Table 7*, it is found that there is a grouping of states according to the accession moment in the EU, which emphasizes the importance of the integration process in the path of development. For example, countries like Estonia, Czech Republic, Poland, Latvia, and Hungary maintaining somewhat their position of neighbourhood in 2012 compared with 2000, and as concern Bulgaria and Romania things are going in the same way. The conclusive graphical representations which emphasize the nearest neighbour analysis are realised in *Annex 1* and *Annex 2*.

The cluster analysis proved that in 2012 there is a regrouping of CEECs depending on the levers that each state put in functioning in order to recover the development gaps (*Figure 4*). Thus, if Romania was part of the same cluster with Bulgaria at MSI and GI chapters in year 2000, they are grouped together in all the three indices in year 2012, which means that the discrepancies between countries widened. This also confirms the fact that the states which constitute a cluster has increased overall.



Source: authors' representation.

Figure 4. **Hierarchical Cluster Analysis, Year 2012**

Three clusters are distinguished for MSI_{2012}: cluster 1 (Slovakia, Slovenia, Romania, Bulgaria, Lithuania), cluster 2 (Czech Republic, Hungary, Latvia, Poland), cluster 3 (Estonia); for GI_{2012} are constituted: cluster 1 (Poland, Slovenia, Latvia), cluster 2 (Czech Republic,

Lithuania, Hungary, Slovakia), cluster 3 (Bulgaria, Romania), cluster 4 (Estonia); for ECI_{2012} 3 clusters are formed: cluster 1 (Hungary, Latvia, Czech Republic, Slovakia), cluster 2 (Bulgaria, Slovenia, Romania, Poland) and cluster 3 (Estonia, Lithuania).

The position of Estonia should be noted, which makes a discordant note, placing it in the best of three indices, compared to the other analysed countries (Figure 4 and Annex 3). This country could serve as an example of good practice for other CEECs because of its responsible government, who applied a strong governance of good quality and implemented development strategies in a more realistic manner, the decisions was made according to the needs of society (respecting laws, fighting against corruption, avoiding political crises, encouraging entrepreneurship, investments etc.).

Conclusions

The results of the performed analysis emphasize that in CEECs takes shape more clearly a center-periphery model, explained in large part by the path dependence phenomenon, according to which history matters and systems cannot get rid of past events. After the fall of the communist regime, the effects of economic restructuring policies varied from country to country, the economic and social imbalances deepening. In CEECs were highlighted several types of reforms implemented, which contributed in their division into: countries of "shock therapy" (Poland), countries with a slow advance of reforms (Romania, Bulgaria), countries with a stable progressive development (Estonia, Slovenia, Czech Republic).

The analysis in dynamics (the year 2000 vs. the year 2012) allowed to conclude that the intensification of integration process generally contributed to an economic growth, however, it has not led necessarily to reducing disparities between less and most developed countries because the mechanisms of Internal Market had positive effects only if the conditions of their deployment were proper (attractive business environment, foreign direct investment, secure formal institutions, infrastructure, etc.). Current problems caused by these factors are specific to each country, which requires in order to be solved a punctual approach, adapted to national requirements. A general approach, applying the same measures over a territory, without taking into account the particular difficulties faced by their component elements, it is neither efficient nor able to bring a solving of the existing situation. The integration process has influenced the development of CEECs, highlighting clearly a category of countries who joined in the EU in 2004, in which stability and good governance prevail and one category formed by Romania and Bulgaria, which have deficiencies concerning the three indices analyzed (MSI, GI, ECI), in relation to other countries. For a fast recovery, they should promote a policy framework according to a sustained and equitable economic growth, along with a monitoring system well defined in order to achieve progress towards reducing development gaps. At the same time, it requires the support of the rule of law, the enforcement of contractual obligations, the existing of an unrestricted control over the properties of individuals, the search for ways to limit corruption and abuses, arbitrary actions of government and over-regulation, the promotion of creative entrepreneurial efforts from the lowest to the highest rung of society, the creation of a favourable social and economic framework of markets, adopting what J. Schumpeter called "creative destruction", by which everything old and unprofitable to be replaced by new productive activities that to support adequate economic growth. The countries that will know to implement appropriate institutional systems so as to gain competitive advantages will benefit in the way towards competitiveness.

Although, as highlighted the results of our analysis, Estonia is an example of good practice in terms of good governance, however, should keep in mind that successfully applied strategies in a country may fail in another because it is either too weak to guarantee the correct implementation of them or it is simply too rapacious regarding the imposed conditions.

Assuming that things can undoubtedly improve, we believe that CEECs will find their place from economic, social, political points of view, depending on the efforts made and on the implemented strategies for a better management of existing resources, based on an effective economic policy, contributing to macroeconomic stability. Knowing how to put into practice the best measures adapted to national specificities will make the difference between states and will lead to hierarchy changes on scale powers.

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SĄLYGOS, BŪTINOS EKONOMINIO AUGIMO IR KONVERGENCIJOS ATSTATYMO PROCESUI CENTRINĖS IR RYTŲ EUROPOS VALSTYBĖSE

Ramona Tigănaşu, Gabriela Carmen Pascariu, Livia Baciu

SANTRAUKA

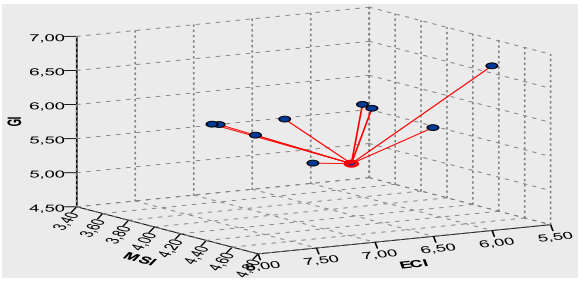
Poliarizacijos reiškinys, pastebėtas ES valstybėse pastaraisiais dešimtmečiais, tapo viena iš plačiai aptarinėjamų ekonomikos teorijos ir regioninės politikos temų. Vystymosi spragas pagilino paskutinės dvi Europos plėtros bangos, o tai sukėlė rimtų sunkumų konvergencijos procesui. Atsižvelgus į konvergencijos rodiklius, pagal kuriuos dažniausiai naudojamos priemonės yra prastos, pasirinktos neatsižvelgus į kiekvienos šalies socialekonominę ir institucinę struktūrą, skirtumų atstatymas yra būtinas, o sinergijos efektai neturi jokio potencialo visos Bendrijos politikai. Šio straipsnio tikslas – išanalizuoti dinamišką (2000 m. lyginami su 2012 m.) konvergencijos procesą Centrinės ir Rytų Europos valstybėse pagal tris indeksus: makroekonominio stabilumo indeksą, valdymo indeksą ir verslo klimato indeksą, kurie savo struktūra apima skirtingus ir juos apibūdinančius rodiklius. Pagal empirinę analizę tyrimo rezultatai nurodys, kurie sudedamieji rodikliai iš kiekvieno indekso labiausiai prisidėjo prie vystymosi proceso ir koks yra sąlyginis trijų indeksų laipsnis.

REIKŠMINIAI ŽODŽIAI: makroekonominis stabilumas, valdymas, verslo klimatas, Centrinės ir Rytų Europos valstybės.

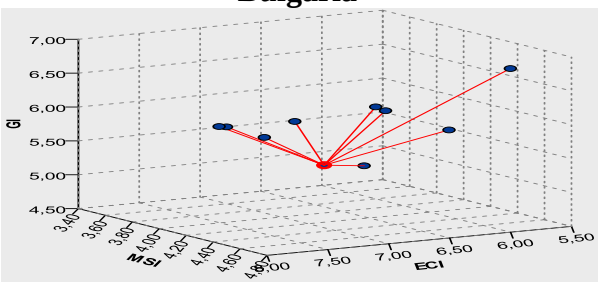
ANNEX 1

Nearest neighbour analysis (year 2000)

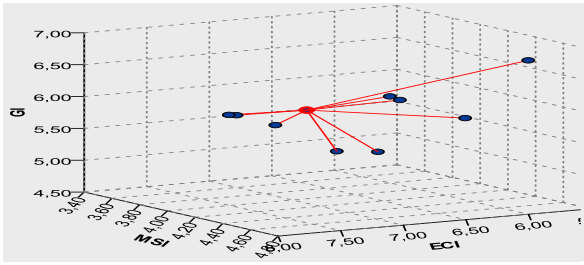
Romania



Bulgaria



Lithuania



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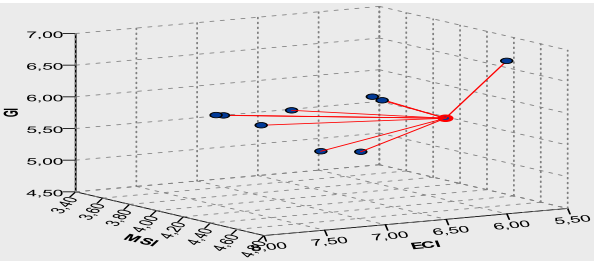
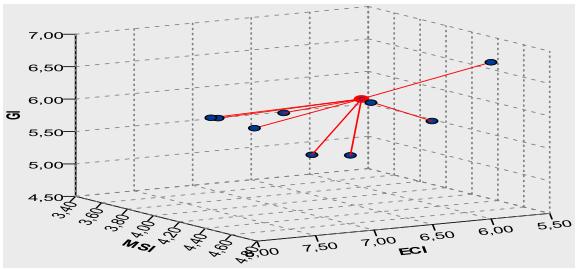
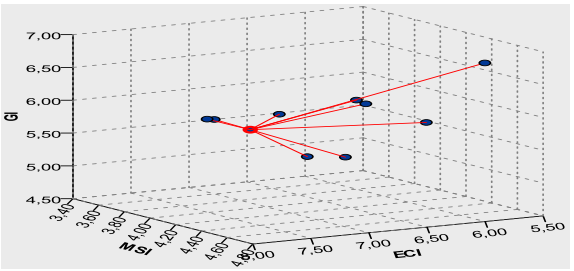


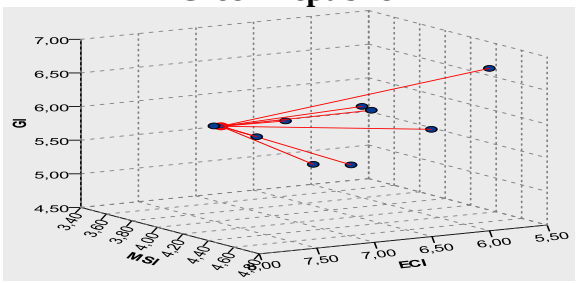
Poland



Latvia



Czech Republic



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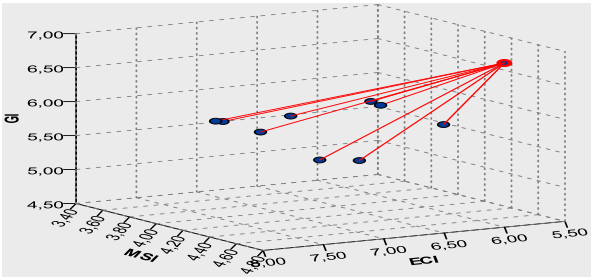
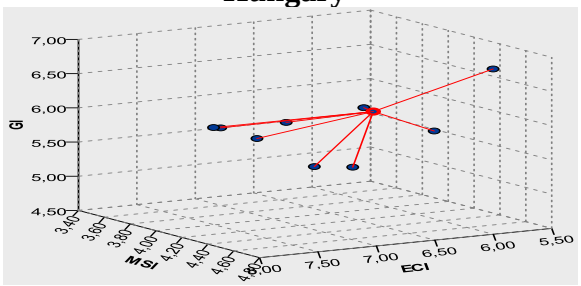
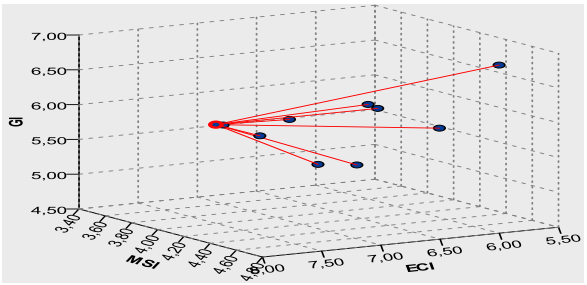


Hungary



Estonia

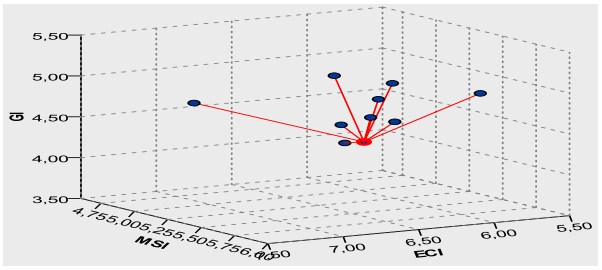


Source: authors'representation.

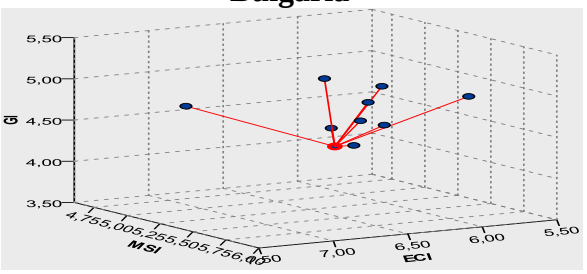
ANNEX 2

Nearest neighbour analysis (year 2012)

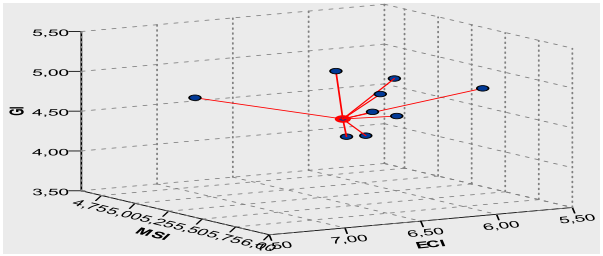
Romania



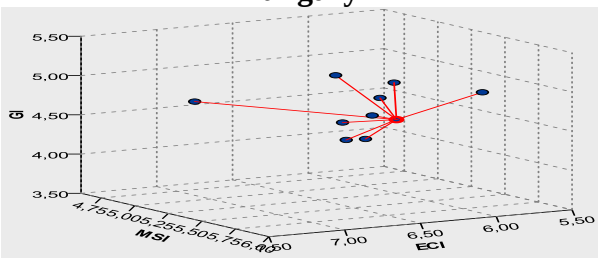
Bulgaria



Slovakia



Hungary



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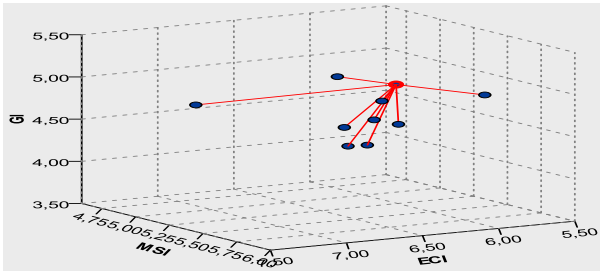
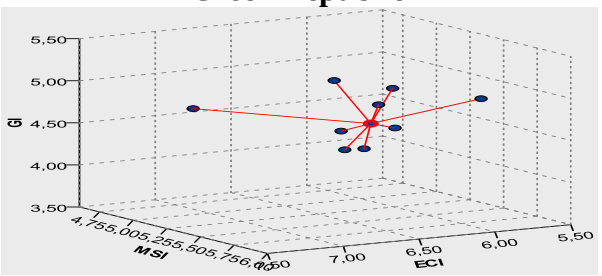
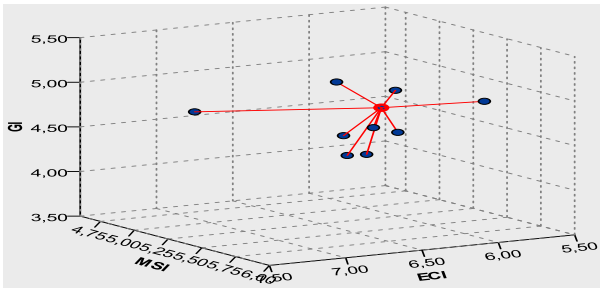


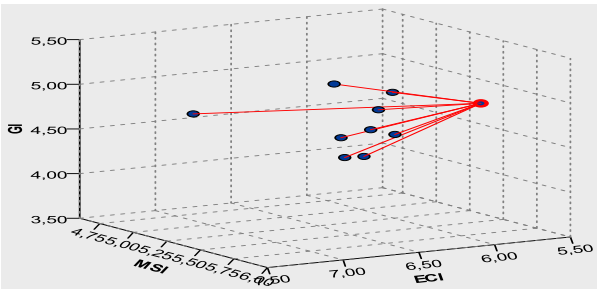
Czech Republic



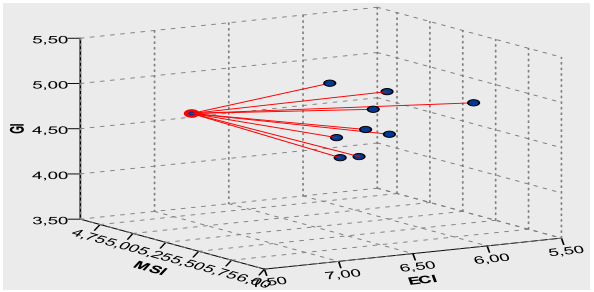
Latvia



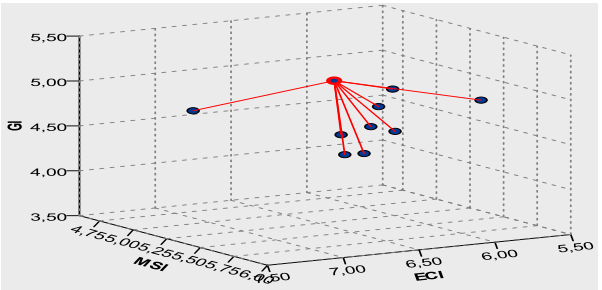
Poland



Lithuania



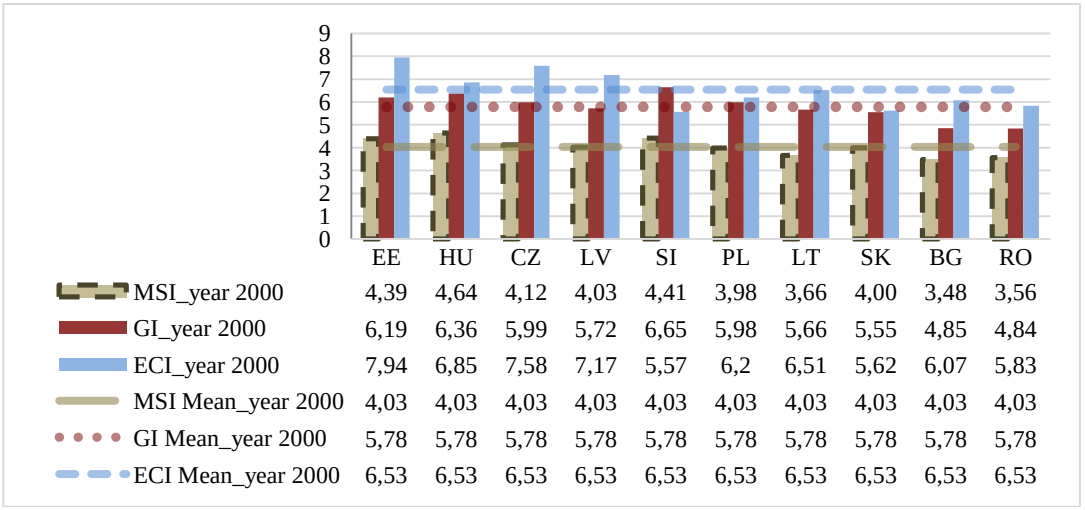
Estonia



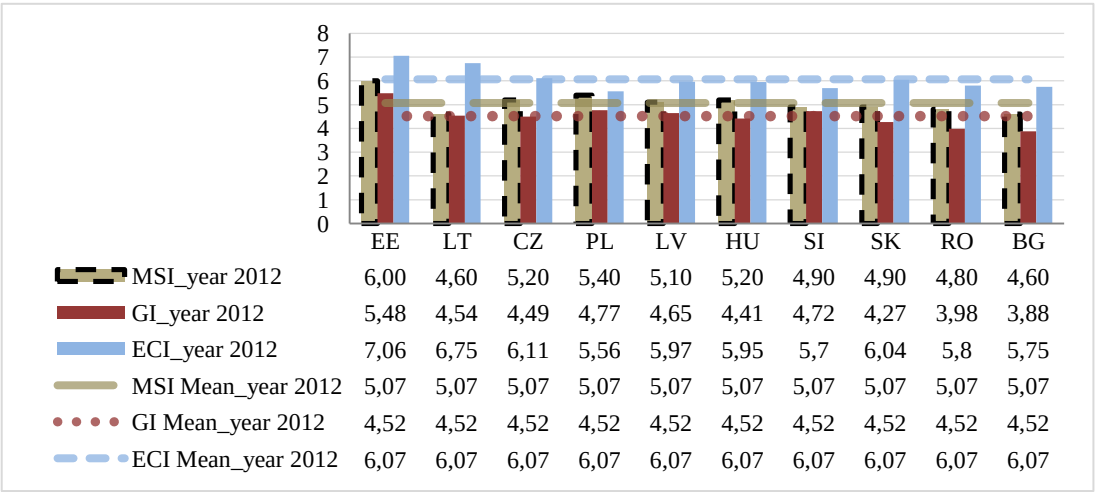
Source: authors' representation.

ANNEX 3

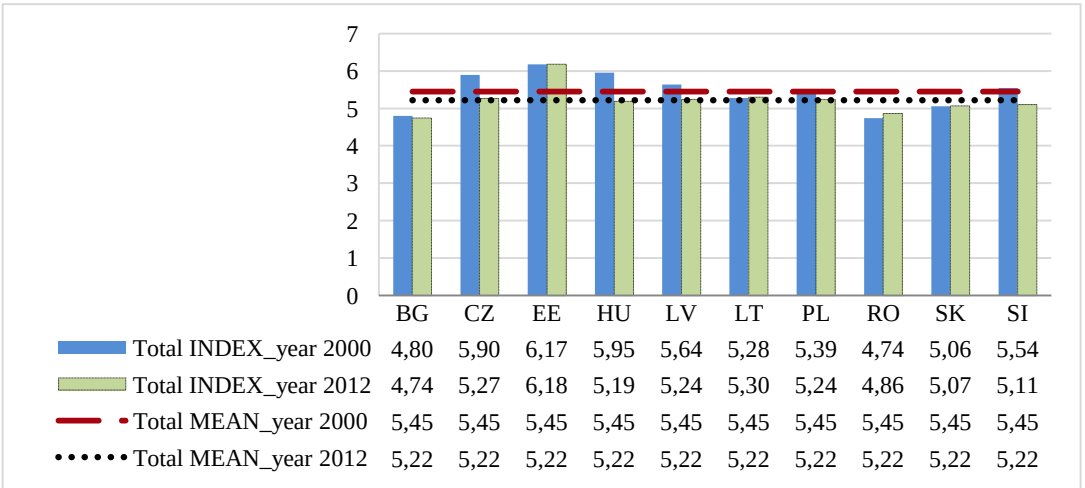
MSI, GI, and ECI compared to their means in CEECs in 2000 and 2012



	EE	HU	CZ	LV	SI	PL	LT	SK	BG	RO
MSI_year 2000	4,39	4,64	4,12	4,03	4,41	3,98	3,66	4,00	3,48	3,56
GI_year 2000	6,19	6,36	5,99	5,72	6,65	5,98	5,66	5,55	4,85	4,84
ECI_year 2000	7,94	6,85	7,58	7,17	5,57	6,2	6,51	5,62	6,07	5,83
MSI Mean_year 2000	4,03	4,03	4,03	4,03	4,03	4,03	4,03	4,03	4,03	4,03
GI Mean_year 2000	5,78	5,78	5,78	5,78	5,78	5,78	5,78	5,78	5,78	5,78
ECI Mean_year 2000	6,53	6,53	6,53	6,53	6,53	6,53	6,53	6,53	6,53	6,53



	EE	LT	CZ	PL	LV	HU	SI	SK	RO	BG
MSI_year 2012	6,00	4,60	5,20	5,40	5,10	5,20	4,90	4,90	4,80	4,60
GI_year 2012	5,48	4,54	4,49	4,77	4,65	4,41	4,72	4,27	3,98	3,88
ECI_year 2012	7,06	6,75	6,11	5,56	5,97	5,95	5,7	6,04	5,8	5,75
MSI Mean_year 2012	5,07	5,07	5,07	5,07	5,07	5,07	5,07	5,07	5,07	5,07
GI Mean_year 2012	4,52	4,52	4,52	4,52	4,52	4,52	4,52	4,52	4,52	4,52
ECI Mean_year 2012	6,07	6,07	6,07	6,07	6,07	6,07	6,07	6,07	6,07	6,07



	BG	CZ	EE	HU	LV	LT	PL	RO	SK	SI
Total INDEX_year 2000	4,80	5,90	6,17	5,95	5,64	5,28	5,39	4,74	5,06	5,54
Total INDEX_year 2012	4,74	5,27	6,18	5,19	5,24	5,30	5,24	4,86	5,07	5,11
Total MEAN_year 2000	5,45	5,45	5,45	5,45	5,45	5,45	5,45	5,45	5,45	5,45
Total MEAN_year 2012	5,22	5,22	5,22	5,22	5,22	5,22	5,22	5,22	5,22	5,22

Note: Total INDEX = (MSI+GI+ECI)/3.

Source: authors' representation.