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GOOD GOVERNANCE AND RULE OF LAW EFFECT ON GDP GROWTH: LESSONS FOR EMERGING ECONOMIES

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Abstract: *The overall aim of this article is to explore the effect of governance parameters on gross domestic product (GDP) in the 15 countries of the European Union (EU15) as well as the 6 countries of Southeast Europe (SEE6). The research employed the dynamic methodology generalized methods of moments (GMM) to explore the data gathered from the World Bank and the Global Economy database stretching 2000 - 2022, correspondingly 2008 - 2022. Our analyzed result for EU15 confirms that regulatory quality (RQ), government effectiveness (GE), and rule of law (RL) positively influence GDP; instead, control of corruption (CC) negatively influences GDP. The results obtained for SEE6 reveal that GE and CC positively influence GDP, but instead, the RL negatively influences GDP. Additionally, RQ in the SEE6 instance has shown an insignificant influence on GDP. Unfortunately, the study could not cover every country in both panel groups because of data limitations. Regarding the study's conclusions, increased dedication to applying and undertaking reform measures for the key governance indicators for SEE6 countries would be helpful. These insights may raise the need to create specific mechanisms for the RL and CC. Compared to other research, the novelty and originality of the present research lies in the fact that it used panel data via the dynamic GMM approach to explore the role of improving government quality metrics in GDP.*

Keywords: *GDP; Governance Parameters; Control of Corruption; Panel Data*

INTRODUCTION

Defining the concept of the RL presents significant challenges, much like the contested nature of defining democracy itself. The meaning of the RL lacks a universally agreed-upon consensus, with various perspectives relying on distinct attributes for its characterization (May and Winchester 2018, 21). According to the World Justice Project, governmental bodies, their representatives, individuals, and private organizations are held responsible within the legal framework. The laws encompass various aspects, including clarity, publicity, fairness, and uniform application, with the primary objective of safeguarding fundamental rights such as personal and property security and certain principal human rights. Furthermore, the process through which laws are ratified, managed, and enforced is characterized by accessibility, fairness, and efficiency. Moreover, the timely administration of justice is ensured through the involvement of competent, ethical, and impartial personalities who act as representatives and neutrals. These individuals are sufficiently numerous, possess sufficient resources, and reflect the diverse composition of the communities they serve (World Justice Project 2017).

In contrast to the criteria for an efficient legal system, the impression of the RL can be regarded as a meta-norm, representing a cultural perception of the legal system and its connection to individuals. When appropriately interpreted, this concept comprises two

fundamental elements: the establishment and maintenance of a legal framework and societal stability, as well as the imposition of constraints on the powers and scope of government (Nedzel 2010). The law-and-order component posits those individuals have implicitly consented to abide by the rules due to the advantageous outcomes associated with compliance. Furthermore, individuals may feel compelled to comply due to the potential consequences they may face if they fail. By doing so, it prioritizes the interests and well-being of individuals rather than focusing on the collective as a whole. The limited government refers to a political concept encompassing two essential principles: the equitable enforcement of laws and the imposition of constraints on the powers wielded by the government (Nedzel 2017). The concept of the RL and its correlation with economic growth remains a prominent subject of investigation in both theoretical and empirical studies. A central point of contention on the impression of the RL revolves around its inherent nature as either an ultimate objective or a means to achieve broader aims or objectives. Numerous academic and empirical investigations conducted in recent years have endeavored to discern the exact nature of the causal connection between it and development, yielding varying outcomes in the majority of cases. Although there is existing evidence regarding the relationship between RL and development, a significant portion of the discourse revolves around the strategies for implementation rather than questioning its capacity to facilitate development (Davis and Trebilcock 2008). The prevailing belief is that the presence of the RL is crucial for fostering economic development. However, Haggard and Tiede assert that the RL is a complex construct incorporating various interconnected elements, including safeguarding personal security and property rights, establishing mechanisms to limit government power, and combating corruption (Haggard and Tiede 2011). A country's comprehension of the RL is contingent upon a comprehensive understanding of governance. The notion of governance encompasses the comprehensive manner in which a state is administered, intending to ensure the adequate and equitable inclusion of all pertinent stakeholders (Nandini, Mara, and Betts 2012). The acknowledgment of the significance of the RL in the process of development prompted various development institutions, such as the World Bank, to engage in the justice sector during the initial years of the 1990s.

GE influences GDP growth via several channels, including infrastructure quality, regulatory framework, human capital investments, political stability, and corruption issues. There is a complicated and multifaceted link between these parameters, and GDP growth is both a cause and a consequence of GE. RQ has a big impact on how easy it is to do business. Regulations that uphold property rights, lessen corruption and guarantee fair competition are all products of an efficient government and are necessary for the economy's expansion. The IMF claims that countries with better governance and a lower incidence of corruption often see more rapid economic growth since these characteristics positively connect every organization and promote investment and innovation. Economic development and the ongoing battle against corruption have a tangled interaction that varies widely among rising countries. The scientific community mostly believes that corruption hinders economic development by weakening the quality of institutions, discouraging investment, and misallocating resources that could otherwise encourage development. Enhancing governance, promoting both local and global investment, and achieving better use of resources depends on the GE of corruption and are crucial for the economic success of emerging economies.

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Thus, this paper aims to scan these factors' influence on GDP growth, particularly in developing countries. Specifically, the focus will be on the RL, GE, RQ, and CC. To examine the dynamics of the parameters above and their relationship with GDP growth, the analysis focused on the period up to 2022. To explore the interplay between the parameters under examination and derive meaningful insights for developing countries, a comparative study was conducted between the EU15 countries and those in SEE6. Throughout the following paragraphs, we will illustrate visually the data for each panel for the rule of law parameter that the research includes (for EU15 countries compared to the years 2000 and 2022, whereas for SEE6 compared to the years 2008 and 2022). The motive of portraying only these two periods is to explore their dynamics and determine whether there have been ongoing improvements.

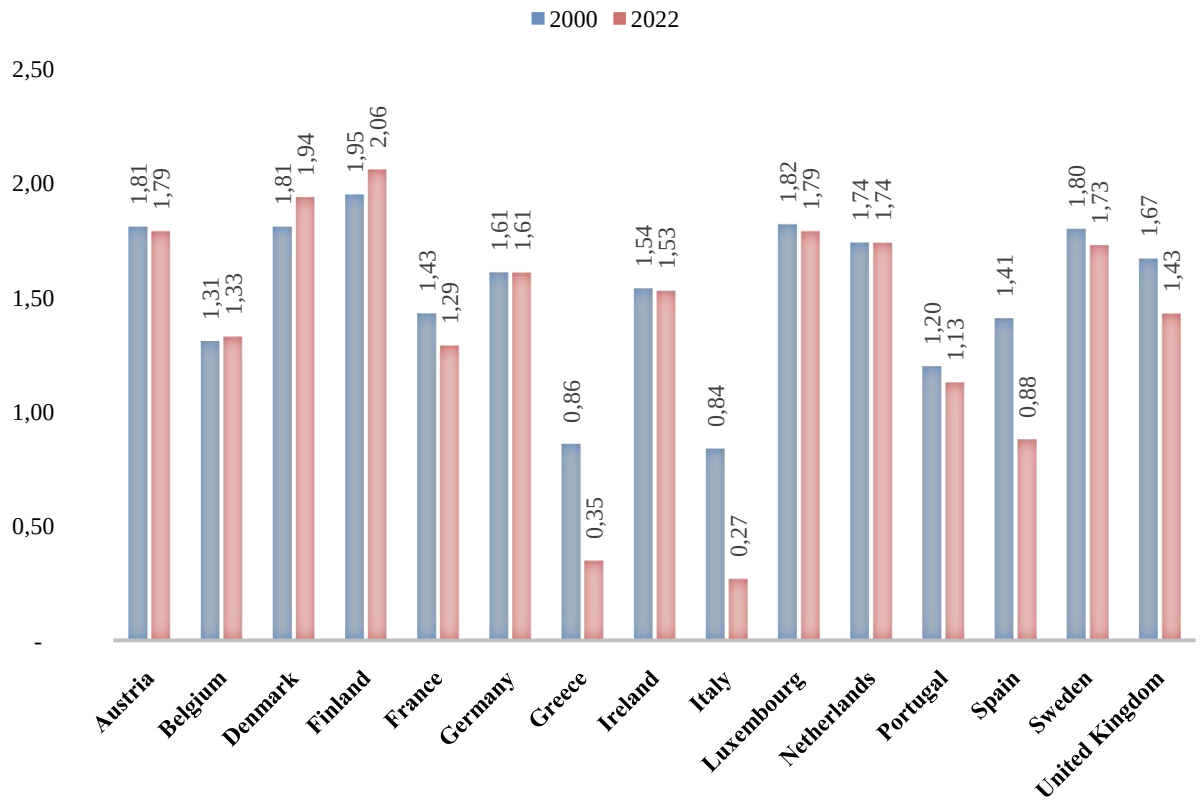


Figure 1: Rule of Law Tendency (EU15)
(Source: Authors' compilation based on data)

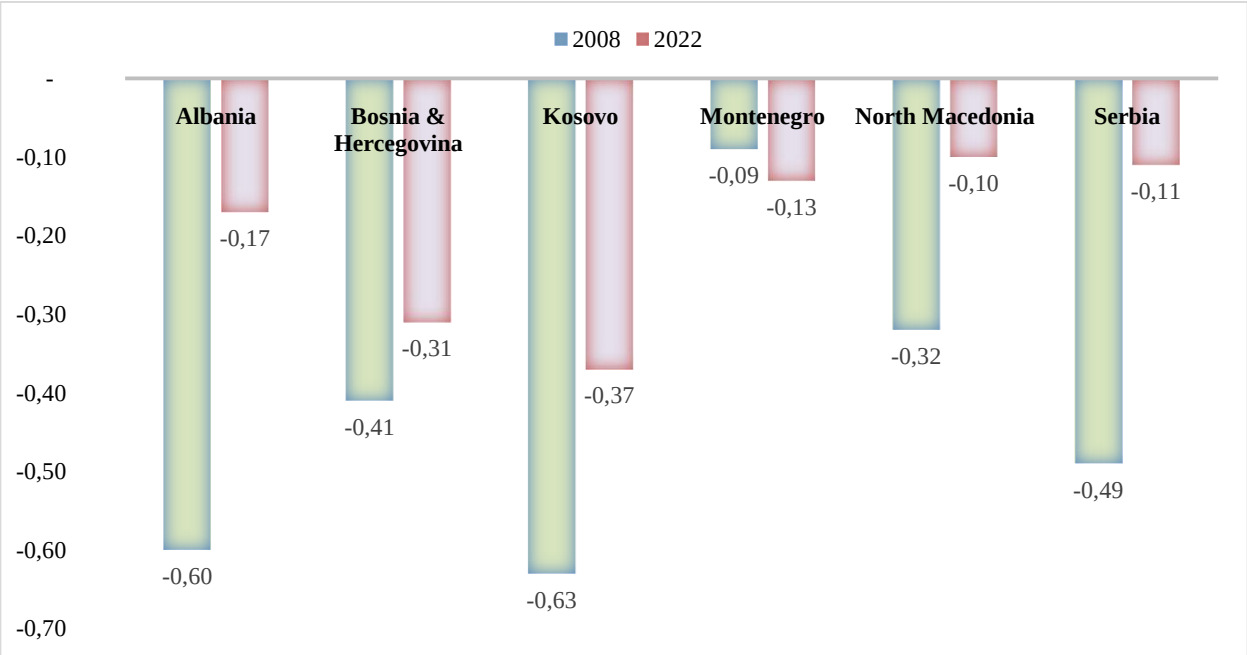


Figure 2: Rule of Law Tendency (SEE6)
(Source: Authors' compilation based on data)

Based on the layout of Figures 1 and 2, it is seen that the RL parameter in the EU15 countries, each country has a positive value (interval -2.5 to 2.5). In contrast, the SEE6 countries possess a negative value, indicating sufficient proof that the developing countries continuously implement enhancements to enforce the RL. The primary emphasis of this engagement was directed towards establishing and enhancing institutions, with the subsequent introduction of legal empowerment within the realm of the development community. Enhancements in the RL yield a rise in per capita income and engender more immediate and profound impacts on individuals' livelihoods.

Therefore, it is evident that the conceptualization of development has transformed, leading to a corresponding evolution in the comprehension of the role played by the RL in the development process. Furthermore, there has been a proliferation of various stakeholders engaged in the advancement of the principle of legal governance (Mooney 2013, 72). The RL can be broadly categorized into two main methods: the economic development line and the state-building line.

Despite their initial divergence, these entities are now displaying signs of convergence. The state-building approach conceptualizes the RL as a set of principles endorsed by the state, reaffirming its commitment to procedural, substantive, and international legal norms. This approach posits that establishing a functional state is intricately linked to the concept of the RL. As a result, justice intervention prioritizes enhancing state law and institutions, intending to align substantive laws with international legal standards. The core principle underlying the economic development perspective on the RL is that the primary purpose of the RL is to facilitate economic progress, primarily by establishing and upholding effective market systems (Mooney

2013, 73-74). The relationship between per capita income and a country's score for the RL in the World Bank's Worldwide Governance Indicators (WGI) is undeniably interconnected. The global community is convinced that assisting in establishing and maintaining legal frameworks is a valuable endeavor for developing nations and their international counterparts. The confirmation of this statement is evidenced by the incorporation of Target 3 within Goal 16 of the Sustainable Development Goals (Michel 2020, 5-6).

THEORETICAL BACKGROUND

The Drivers Associated with GDP Growth

Various factors are associated with $\mathrm{GDP}_{\mathrm{growth}}$. Along with such well-known points as import and export (Velaj and Bezhani 2022), foreign direct investment (Azizov et al. 2023), interest rate, virtual finance reform (Zhang and Tao 2022), components of money supply (Karthikeyan and Murugesan 2021), crude prices shock (Bhadury et al. 2023), and fiscal shocks (Jiménez et al. 2023), there are also such factors as machine learning and modeling (Robotko et al. 2023), digital transformation (Parra et al. 2021), public expenditures (Kutasi and Marton 2023) etc. Meanwhile, recently, a special emphasis has been placed on the governance index (RL, GE, RQ, and CC) on its impact on $\mathrm{GDP}_{\mathrm{growth}}$ (Misi Lopes et al. 2023; Beyene 2022, and Mohammed et al. 2020). Despite the variety of factors that can influence $\mathrm{GDP}_{\mathrm{growth}}$, modern scientific research is concentrated around certain clusters. The most popular and relevant topics in recent years have been pandemic problems, green courses, inequality, and governance index (Accountability, political stability, GE, RQ, CC, and RL).

The impact of the pandemic on $\mathrm{GDP}_{\mathrm{growth}}$ has been studied in many scientific articles; for instance, Veljanoska, Houjeir, and Pacukaj (2022) explored the influence of the pandemic on $\mathrm{GDP}_{\mathrm{growth}}$, foreign investment, and exports in a hypothetical instance of the Turkish economy.

Multivariate regression computation was employed to obtain an adequately consistent examination. The results reported in this research reveal that the Covid-19 pandemic has negative consequences on $\mathrm{GDP}_{\mathrm{growth}}$ and exports. From a different perspective, Winkler (2021) evaluated "if and to what degree" the measures adopted by governments in response to Covid-19, which can make a divergence in $\mathrm{GDP}_{\mathrm{growth}}$ throughout the development of 2020. The fundamental idea of the research was focused on the speed and effectiveness of government-imposed business interventions when faced with distinct waves of infections, relying on elimination and mitigation strategies. The discoveries of the research demonstrate that from the instance of forty-four economies contained within the panel breakdown, employing the elimination strategies produced less impact on $\mathrm{GDP}_{\mathrm{gro\,wth}}$ compared to the mitigation strategies. The topic of green courses in the context of $\mathrm{GDP}_{\mathrm{growth}}$ is very diverse: renewable energy (Formánek 2020), ecological footprint (Alruweili 2023), energy efficiency renewable energy (Kadir et al. 2023), and even water quality - all of this can have a significant impact. For instance, the study "Greenhouse gas secretion, $\mathrm{GDP}_{\mathrm{growth}}$, tertiary education, and RL: A comparative study between high-income and lower-middle income countries" (Furkan, Rakibul Hasan, Uddin 2023) indicates that in the LMICs, greenhouse gas emissions are strongly progressively related with $\mathrm{GDP}_{\mathrm{growth}}$ and the negative with tertiary education specifies it squeezes down the secretions.

GDP is not an important driver for the HICs, and the beneficial influence for tertiary education suggests that the release of greenhouse gases may be the consequence of wasteful operations possibly related to higher university education, which requires further analysis. The shape of the cross-section augmented autoregressive distributed lags examination (CS-ARDL) was adapted in the research titled "A Nexus Between the RL, CC, GE, RQ, GDP_{Growth}, and Sustainable Environment in Top Asian Countries", which stipulated new awareness from heterogeneity panel evaluations (Lin, Chang, Shahzad, Waseem 2022). Concerning the CS-ARDL discoveries, the RL and the theory of green innovation possess an adverse association.

Besides, the Environment Kuznets Curve prediction proved to be accepted and appropriate. In light of the outcomes, creating consciousness has been recommended to establish the RL. On the other hand, additional support and investments are also encouraged to reach higher standards of Research and Development, which will ultimately improve the degree of green innovation (Lin et al. 2022). Regarding the issue of inequality, researchers pay attention to various aspects. The study "The Impact of External Debt on Human Capital Development and GDP_{growth} in HIPCs: a Comprehensive Approach" (Beyene and Kotosz 2023) attempts to explore the influence of foreign debt on HCD and GDP_{growth} in heavily indebted poor countries (HIPCs) relying on seemingly unrelated regressions (SUR) as well as comparable simultaneous equations models (SEMs) from 1990-2017. The conclusion confirms that the interaction between foreign debt and HCD is adverse and non-linear; however, only non-linearity can be noticed among foreign debt and GDP_{growth}. Besides, external debt affects HIPCs growth over the HCD network. Consequently, the research endorses essentializing robust macroeconomic policies, strengthening institutional performance, appropriate debt management strategies, and investing borrowed funds in productive projects. The study "Law in the Tax Legal System, Income Inequality and Economic Growth: An Empirical Estimation" (Selimi, Ibraimi, Ziberi 2022) used the approach known as OLS to identify the parameters that influence inequality in income and economic growth. It is concluded the existence of a positive Gini ratio validates the Kuznets hypothesis and the pro-inequality idea, which demonstrates that in the first stage of countries' development, inequality of income is predicted to be positively associated with GDP_{growth}.

Governance Index Associated with GDP Growth

It should be noted that legal regulation is the connecting link for these three clusters and possibly other areas. Numerous publications in this discipline incorporate relevant, scientifically significant characteristics; for instance, regulations on planning promoting environmentally conscious development have not stopped the exhaustion of natural resources and worldwide life-support systems, fueling evidence for degrowth and transitions to steady-state economies (Smith and Prahalad 2023). To maximize the benefits of natural gas and oil resources, Local Content Regulations (LCRs) have become increasingly prevalent in the last 15 years among oil-rich economies (Nwankwo and Iyeke 2022). Through scrutinizing the Norwegian Planning and Building Act 2008, the chapter finds that the legal framework provides opportunities and constraints for striving for a post-growth society (Xue 2022). The RL alters labor productivity growth (LPG) within companies inside the EU in two diverse ways. Firstly, the RL contributes to labor productivity growth by boosting total factor productivity (TFP).

Secondly, the RL contributes to business investments in intangible assets (Roth 2022). The availability of markets that operate effectively is a vital component affecting a country's GDP_{growth}. Moreover, an efficient jurisdictional structure is crucial for markets to operate properly. Consequently, it is rational to presume a confident link exists across income per capita and adhesion to the RL, GE, RQ, and CC (Cunha 2021). Furthermore, in recent years, researchers have explicitly examined the impact of governance and official components on GDP_{growth} in various countries. For example, Dickson et al. (2021) employed a two-step GMM to explore the consequence of governance components on GDP_{growth} for Sub-African countries by examining the period 2006-2018. The discoveries of this research have demonstrated that any improvement in quality institutions positively influences GDP_{growth}. Additionally, the research also examined every one of the components, such as the RL, GE, RQ, and CC, and in the end, it concluded that each of these variables had positive impacts on GDP_{growth}. Following a similar methodology, Marija (2020) performed a comparative study comparing EU and non-EU countries, respectively SEE6, to measure the influence of institutional quality parameters on GDP_{growth}. The outcomes of this research have had a positive effect in the long term for EU countries; nevertheless, for non-EU countries, the RL and CC have had positive effects. Lastly, Paitoon (2020) obtained its initial argument by exploring the degree of interaction among good governance components and GDP_{growth} across 18 Asia and Pacific countries, encompassing the period 2000-2017. The mathematical modeling technique employed to examine the degree of interaction in this research relies on fixed effects, and outcomes imply a significant relationship with GDP_{growth}.

RESEARCH METHODOLOGY

Data and Sample

The population sample within our research incorporates two-panel sets, which consist of the 15 countries of the European Union (EU15) during the period 2000 to 2022 as well as the 6 countries of Southeast Europe (SEE6) from 2008 to 2022. The information gathered for EU15 covers 345 observation periods, whereas the info for SEE6 covers 90. Unfortunately, the lack of appropriate information caused us to focus on the shortest time frame for SEE6 compared with EU15 countries. Data for the dependent variable GDP_{growth} was gathered using the World Bank database, whereas the independent variables were gathered using The Global Economy database. The research incorporated the independent variables RL, GE, RQ, and (CC) in each scenario. Another motivation for examining both groups result in what beneficial lessons could be received from the EU15, countries in transition that aspire to be part of the EU. The selection of variables and the conceptualization of the model simulation are inspired by the researchers Zhuo, Musaad, Muhammad, and Khan (2021) and Hussain, Kot, Kamarudin, and Yee (2021) setting certain modifications in terms of evaluating GDP_{growth}, indicating a distinction with the mentioned researchers. The summary of variables in tabular form is offered in Table 1, initially with the nomenclature, applicable acronyms, and data sources where they were produced.

Table 1: Description of Variables (Authors' compilation)

Description	Denominations	Abbreviations	Data sources
Dependent Variable	Gross Domestic Product Growth	GDP_{growth}	World Bank
Independent Variable	Rule of Law	RL	Global Economy
	Government Effectiveness	GE	Global Economy
	Regulatory Quality	RQ	Global Economy
	Control of Corruption	CC	Global Economy

Model Specification

To evaluate the influence of a variety of factors known as "government predictors" on GDP_{growth} , numerous researchers employed multiple strategies and techniques to capture the influence of these factors on GDP_{growth} . Throughout a comprehensive empirical analysis, it is concluded that all approaches and models possess their deficiencies. Still, a practically silent consensus exists among researchers when we are dealing with the dynamic nature of the information presented in the research, and due to their behavior depending on their previous behavior, it is necessary to apply the dynamic model with panel data. Therefore, based on this premise, the dynamic nature of the approach minimizes the application of the OLS approach, which can offer us skewed and inconsistent outcomes due to the observed association across panel data and the lagged predicted variable (Hasanovic and Latic 2017). Considering this information, Arellano and Bond (1991) developed an innovative approach recognized as the GMM regarding dynamic panel data, which addresses endogeneity issues, which produces biased results and heterogeneity despite observed within countries, which cannot be correctly calculated. Researchers advised that additional instruments needed to be incorporated into the dynamic model, and modifications should be used in addition to producing more reliable outcomes. Furthermore, Arellano and Bover (1995) and Bllunden and Bond (1998) have modified the prior approach differently, determining further restrictions on the primary conditions and agreeing to use additional instruments that will enhance the model's effectiveness. The above modification leads to combining the first difference of the equation with the equation wherein the first differences of the variables are instrumented. This form leads to a system with two equations (two stages), one original and one transformed. Another distinctive attribute of this approach is that it eliminates endogeneity, autocorrelation, variability, and omitted variable bias and examines the errors in the model (Ullah et al. 2018). The mathematically expressed formula for one-step GMM is:

$$Y_{it} = \sum_{j=1}^{r} \varphi_j Y_i, t - j + X_{i,t}\beta_1 + w_{it}\beta_2 + \pi_i + \varepsilon_{i,t} \ldots\ldots (1)$$

Upon this, the two-step GMM is designed and defined as follows:

$$\Delta Y_{it} = \Delta \sum_{j=1}^{r} \varphi_j Y_i, t - j + \Delta X_{i,t}\beta_1 + \Delta w_{it}\beta_2 + \Delta\pi_i + \Delta\varepsilon_{i,t} \ldots\ldots (2)$$

The effective two-step GMM estimation incorporates the fact that a consistent estimate of $\hat{\delta}$ can be derived by GMM employing a random positive definite and symmetrical weight

matrix $\widehat{W}$ such that $\widehat{W}\rho\rightarrow\widehat{W}$. Therefore, upon considering the advantages of two-step GMM, we will compute the equation in our concrete instance for the two panels presented in the research.

$$\Delta\text{GDP growth}_{i,t} = \varphi + \Delta\mu\left(\text{GDP growth}_{i,t}\right)_{-1} + \Delta\beta_1\left(\text{RL}_{i,t}\right) + \Delta\beta_2\left(\text{GE}_{i,t}\right) + \Delta\beta_3\left(\text{RQ}_{i,t}\right) + \Delta\beta_4\left(\text{CC}_{i,t}\right) + \Delta\pi_i + \Delta\varepsilon_{it} \ldots\ldots (3)$$

Where: $\text{GDP growth}_{i,t}$ - symbolize the dependent variable, β_1 to β_4- symbolize the independent variables used in the estimation, i - symbolizes the individual effects in the context of the economies, t - the period 2000-2022, respectively 2008-2022, π_i- symbolize unobserved captures of country-specific issues and ε_{it}- symbolizes the expected error.

RESULTS AND DISCUSSION

Descriptive Statistics

To perform a widespread descriptive examination caused by panel data, 23 years for the EU15 countries and 15 years for the SEE6 countries were calculated for the dependent variable $\text{GDP}_{\text{growth}}$ and certain of the governance parameters. As can be seen from the data displayed in Tables 2 and 3, there are considerable discrepancies in the mean values of the variables incorporated into the model across the two data sets. Furthermore, these early findings offer the first insights into what lessons the SEE6 countries might learn by comparing their implementation of good governance practices from the EU15 countries. The $\text{GDP}_{\text{growth}}$ of the countries currently in the transition stage have a mean value of 2.68% compared to the EU15 countries, which is 1.75%. Based upon the data reported in Table 2, the RL metric has resulted in a mean value of 1.47 points, where the variation between the lowest and the highest score is 0.07 2.12 (the lowest score of 0.07 was achieved in Greece in 2017, whereas the largest score in 2017 in Finland of 2.12). The standard deviation (SD) estimated based on this variation is 0.48. However, it is important to highlight from the empirical review that none of the EU15 countries have a negative score regarding RL. Based on the analysis outcomes, the GE parameter has a mean score of 1.47 points and an SD of 0.49. The lowest level recorded was 0.16 in Greece in 2016; meanwhile, the highest score recorded was 2.35 in Denmark in 2007.

Additionally, RQ has a mean score of 1.41 points, with an SD of 0.41. The lowest score recorded for RQ was 0.14 in Greece in 2017; meanwhile, the highest score was 2.05 in the Netherlands in 2017. The final parameter measured in the research context is CC, with a mean score of 1.55 points and an SD of 0.61. The lowest score of 0.01 was recorded in Italy in 2014, while the highest score of 2.46 was in Denmark in 2007.

Table 2: Summary Statistics for EU15 (Source: Authors' calculations)

	GDP_{growth}	RL	GE	RQ	CC
Obs	345	345	345	345	345
Mean	1.7489	1.4722	1.4694	1.4114	1.5513
Std.D	3.4270	0.4823	0.4958	0.4052	0.6084
Min	-11.3254	0.0695	0.1559	0.1443	0.0101
Max	24.3704	2.1247	2.3463	2.0454	2.4601
Skewness	0.0825	-1.1048	-0.8618	-0.7825	-0.6439
Kurtosis	10.3623	3.3567	2.9775	2.6997	2.4828

Within our analysis of EU15 countries about skewness, the symmetric data has the dependent variable GDP_{growth}, while positive skewness has RL, whereas negative skewness values have GE, RQ, and CC. Kurtosis has turned out to be leptokurtic throughout this time frame since its value is greater than zero. On the other hand, the overview of descriptive data for SEE6 countries is expressed in Table 3 in more detail.

Table 3: Summary Statistics for SEE6 (Source: Authors' calculations)

	GDP_{growth}	RL	GE	RQ	CC
Obs	90	90	90	90	90
Mean	2.6782	-0.2624	-0.1902	0.0820	-0.3731
Std.D	3.7535	0.1684	0.2897	0.2254	0.1990
Min	-15.3068	-0.6273	-1.0434	-0.3868	-0.7800
Max	13.0434	0.0244	0.2928	0.5244	0.0100
Skewness	-1.3276	-0.2267	-0.9764	-0.0091	0.1807
Kurtosis	8.4705	2.1409	3.7132	2.0624	2.1856

The RL parameter throughout the studied period reached a mean score of -0.26 points (estimated in the range -2.5 to 2.5), wherein the lowest score was reported in Kosovo of -0.63 in 2008, while the highest score was reported in 2019 in Montenegro with a score of 0.02. With the following parameter, GE has resulted in a mean score of -0.19. The smallest score reached was in 2020, with a rating of -1.04 in Bosnia & Herzegovina; however, the highest score was reported in Montenegro, with an overall score of 0.29 in 2014. Regulatory quality is a significant parameter with an average value of 0.08 and an SD of 0.22. The lowest value of this parameter was recorded in Serbia in 2008, with an overall value of -0.39, whereas the highest reported value was in North Macedonia in 2018, with a value of 0.52. Lastly, CC has a mean value of -0.37 over the studied period. The lowest value of this parameter was reported in Albania in 2012 with a value of -0.78, whereas the highest was reported in Montenegro in 2018 with a value of 0.01. Within the scope of skewness, only the RQ parameter has a symmetrical distribution; meanwhile, the GDP_{growth} parameter exhibited a positive skewness interaction. Other parameters exhibit negative skewness. An empirical examination of kurtosis indicates that we have leptokurtic dispersion, as every parameter has a value greater than zero with a positive mark.

Correlation Analysis

The main advantage of performing the correlation breakdown is to examine the nature and level of the interaction between the variables reported in Tables 4 and 5. Additionally, the information reported in Table 4 reveals that GDP_{growth} has a slight interaction with all variables included in the analysis.

Table 4: Correlation Matrix EU15 (Source: Authors' calculations)

	GDP_{growth}	RL	GE	RQ	CC
GDP_{growth}	1.0000				
RL	0.1527	1.0000			
GE	0.1559	0.4285	1.0000		
RQ	0.1857	0.5107	0.5567	1.0000	
CC	0.1417	0.3369	0.4174	0.4991	1.0000

Concerning the outcomes of this examination, it is discovered that the strongest interactions are present between GDP_{growth} and RQ with $\beta = 0.1857$. Another motivation for completing this analysis is to avoid multicollinearity within the variables included in the examination because failing to verify this issue can lead to incorrect conclusions. Therefore, in light of the outcomes, we can confidently emphasize the absence of multicollinearity; meanwhile, none of the variables has a strong interaction (more than $\beta > 0.75$). In this vein, Gurjati (2004) points out that if any constants among the variables have a constant greater than or equal to $\beta > 0.75$, then we have problems with multicollinearity.

Table 5: Correlation Matrix SEE6 (Source: Authors' calculations)

	GDP_{growth}	RL	GE	RQ	CC
GDP_{growth}	1.0000				
RL	-0.1250	1.0000			
GE	-0.0154	0.4581	1.0000		
RQ	-0.0895	0.3243	0.5882	1.0000	
CC	-0.1019	0.6428	0.4750	0.3348	1.0000

However, on the contrary, according to our estimations, Table 5 (for the SEE6 countries) shows opposite interactions with Table 4 (for the EU15 countries). In other words, these findings point towards that GDP_{growth} has a slight interaction with a negative sign. As an overall summary of our examination, it offers solid signals that SEE6 countries could learn lessons from the effective practices implemented in EU15.

Panel Unit Root Test

Our research, to further strengthen the justification of the robustness of the empirical approach, employed the stationarity test to avoid unpredictability regarding the analysis and

verify whether the data are integrated into the level or in the first order. Numerous scholars performed different tests; however, in our research framework, we employed the traditional Fisher test for unit roots to determine the stationarity of the regressors. Table 6 offers data for both panels, EU15 and SEE6, demonstrating the statistical trend and ρ - *value*.

Table 6: Unit Root Test (Source: Authors' calculations)

Variable	Fisher - EU15		Fisher - SEE6	
	At level	1st difference	At level	1st difference
	Statistic & ρ - value	Statistic & ρ - value	Statistic & ρ- value	Statistic & ρ- value
GDP_{growth}	-13.8872 0.0000	-20.7689 0.0000	-10.2877 0.0000	-15.7560 0.0000
RL	0.0353 0.5141	-12.5213 0.0000	-0.1552 0.4383	-5.4887 0.0000
GE	-1.4680 0.0710	-13.5323 0.0000	-0.6735 0.2503	-7.2503 0.0000
RQ	-2.0116 0.0221	-14.1271 0.0000	-2.6752 0.0037	-7.0162 0.0000
CC	0.7672 0.7785	-12.5975 0.0000	2.0481 0.9797	-5.9231 0.0000

The unit root examination begins by considering the premise that if the utilized data are non-stationary, they have a unit root; the null hypothesis is defined due to this premise that the statistics have a presence of a unit root. Based on the measurement outcomes within the context of the research, it was discovered that in the first panel (EU15), only two parameters (RQ and CC) were not stationary in level, whereas, in the second panel, it was discovered that we have three parameters that are not stationary (RL, GE, and CC). To overcome this issue, we integrated the data in both panels in the first difference, and all the data succeeded in being stationary at the 1% significance level. This was discovered in both instances based on ρ - *value* outcomes (ρ = 0.000). Hence, in light of the discoveries mentioned above, our research rejects the null hypothesis and validates the alternative hypothesis. To determine if the data was properly integrated in the first difference, researchers performed the Pedroni test, which turned out to be significant at 1% in both panels. Consequently, this offers ongoing verification that the data is correctly integrated (Pedroni 1999).

Findings and Discussion

Our research relies on the two-stage GMM approach to discover the short-term effects of indicators known as governance parameters on GDP_{growth} . The variables mentioned above are recognized as extremely important for establishing sustainable economic development. The two-stage GMM approach has been employed to examine contexts and time-specific properties and mitigate the bias of the endogeneity of the variables. Results from both panel sets are presented in Table 7. Based on the premise of the soundness and reliability of the approach

employed, we're going to explain the results for certain applied tests; hence, the Wald chi2 has a coefficient (β = *94.00*, with probability ρ = *0.000* for EU15, while β = *18.59*, with probability ρ = *0.0264* for SEE6) indicating that the specification of the approach employed is adequate. Additionally, the Sargan *J test* was employed to decide whether the instruments incorporated into the approach have been well suited; the results of this assessment indicate in both instances have coefficients β = *17.363*, with ρ = *0.463*, respectively β = *6.723*, with ρ = *0.384*. The instruments are appropriately suited to the result of this test, which reveals insignificant results concerning both instances ρ - *value* has higher significance than ρ =*0.01*, ρ = *0.05*, and ρ = *0.10*.

Table 7: Empirical Results (Source: Authors' calculations)

	Two-Stage GMM – EU15		*Two-Stage GMM – SEE6*	
	β	ρ ≥ [z]	β	ρ ≥ [z]
RL	36.53881	0.020	-225.6929	0.079
GE	96.89353	0.007	98.5821	0.030
RQ	45.13323	0.007	-159.7643	0.393
CC	-19.39681	0.022	332.3896	0.012
_cons	3.164921	0.013	112.4888	0.016
Screening tests				
Observation	345	"-"	90	"-"
Wald chi_2	94.00	0.0000	18.59	0.0264
AR(2)	0.5182	0.6043	0.6722	0.5015
Pedroni test	-11.6674	0.0000	-15.0692	0.0000
Sargan J- test	17.3637	0.4630	6.7236	0.3846

Note. Significant, correspondingly, at 1, 5, also 10 percent.

Following our first model, displayed in Table 7, the findings validated the core idea that RL positively increases GDP_{growth} for EU15 countries. This argument is based on the coefficient (β = *36.538, with probability* ρ = *0.000*), which is statistically significant at the 1% confidence level. The empirical evidence reported here points out that an increase in RL leads to a proportional increase in GDP_{growth}, implying that a one-point upgrade of this parameter substantially increases GDP_{growth} for EU15 countries. The results we obtained line up with those of the authors (Beyene 2022; Dickson et al. 2021; and Patrick 2020), who support the claim that the governance index has a significant positive association with GDP_{growth}. Additionally, this information clearly highlights the theoretical sense that the strengthening and implementation of RL converts into a beneficial impact on GDP_{growth}. Mohammad et al. (2020) offered evidence consistent with our study's outcomes by evaluating 23 developed and 6 underdeveloped countries employing the panel GMM system. The aforementioned global governance index was constructed via principal component analysis (PCA) to examine the influence on GDP growth. The results of the current inquiry suggest that governance quality (RL, GE, RQ, CC) positively influences GDP growth. In the same spirit, Patrick (2020) employed the GMM approach to examine the Central African Community Member States from 1996 to 2014. The research concludes that every single variable positively influences GDP growth. Nevertheless, thoughts predominate that the insufficient placement of RL would have a negative influence on

GDP_{growth} . As a consequence, considering the perspective of the second panel of our research for SEE6 countries, the RL parameter has resulted in a negative influence on GDP_{growth} for the observed period. This discovery is also expected, as is previously revealed in Figure 2, where all countries have an insufficient evaluation. Indeed, the coefficient (*β = -225.69, with probability p = 0.079*) reveals that it exerts a statistically significant adverse influence on GDP_{growth} at the 1% confidence level. The discovery implies that SEE6 countries must focus on enhancing the RL index since it positively affects GDP_{growth} . The discovered results comply with the authors' conclusions (Misi Lopes et al. 2023; Mohammad et al. 2020; Abdullahi et al. 2019).

Our second parameter of governance index in the context of our research is GE, which has resulted in having a significant positive influence at a confidence level of 1% within the EU15 and SEE6 countries. For further verification of the argument, we take into account the value of the coefficient and *p-value* (EU15 countries β = 96.893 with *p* = 0.007, as well for SEE6 countries β = 98.582 with *p* = 0.030). Regarding both scenarios, the research demonstrates that any substantial improvement in GE will undoubtedly positively affect GDP_{growth} equally in the EU15 countries and the SEE6 countries. Good governance mechanism is connected with beneficial and detrimental governance, as indicated by research that scrutinizes the interactions between democracy, GE, and GDP growth (e.g., Acemoglu et al. 2019; Tarverdi et al. 2019).

Hence, GE aspects, when addressed in a more concentrated way, promote GDP growth. Our discoveries are comparable to those of Oanh et al. (2021), who analyzed forty-eight countries in Asia encompassing the period 2005-2018, and their findings indicate a positive association between GE and GDP_{growth} . Researchers Dickson et al. (2021) reached the same conclusion by employing two-stage GMM to quantify the effect of GE in Sub-African countries encompassing the period 2006-2018.

Moreover, RQ in the context of the EU15 countries has resulted in significant statistical importance of 1%, with a positive sign on GDP_{growth} offering evidence that countries that possess sufficient RQ tend to exhibit sustainable economic progress compared to those in the transition period. Within SEE6 countries, the coefficient's value has a negative sign; however, it has insignificant statistical influence considering the value of *ρ = 0.393*. The research discoveries are in full accordance with the study by Misi Lopes et al. (2023), Beyene (2022), and Mira and Hammadache (2017). The studies mentioned above confirm consistent evidence that RQ has a positive effect on GDP_{growth} , wherein each study used unique empirical methodologies with the common denominator of GDP_{growth} . In this regard, our outcomes are steady with several research studies; for instance, Nguyen, Su, and Nguyen (2018) address 29 underdeveloped countries and ultimately arrive at the same conclusion: RQ, along with additional measures of institutional quality, boosts GDP growth. Further, the study's most in-depth results demonstrate that economies with high RQ are more desirable to foreign investment and trade openness.

Finally, the CC parameter in the context of the research across the EU15 countries produced a negative impact (*β =-19.396; with ρ = 0.022*), which stands opposite to the findings of the SEE6 countries where this parameter has produced a positive impact (*β = 332.389 with ρ = 0.012*). Many researchers have examined the effect of CC, and an important number of them have found that in high-income nations, this parameter negatively influences GDP_{growth} , whereas in developing countries, CC is positively associated with GDP_{growth} .

Thus, the research results we performed fully agree with those of Misi Lopes et al. (2023), who independently examined each component of the governance index in industrialized and emerging countries. The conclusions of this research support the concept that in advanced economies, CC has a negative impact (e.g., the example of Germany), whereas in developing countries, CC is reflected positively (e.g., the example of South Africa). Researchers Cieślik and Goczek (2018) studied the influence of CC on international investments and $\mathrm{GDP}_{\mathrm{growth}}$ employing a sample of 142 countries observing the period 1994-2014. Based on the results they obtained, it is claimed that CC negatively impacts investments and $\mathrm{GDP}_{\mathrm{growth}}$.

Insights Learned for SEE6

Extensive research has confirmed that the RL plays a crucial role in safeguarding fundamental human rights and serves as a foundational element in attaining broad-based economic well-being. Promoting and facilitating economic development in countries necessitates addressing key challenges related to the RL, specifically GE, RQ, and CC. These areas are crucial in generating $\mathrm{GDP}_{\mathrm{growth}}$. The correlation between GE and $\mathrm{GDP}_{\mathrm{growth}}$ is characterized by a linear relationship, indicating that an improvement in GE positively influences a country's economy. The presence of GE is considered a fundamental requirement for fostering economic development, as evidenced by research that highlights the crucial role of GE in shaping economic development strategies. The presence of RQ is a fundamental requirement for establishing the requisite conditions for the RL. The stability and effectiveness of RQ play a decisive role in supporting the functioning of consumer markets, businesses, and investment activities. These frameworks must exhibit transparency, fairness, and predictability to foster an environment conducive to economic growth and development. An effective and independent regulatory serves to curtail the state's authority and mitigate the potential for power abuse.

The research findings demonstrate a clear correlation between the economic development of the EU15 states and their notable accomplishments in the components mentioned above, in contrast to the relatively limited progress observed in the SEE6 states. Therefore, it can be inferred that the SEE6 states ought to emulate the EU15 states' approach, which entails prioritizing the enhancement of RL, GE, RQ, and CC while also considering the unique characteristics of the regional context. Sustainable economic development is realized by employing an integrated approach involving private and public sectors. It is anticipated that the public sector in the SEE6 will take the lead in initiating the necessary processes to facilitate this development.

CONCLUSION

This article explored the impression of the RL, GE, RQ, and CC on the $\mathrm{GDP}_{\mathrm{growth}}$ in the EU15 and within SEE6 via panel data gathered from the World Bank and Global Economy. The article aimed to evaluate the influence of the RL, GE, RQ, and CC on $\mathrm{GDP}_{\mathrm{growth}}$ through the dynamic systems evaluation method (GMM) via panel data, including the period 2000-2022 for EU15 and 2008-2022 for SEE6. The primary conclusions reached by both examined panels confirmed the relevance of RL, GE, RQ, and CCto $\mathrm{GDP}_{\mathrm{growth}}$, wherein an improvement in these

parameters is directly interrelated with $\mathrm{GDP}_{\mathrm{growth}}$. Throughout the exploration of the individual results (the case of EU15 and SEE6), it is established that there are variations within them, not in provisions of statistical consequence, but in provisions of positive or negative influence on $\mathrm{GDP}_{\mathrm{growt\ h}}$. Within the first panel, RL, GE, and RQ showed a positive influence on $\mathrm{GDP}_{\mathrm{growth}}$, whereas CC showed an adverse influence on $\mathrm{GDP}_{\mathrm{growth}}$. Additionally, the second panel was handled similarly; however, the results offer a different image than the first panel. To analyze the situation more comprehensively in the instance of SEE6, RL resulted in having a significant and adverse influence on $\mathrm{GDP}_{\mathrm{growth}}$, which result is opposite to the results of EU15. Continuing more thoroughly, GE has positive effects which finding is consistent with the EU15 results. The RQ parameter, within the SEE6 scenario, has demonstrated results with a statistically important adverse influence on $\mathrm{GDP}_{\mathrm{growth}}$. This reality has been consistently stressed in the reports of the EU and the US State Department. A completely unexpected result, within the SEE6 instance, CC has influenced $\mathrm{GDP}_{\mathrm{growth}}$ with a significant positive effect.

Therefore, based on the outcomes of this research, several recommendations and policy implications can be considered, summarized below. Firstly, our outcomes indicate that the RL is an essential component that influences $\mathrm{GDP}_{\mathrm{growth}}$. The might, as mentioned earlier, indicate that its appropriate performance has a positive influence, as in the instance of EU15, whereas a lack of adequate performance is reflected with a negative influence, as in the instance of SEE6. Hence, the RL must be appropriate throughout all levels of government to earn the trust of each stakeholder. Secondly, to improve the government's effectiveness, it is required to carry out the reforms and be applicable because it is highlighted for our consideration as a significant factor in $\mathrm{GDP}_{\mathrm{growth}}$. Thirdly, despite multiple attempts to overcome CC, additional initiatives and commitments are still needed to eliminate this phenomenon, which is regarded as a cancer of the economy.

Finally, from the perspective of economic policy measures, the countries' governments should be more proactive in their creation, which should promote the formation of human capital, fixed capital, the promotion of foreign investments, and the implementation of these policies suitably and adequately. Finally, as the overall conclusion is that the research did not explore these parameters in the long term, researchers in the future can take into consideration their treatment in conjunction with additional economic modeling techniques, as well as the inclusion of certain other macroeconomic factors to explore their impact on $\mathrm{GDP}_{\mathrm{growth}}$.

CRediT AUTHOR STATEMENT

Esat A. Durguti: conceptualization, methodology, software, original draft preparation, and supervision. **Avni H. Alidemaj:** conceptualization, data curation, writing, reviewing, and editing. **Anatolijs Krivins:** visualization, investigation, writing, and validation.

All authors have read and agreed to the published version of the article.

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