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INVESTIGATING THE RELATIONSHIP BETWEEN GLOBALIZATION AND ECONOMIC GROWTH IN EECA COUNTRIES: THE MEDIATING ROLE OF GOVERNANCE

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ABSTRACT

Globalization has been on an upward trend since the 1980s, consequentially ushering in growth and development benefits that have transformed the welfare standings of many countries worldwide. The Eastern Europe and Central Asia (EECA) region, particularly, cannot be isolated from globalization gains. However, the region has been typified by the ongoing Russo-Ukraine war. Given that EECA economies are intertwined with those of Russia and Ukraine, this paper seeks to investigate the relationship between globalization and economic growth in EECA countries within the framework of the mediating role of governance. By employing the system Generalized Method of Moments (GMM), utilizing endogenous instruments drawn from the lags of the dependent variables as well as the 1st differences of the independent variables, the results reveal that overall globalization and its economic, social, and political facets do not affect economic growth in EECA countries. The paper also establishes that governance does not mediate the impact of globalization and its dimensions on economic growth in EECA. Similarly, governance dimensions have an insignificant effect in mediating the impact of overall globalization on economic growth in EECA. However, fixed capital formation significantly affects economic growth even though the power of its effect is relatively low. Regardless, globalization may potentially be valuable in stimulating trade, investment, and scientific advancements that are regarded as the foundations of contemporary growth and development.

Keywords: EECA; globalization; governance; KOF Globalization Index; mediating effects; system GMM

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INTRODUCTION

Globalization is not a new phenomenon. In fact, since the dawn of civilization, people have historically traded with their neighbors. Cultural advancements further permitted travelling to distant places for trade purposes and gave birth to early forms of globalization, such as the Silk Road. The notion of "globalization" is extensive and incorporates numerous diverse aspects, such as culture, physical location, institutional establishments, administrative governance, and the economy. For this paper, the focus is on overall globalization and its economic, social, and political dimensions, as explained in Dreher (2006) and Gygli et al. (2019).

According to Baldwin (2017), globalization is deemed to have transpired over two unbundling phases, with the initial phase being triggered by the steam revolution in the 1830s and the second phase being shaped by the emergence and advancements in Information and Communication Technology (ICT). It must be

acknowledged, however, that numerous inconsistent accounts of the history of globalization exist and usually divide it into the following three waves grounded on the European experiences: the first wave (1870 to 1914), which receded as a consequence of the 1st and 2nd World Wars of 1915 to 1949; the second wave (1950 to 1980), which was initiated after the 2nd World War with the formation of Bretton Woods Institutions in 1944 to integrate the global community; and the third wave (1980 to 2010) which was typified by rapid advancements in ICT, transportation, mechanization and industrialization. The fourth wave is seen to be currently unbundling and centered on the 4th industrial revolution marked by a sharp divergence from analog to digital technologies, robotics, machine learning, and artificial intelligence (Beri et al., 2022; Tran, Le & Hang, 2023).

It is apparent that since the 1980s and in recent years, the rate of globalization has seen an upward trend emanating mainly from the technological advancements ushered in by the present and previous industrial revolutions. For instance, swift advancements, along with innovations in transportation and ICT, facilitate real-time communication and the speedy transfer of financial assets beyond domestic borders. Even in the face of the COVID-19 pandemic, globalization remained sturdier. While the general perception has been that the emergence of the pandemic would inspire a reversal of integrated global economies and value chains, as posited by authors such as Antràs (2020) and Jaklič et al. (2020), there remains little evidence at this stage that attest to that. Of course, the need to revise the understanding of the world to a certain extent must be acknowledged since the current model has to be adapted to account for the nature of external shocks to the global economic, social, and political systems that the COVID-19 pandemic presented.

Additional benefits brought about by globalization include: lower production costs springing from global access to cheaper raw materials and labor; leveraging by developing countries on the technical know-how and expertise of developed economies; the outsourcing of organizational functions such as ICT services to other parts of the world; and the decline in manufacturing costs, which translates to lower prices of goods and services for consumers. All this can inspire economic growth and contribute to the enhancement of the standards of living of the citizens of a country as a whole.

The EECA region, in particular, cannot be isolated from the benefits of globalization mentioned herein. The region has witnessed, on average, a noble growth in most of the significant macroeconomic indicators over the period analyzed in this paper (i.e., 2000 to 2019). For instance, an analysis of economic growth, as proxied by the annual growth in Gross Domestic Product (GDP), in Table 1 reveals that most of the EECA countries witnessed average economic growth between 3% and 8% during this period. Countries like Tajikistan, with an average annual economic growth of 7.69%, Armenia (6.57%), and Kazakhstan (6.53%) are the most noticeable in this respect. GDP per capita, which is an indicator of the standards of living, has also averaged between 3% and 8% over the same period. Apart from Belarus, which had an average inflation rate of 28.54%, inflation in the rest of the countries in the EECA region averaged less than 17%. Except for Ukraine (-0.06%), exports also noticeably grew at an average rate between 3% and 12.5%. These statistical figures point to improvements in the economic and development positions of the respective EECA countries.

Nonetheless, geopolitical tensions in the region, centered on the Russo-Ukraine war, warrant the need for the reassessment of the effects of globalization on regional economic expansion and the function that governance plays in mediating the impact of globalization on the economic growth of EECA countries. Given the significant economic development and political role played by both Ukraine and Russia in the region, it is not a secret that EECA countries will be impacted considerably by the probable knock-on effects emanating from a prolonged conflict in Ukraine (Darmayadi & Megits, 2023). In fact, in the longer term, EECA countries and their citizens are highly likely to feel the brunt of the sanctions imposed on Russia by the Western countries and the consequential economic retaliation by Russia in the form of high gas prices and deteriorations in trade volumes directly impacting businesses and households. Embargoes from Russia on energy imports could also inspire deteriorations in growth in the region. Besides, the economies of EECA countries

are intertwined with those of Ukraine and Russia in terms of economic development and cooperation.

Table 1: Average annual % growth in significant macroeconomic indicators in EECA from 2000 to 2019

Country	GDP	GDP per capita	FDI inflows (% of GDP)	Inflation	GFCF	Exports	Imports
Albania	4.25	4.70	6.93	2.41	5.43	10.48	7.72
Armenia	6.57	7.26	4.78	3.49	7.75	11.12	6.04
Belarus	4.54	4.88	2.35	28.54	7.56	6.35	8.66
Bulgaria	3.50	4.36	8.36	4.20	6.06	5.80	6.96
Croatia	2.10	2.64	3.84	2.11	2,68	4.86	4.97
Czech Republic	2.95	2.76	5.00	2.24	3.30	8.07	7.61
Estonia	4.01	4.25	8.10	3.32	6.95	6.41	7.30
Georgia	5.40	5.99	8.87	4.80	7.34	10.24	8.69
Hungary	2.67	2.91	11.62	4.31	3.89	8.27	7.63
Kazakhstan	6.53	5.40	7.48	8.28	10.75	4.31	5.76
Kyrgyzstan	4.46	2.97	5.23	7.03	9.48	3.32	6.07
Latvia	3.81	4.96	3.50	3.66	6.24	7.14	6.74
Lithuania	4.21	5,43	3.32	2.43	6.25	9.67	8.91
Montenegro	3.14	3.00	15.46	2.56	11.11	4.99	5.38
Poland	3.86	3.95	3.42	2.56	3.96	7.91	6.57
Russian Federation	3.76	3.78	2.21	10.41	6.06	4.81	10.06
Romania	4.05	4.83	3.69	9.58	7.45	9.13	11.98
Moldova	4.48	4.98	5.24	9.02	7.85	9.29	9.37
Serbia	3.61	4.04	6.51	15.26	8.05	12.57	12.99
Slovak Republic	3.82	3.77	4.30	3.51	3.06	8.62	7.57
Slovenia	2.48	2.22	2.29	3.07	1.16	6.50	5.33
Tajikistan	7.69	5.50	4.45	11.19	5.18	6.17	4.92
Turkey	4.93	3.48	1.60	16.30	7.79	7.06	6.21
Ukraine	2.43	3.28	3.61	12.87	4.65	-0.06	4.66

Notes on indicator abbreviations and unit of measurement: GDP, Gross Domestic Product (annual % growth); GDP per capita (annual % growth); FDI, Foreign Direct Investment as a % of GDP (annual % growth); Inflation (annual % growth in CPI, Consumer Price Index); GFCF, Gross Fixed Capital Formation (annual % growth); Exports (annual % growth); Imports (annual % growth). No data for the Macedonia.

Source: Author's compilation from data retrieved from the World Bank (2023a) World Development Indicators (WDI). https://databank.worldbank.org/source/world-development-indicators#.

The aim of this paper, therefore, is to investigate the relationship between globalization (including its economic, social, and political dimensions) and economic growth in EECA countries within the framework of the mediating role of governance. The focus of the paper significantly departs from existing literature, which is predominantly engrossed only in the impact of globalization on economic growth (e.g., Dreher, 2006; Ying, Chang & Lee, 2014; Kılıçarslan & Dumrul, 2018; Ehigiamusoe, 2022). In response, the paper further investigates the mediating role of governance and its dimensions in enhancing the impact of overall

globalization on economic growth in EECA. In fact, the paper notes the absence of awareness of any paper that has investigated the role of governance in mediating the impact of globalization on economic growth in EECA. However, such an analysis is extremely important for the long-term planning of EECA countries, given the current geopolitical crisis symbolizing the region.

The introductory part of the paper provides a brief background of globalization with reference to the EECA region and places it within the setting of the relationship between the region, Ukraine and Russia as well as the ongoing Russo-Ukraine war. The rest of the paper is structured as follows: an appraisal of literature relating to globalization, economic growth, and governance, as well as hypothesis development, is provided; and this is followed by the data and analytical technique applied to achieve the paper's aims, results and discussions, and the conclusions and recommendations.

LITERATURE APPRAISAL AND HYPOTHESIS DEVELOPMENT

Existing theories and conceptions are appraised in this paper to develop the hypothesis with the intention of establishing linkages between the included variables. While exogenous theories are mainly applied in the realm of globalization to measure its influence on economic growth, relying entirely on these theories can be misleading since the variables in question dynamically depend on both endogenous and exogenous factors. Hence, following Beri et al. (2022), the paper adopts an exogenous theoretical approach modified to encompass endogenous determinants. In this regard, an assumption of a small economy that chooses to attain economic growth and development by expanding trade in global markets is submitted.

The history of economic growth cannot be isolated from that of trade (Dragusha et al., 2023). Many theories underpinning economic globalization are ingrained in trade theories, both liberal and new trade theories. In liberal contexts, the theory of absolute (Smith, 1776) and comparative (Ricardo, 1817) advantage emerged as advocates for free trade in an antagonistic response to the inward-looking mercantilism theory, which advocated for exports over imports in maintaining a favorable trade balance. Proponents of new trade theories, such as Krugman (1991), commented that increased production in other countries inspires the provision of goods at lower prices relative to instances of isolated production. The assumption in these theories, however, was that of efficiently functioning markets (Beri et al., 2022).

In investigating the effect of globalization on economic expansion in the EECA region, this paper is theoretically grounded on the Heckscher-Ohlin, Stolper-Samuelson theory propagated by Heckscher-Ohlin and later enriched by Stolper-Samuelson. The theory extends Ricardo (1817)'s comparative advantage theory by explaining the role of factor endowments in shaping trade content within a two-goods, two-sector, and two-economies general equilibrium framework. Additional assumptions in the model are that of perfect movement of production factors between sectors, but not across nations, unrestricted trade, comparable technologies, and identical preferences that are unresponsive to levels of income. Countries endowed with capital would specialize in the production and exportation of capital-intensive goods, while the same holds true for labor-endowed countries.

In terms of Heckscher and Ohlin (1933)'s interpretation of endowments by factor prices, country 1 would export more of the capital-intensive good, while country 2 would export the labor-intensive good if $\left(P_K/P_L\right)_1 > \left(P_K/P_L\right)_2$; where P_K is the price of capital and P_L is the price of labor in countries 1 and 2, correspondingly. Assuming that there are two commodities, X (capital intensive) and Y (labor intensive), Samuelson extended this framework in his Factor-Price-Equalization model to reveal that good X would be cheaper in country 1 and Y would be cheaper in country 2, mathematically represented as $\left(P_X/P_Y\right)_1 < \left(P_X/P_Y\right)_2$. Hence, country 1 would export more of good X and country 2 would export more of Y.

The HO model positions trade within the context of static factors to reveal its short- to medium-term impacts on economic development via expanded trade liberalization. However, given the complexity of geopolitical linkages and the mobility of production factors in contemporary trade, dynamic factors can be considered more significant in investigating the impact of globalization on economic growth.

International trade is also a central driving force behind globalization and has historically been considered a significant factor of growth in the EECA (Capolupo & Celi, 2008; Herrero & Xu, 2017).

Under conditions of perfect competition, trade inspires divergence in copious resources, production specialization, and convergence of factor returns between trading nations (Davis & Mishra, 2007). This may culminate in lower per capita income in the long term, although at a higher consumption level (Beri et al., 2022). Under imperfect market conditions, globalization ought to trigger competition among nations, expand market size, accelerate technical innovations, and advance productivity (Gruber, 2011). Within this setting, the following null hypothesis is specified:

H_1: Globalization and its dimensions do not affect economic growth in EECA

The effect of globalization on economic development is conditional on the quality of governance within national economies. In the scholarly realm, there is no shared consensus on the definition of governance. Emanating from this, the understanding of governance in this paper is dual. First, it is viewed as the process of instituting and enforcing resolutions within a nation. In other words, it is the progression of interactions by means of laws, social norms, power, or language as structured in the legislations and statutory communications of an organized and democratic country (Snellen, 1994). Second, governance is seen as the ability of a government to establish and administer rules and regulations and deliver services, regardless of whether the administrative regime is democratic or not (Fukuyama, 2013). An amalgamation of the two perspectives leads to the thinking that democracy and good governance, although normative, are mutually supportive. In terms of measurement, governance is computed as a composite index obtained by averaging the indices of the six dimensions of governance (i.e., voice and accountability, political stability and absence of violence/terrorism, government effectiveness, regulatory quality, rule of law, and control of corruption) outlined in the World Bank (2023a) World Governance Indicators (WGI).

Over the years, intellectual debates have been directed at the role of governance in mediating the effect of globalization on economic growth. In fact, economists have long recognized the importance of government policies and institutions in linking market participants to benefit marginalized groups (Rudra & Tobin, 2017). Consequently, the degree to which globalization can trickle down into economic growth in EECA can be seen as dependent on the quality of governance and the related institutions within the region. To capture the role of governance in mediating the effect of globalisation on economic growth in EECA, it is hypothesized that:

H_2: Governance and its dimensions do not mediate the impact of globalization on economic growth in EECA

The details of the data and estimation procedure applied to investigate the impact of globalization on economic growth in EECA within the framework of the mediating role of governance are provided in the following section.

DATA AND ANALYTICAL TECHNIQUE

Data

The prime objective of this paper is to investigate the relationship between globalization and economic growth in EECA countries within the framework of the mediating role of governance. To achieve this objective, panel data of 25 EECA countries from 2000 to 2019 was explored. The period was selected based on the expectation that the former Soviet countries within the EECA region would have been fully integrated into the global economy by 2000.

The descriptions and sources of variables investigated in this paper are presented in Table 2. The dependent variable is economic growth (LRGDP), and the primary independent variables are the overall globalization index (KOFgi) and its dimensional indices of economic (KOFegi), social (KOFsgi), and political globalization (KOFpgi). The KOFgi is a composite index of the KOFegi, KOFsgi and KOFpgi, which ranks countries on a scale of 1 (i.e., the least globalized) to 100 (i.e., the most globalized). The KOFgi currently has 43 variables that permit the causal relationship to fluctuate over time (Gygli et al., 2019; Dreher, 2006).

Table 2: Description of variables

Variable	Symbol	Measurement	Data source
Economic growth	LRGDP	Annual percentage growth in GDP at constant 2010 US$.	WB (2023b) WDI
Globalization	KOFgi	KOF overall globalization index comprising the economic, social, and political facets of globalization.	Dreher (2006) and Gygli et al. (2019)
Economic globalization	KOFegi	The overall economic facet of the KOF globalization index	Dreher (2006) and Gygli et al. (2019)
Social globalization	KOFsgi	The overall social facet of the KOF globalization index	Dreher (2006) and Gygli et al. (2019)
Political globalization	KOFpgi	The overall political facet of the KOF globalization index	Dreher (2006) and Gygli et al. (2019)
Governance	GI	WGI's overall governance index comprising the following dimensions: voice and accountability, control of corruption, government effectiveness, political stability, rule of law, and regulatory quality.	WB (2023a) WGI
Control of corruption	C_corruption	Considerations of the degree to which civic authority is applied for personal benefit.	WB (2023a) WGI
Government effectiveness	G_effectiveness	Beliefs about the excellence of civil services and legislative formulation and execution.	WB (2023a) WGI
Political stability	P_stability	Considerations of the probability of political uncertainty and/or politically-oriented aggression, incorporating terrorism.	WB (2023a) WGI
Rule of law	R_law	Considerations of the degree to which representatives possess and display trust in as well as standing by civil laws.	WB (2023a) WGI
Regulatory quality	R_quality	Perceptions of the ability of the administration to originate and execute rigid policies and guidelines that facilitate and advance private sector progression.	WB (2023a) WGI
Voice and accountability	V_accountability	Considerations of the degree of flexibility of citizens in choosing their administrative regime, including expressive, alliance, and media liberty.	WB (2023a) WGI
Population growth	P_growth	Annual percentage growth in population.	WB (2023b) WDI
Gross fixed capital formation	GFCF	Yearly percentage expansion in the creation of fixed capital measured at constant 2010 US$.	WB (2023b) WDI
Labor force participation	LF_participation	The yearly percentage of the population aged between 15 and 64 that is economically active.	WB (2023b) WDI
Inflation	Inflation	Inflation as measured by the CPI.	WB (2023b) WDI
Human capital	H_capital	Annual percentage growth in gross secondary school enrolment.	WB (2023b) WDI

Note: CPI, Consumer Price Index; GDP, Gross Domestic Product; UNCTAD, United Nations Conference on Trade and Development; WB, World Bank; WDI, World Development Indicators; WGI, World Governance Indicators

Source: Authors' compilation

The baseline model for growth includes population growth, gross fixed capital formation, labor force participation, inflation, and human capital. The overall governance variable and its dimensions are employed to investigate the role of governance in mediating the impact of globalization on economic growth in EECA. The dataset was assembled from the World Development Indicators (WDI) of the WB (2023b), the KOF globalization index of Dreher (2006) and Gygli et al. (2019); and the World Governance Indicators (WGI) of the WB (2023a).

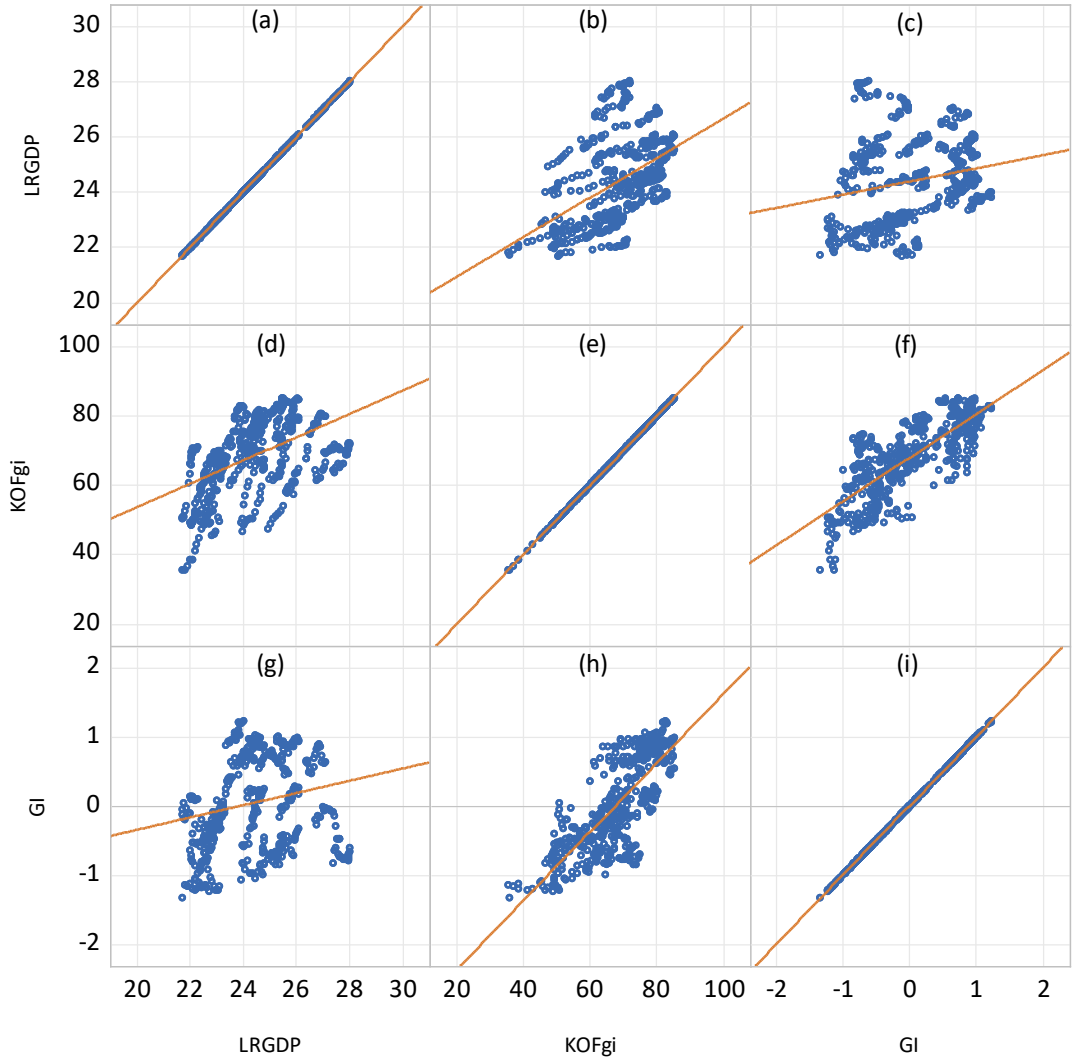

Figure 1: Scatter plot matrix of economic growth, globalization, and governance in EECA

Source: Generated from EViews 12

The descriptive statistics provided in Table A.1 show that there were 25 countries (n), 20 periods (T), and 500 observations (N) per every variable included in the data. The standard errors for some of the variables are relatively large, indicating that the data is widely spread and pointing to an estimation method that minimizes the standard errors. Apart from KOFgi and GI with a significant correlation of 0.79 (see the correlation matrix of the main variables in Table

A.2), which signifies a strong presence of multicollinearity, all the other variables have low correlations that cannot affect the results. Hence, the impacts of the variables with a high correlation were estimated in isolation. The same also applies to the dimensional variables of KOFgi and GI. The trends of the main variables are also shown in Figure 1. For all the variables, growing trends are observable during the period of analysis.

To test for stationarity, a mixed approach utilizing the Levin-Lin-Chu test and the Im-Pesaran-Shin test was adopted. The latter assumes heterogeneity, while the former assumes homogeneity across groups. Except for the control of corruption, whose Levin-Lin-Chu's results assumed stationarity at the first difference, all other variables assumed stationarity at the level, as revealed in Table A.3. The graphs in Figure A.1 also point to the stationarity of the variables. These results imply that, *among other things*, the transient impacts of shocks on economic expansion would revert to their long-run equilibrium, the cointegration test becomes unnecessary, the possibility of obtaining spurious results is dismissed, and policy implications drawn would be valid (Beri et al., 2022).

While cross-sectional dependence is not always a concern in micro panels, Sarafidis, Yamagata & Robertson (2009) revealed that its presence can lead to inconsistent parameters when the number of cross-sections (n) grows large for: (i) regressions with instrumental variables, and (ii) the Generalized Method of Moments (GMM) of Anderson and Hsiao (1981), Arellano and Bond (1991), and Blundell and Bond (1998). By employing the Pessaran test, the preliminary results exposed cross-sectional dependence in the economic growth model. The modified Wald test for GroupWise heteroscedasticity also indicated the presence of heteroscedasticity. This can render the standard fixed or random effects models biased, inconsistent, and inefficient even though the preliminary analyses revealed the fixed effect model as the most appropriate for the estimations. Hence, in response to the data characteristics, a system GMM model is specified and run.

Analytical technique

The analysis commences with a standard neoclassical-Solow- growth model ($Y_{i,t}$), shown in Equation 1, consisting of capital of country i at time t ($K_{i,t}$) and labor stocks of country i at time t ($L_{i,t}$) as inputs. A represents technology.

$$Y_{i,t} = F\left(K_{i,t}, AL_{i,t}\right) \qquad (1)$$

The assumption made in Equation 1 is that population expansion (N) as well as savings (S) are exogenous. The inference reached by Robert Solow was that higher savings are linked with increased income, whereas nations with higher population growth rates are associated with inferiority. Following Mankiw, Romer, and Weil (1992) to define Equation 1 by adding human capital ($H_{i,t}$) and globalization ($G_{i,t}$), results in Equation 2:

$$Y_{i,t} = [A_{i,t}L_{i,t}]^{1-\alpha-\beta-\delta}K_{i,t}^{\alpha}H_{i,t}^{\beta}G_{i,t}^{\delta} \qquad (2)$$

Where α, β and δ are the sensitivity of output to variations in capital, labor, and globalization, correspondingly. Dividing Equation 2 above by labor units and consolidating the mathematical formulations of Islam (1995), the linear form of Equation 2 in a dynamic panel system is mathematically presented as:

$$y_{i,t} = \lambda_0 + \lambda_1 y_{i,t-1} + \sum_{j=1}^{2} \gamma_j x_{i,t}^{j} + \delta_0 g_{i,t} + \eta_t + v_i + \mu_{i,t} \qquad (3)$$

Where η_t denotes time-fixed effects, v_i measures country-specific effects and $\mu_{i,t}$ signifies the idiosyncratic error term. Since Equation 3 accounts for both time and country-fixed effects, it can be predicted by employing whichever modification of panel data methods (Islam, 1995).

$$y_{i,t} = \lambda_0 + \lambda_1 y_{i,t-1} + \sum_{j=1}^{2} \gamma_j x_{i,t}^{j} + g_{i,t}.GI_{x=1,\ldots,6;\, i,t} + \eta_t + v_i + \mu_{i,t} \qquad (4)$$

To estimate the mediating effect of governance on economic growth, $g_{i,t}$ is interacted with governance and its dimensions ($GI_{x=1,\ldots,6;\, i,t}$) at distinct phases of the regression with x representing governance dimensions. The model assumes the generic form in Equation 4 above.

Equations 3 and 4 can be predicted utilizing several modifications of panel data methods such as the 1st difference estimators, pooled OLS, and random and fixed-effects models (Beri et al., 2022). While the 1st difference estimator accounts for issues of omitted variables, it results in endogeneity bias. Likewise, static models like random effects and fixed effects presume strict exogeneity even though most cross-section time-series variables violate this assumption due to their simultaneity and endogeneity characteristics. Arellano and Bover (1995) and Blundell and Bond (1998), however, showed that dynamic GMM provides robust and efficient estimates when static models fail. Obtaining accurate instruments emerges to be a major challenge, though.

A systems GMM model is estimated in this paper utilizing endogenous instruments drawn from the lags of the dependent variables as well as the 1st differences of the independent variables. The validity of these instruments was verified with the Hansen test with the probability values of the J-statistic all assuming values above the required minimum of 0.1 and maximum of 0.25. All the models consider time and country-specific fixed effects.

The following section provides a presentation of the results obtained.

RESULTS AND DISCUSSIONS

As alluded to in the introductory section, the primary aim of this paper is to investigate the relationship between globalization (including its dimensions) and economic growth in 25 EECA countries from 2000 to 2019 within the framework of the mediating role of governance and its dimensions. Economic growth, as proxied by the growth in GDP, is the dependent variable, while overall globalization KOFgi) and its dimensional indices of economic (KOFegi), social (KOFsgi), and political globalization (KOFpgi) form the primary independent variables. In this regard, the system GMM estimation results obtained in this paper are presented in this section in terms of the hypotheses specified in the literature review section.

Economic growth and globalization and its dimensions (H_1)

The paper began by investigating the impact of globalization and its dimensions on economic growth in EECA (H_1) and controls for population growth, fixed capital formation, inflation, labor force participation, and human capital. Model (1) is the results of the impact of overall globalization on economic growth, (2) presents the results of the impact of the overall globalization dimensions on economic growth, and (3) is the baseline model with the control variables.

Table 3: Relationship between globalization and economic growth

	(1)	(2)	(3)
LRGDP(-1)	0.985445***	0.982564***	0.997674***
	(0.075761)	(0.029791)	(0.115777)
KOFgi	-0.001123		
	(0.004458)		
KOFegi		0.002276	
		(0.002863)	
KOFsgi		-0.006432	
		(0.00545)	
KOFpgi		0.002306	
		(0.003864)	
GI	0.017803		
	(0.112139)		

Table 3: Continued

C_corruption			0.028698
			(0.078447)
G_effectiveness			-0.089475
			(0.216104)
P_stability			-0.019512
			(0.089769)
R_law			0.067498
			(0.308129)
R_quality			0.059259
			(0.257918)
V_accountability			-0.078730
			(0.097288)
P_growth	0.013219	-0.022851	5.14E-05
	(0.067199)	(0.020375)	(0.100421)
GFCF	0.002359***	0.002268***	0.002481***
	(0.000375)	(0.00046)	(0.000936)
LF_participation	-0.001036	0.002258	-0.000972
	(0.005678)	(0.003066)	(0.013017)
Inflation	-0.001670	-0.003639	-0.005424
	(0.002649)	(0.003549)	(0.008820)
H_capital	0.001725	-0.000449	-0.000458
	(0.006520)	(0.001614)	(0.008075)
Constant	0.363167	0.489959	0.223622
	(1.310908)	(0.528330)	(2.941003)
J-statistic	-7.77E-31	2.83E-31	1.82E-32
Included observations	450	450	450
No. of instruments	8	9	12
Adjusted R^2	0.9999	0.9999	0.9999
Wald Chi-square	570.8599***	20850.46***	19328.78***

Standard errors in parentheses * p<0.10, ** p<0.05, *** p<0.01

The results in (1) and (2) reveal that overall globalization and its social dimension have an adverse, though insignificant, effect on economic expansion in EECA. Similarly, the impact of other dimensions of overall globalization on economic growth in EECA is positive, but insignificant. Therefore, the null hypothesis is accepted, and the conclusion that neither overall globalization nor its dimensions are associated with economic growth in EECA is reached. Fixed capital formation significantly affects economic growth in EECA in all three models, even though the power of its effect is relatively low. In statistical terms, a 1% rise in the yearly growth in GFCF generates a 0.002% increase in economic growth in EECA across the three models. In line with theoretical and empirical literature, studies like Mankiw et al. (1992) and Islam (1995) have revealed a robust positive effect of GFCF on economic growth.

Regarding post-estimation diagnostics, no evidence of 2nd-order autocorrelation could be verified, and all the instruments are beneath the number of groups with Hansen p-values in the suggested 0.1 lower-bound and 2.5 upper-bound parameters. The coefficients of the lagged dependent variable are all significant and smaller than one as per the hypothetical expectation. The Wald test (see Table A.4) confirms joint significance as the null hypothesis is rejected in all three models, and the conclusion that the coefficients are significantly different from zero

is reached. All the significant estimated coefficients in the three models are also unbiased, consistent, and efficient.

The results converge with the strand of existing literature that has established an absent linkage between globalization and economic expansion (e.g., Rodrik, 1998; Rodriguez & Rodrik, 2000; Vamvakidis, 2002; Ulaşan, 2015). However, the findings depart from the strand of extant literature establishing the significant impact of globalization on economic growth. Such studies include Shittu et al. (2020), who found a significant effect of globalization on economic growth in West African countries, and Zahonogo (2018), who revealed a substantial link between globalization and economic expansion to a specific upper limit in sub-Saharan Africa above which it deteriorated, and Samimi and Jenatabadi (2014) who established significant evidence in support of the globalization-economic growth relationship in high- and middle-income nations of the Organization of Islamic Cooperation over the period 1980–2008.

Mediating effects of governance and its dimensions

This section presents the results of the mediating effects of governance and its dimensions on the relationship between globalization and economic growth in EECA (H_2). The results of the mediating effects are shown in Table 4. Model 1 presents the mediating impact of governance on the association between overall globalization and economic growth, (2) shows the mediating impact of governance on the association between globalization dimensions and economic growth, and (3) is the mediating impact of governance dimensions on the association between overall globalization and economic growth.

Table 4: Mediating effects of governance and its dimension

	1	2	3
LRGDP(-1)	1.091846	0.984481***	0.995033***
	(1.156828)	(0.092044)	(0.024831)
KOFgi*GI	-0.001793		
	(0.024613)		
KOFgi*KOFgi	-5.33E-05		
	(0.000493)		
KOFegi*GI		-0.006440	
		(0.025556)	
KOFegi*KOFegi		4.39E-06	
		(3.11E-05)	
KOFsgi*GI		0.004274	
		(0.020167)	
KOFsgi*KOFsgi		-1.57E-05	
		(0.000116)	
KOFpgi*GI		0.002456	
		(0.005928)	
KOFpgi*KOFpgi		4.79E-06	
		(7.31E-05)	
KOFgi*C_corruption			0.000704
			(0.000813)
KOFgi*G_effectiveness			-0.000820
			(0.001346)
KOFgi*P_stability			4.19E-05
			(0.000856)
KOFgi*R_law			0.000638
			(0.001501)

Table 4: Continued

KOFgi*R_quality			0.000509
			(0.000934)
KOFgi*V_accountability			-0.000775
			(0.000935)
P_growth	-0.099377	-0.000156	0.015476
	(1.252264)	(0.049996)	(0.040385)
GFCF	0.002690	0.002060***	0.002535***
	(0.004428)	(0.000696)	(0.000591)
LF_participation	0.008941	-0.001882	-0.003428
	(0.114428)	(0.004509)	(0.006573)
Inflation	-0.004041	-0.000681	-0.003209
	(0.039619)	(0.004099)	(0.005948)
H_capital	-0.008880	0.002572	0.000989
	(0.118032)	(0.005215)	(0.004052)
Constant	-1.628097	0.308890	0.297839
	(21.21625)	(2.045207)	(0.585722)
J-statistic	-8.81E-30	-4.26E-28	-1.59E-34
Included observations	450	450	450
No. of instruments	8	9	12
Adjusted R^2	0.980125	0.997593	0.998813
Wald Chi-square	570.9524***	8629.842***	12803.83***

Standard errors in parentheses * p<0.10, ** p<0.05, *** p<0.01

The results in (1) suggest that governance does not mediate the impact of globalization on economic growth in EECA. Similar results were obtained in the case of (2) where governance does not mediate the effect of globalization dimensions on economic growth, and (3) where governance dimensions do not mediate the effect of overall globalization on economic growth in EECA. Again, the null hypothesis is accepted, and a conclusion that neither overall governance nor its dimensions mediate the effect of globalization on economic growth in EECA is reached. The influence of fixed capital formation on economic development in EECA is also significant in (2) and (3). Joint significance is validated by the Wald test and the Hansen test also confirms that the models are valid.

While the results of this paper suggest that governance and its dimensions do not mediate the impact of globalization on economic growth in EECA, studies such as Hammudeh et al. (2020) established that the effects of globalization on economic expansion are considerably intense in nations typified with a greater level of governance quality. Seemingly related studies like Samimi and Jenatabadi (2014) also revealed that globalization was additionally effectual in nations characterized by superior financial development and a considerably educated labor force. However, the absence of awareness of any paper that has investigated the role of governance in mediating the effect of globalization on economic growth in EECA is insinuated.

CONCLUSION AND PROPOSITIONS

The role of globalization in economic growth remains contentious, with some scholars finding significant effects of globalization on economic development, while others establish the absence of associations between the two macroeconomic variables. However, even in the absence of a striking consensus among scholars, there are apparent benefits that globalization has ushered in, driven primarily by technological advancements presented by the current and previous industrial revolutions. Such technological shifts include swift advancements together with innovations in transportation and ICT, which have facilitated real-time communication and the swift movement or transfer of physical and financial assets beyond national territories. The ECCA region cannot be excluded from these progressions. Hence, given the geopolitical concerns facing the region mainly as a consequence of the Russo-Ukraine

war, it is of interest to investigate the impact of globalization on economic growth in ECCA countries within the mediating role of governance spanning from 2000 to 2019.

In light of the above, this paper began by investigating the impact of globalization in EECA countries. The results revealed that overall, globalization and its economic, social, and political facets do not affect economic growth in EECA countries. It also established that governance does not mediate the impact of globalization and its dimensions on economic growth in EECA. Similarly, governance dimensions were found to have no significant effect in mediating the impact of overall globalization on economic growth in EECA. However, fixed capital formation was found to significantly affect economic growth in EECA even though the power of its effect is relatively low.

The results entail that this paper joins the cluster of literature (see Vamvakidis, 2002; Rodriguez & Rodrik, 2000; Ulaşan, 2015; Beri et al., 2022) that did not find significant evidence supporting the effect of globalization on economic growth. The suggestion drawn is that globalization is not important for EECA's economic growth. However, globalization may potentially be valuable in stimulating trade, investment, and scientific advancements that are regarded as the foundations of contemporary growth and development. Hence, in the interest of economic growth and development of the ECCA region and the global community in its entirety, the disruptive illegal invasion of Ukraine by Russia must immediately stop. Indeed, the negative consequences of wars on the development and prosperity of nations and the global community at large are well-captured in history. It is counter-progressive if the happiness of one is accorded on the misery of another.

To isolate the role of governance within the context of country-specific differences, future research can be channeled towards the analysis of the variations among the EECA country groups in the current sample, by for example, dividing the countries by income level or by the level of democratic development. Upon build-up and availability of data in the future, research can also be directed towards econometric or statistical analysis of the adverse impacts that the Russo-Ukraine war has had on the EECA region and the global community at large. It is significant to acknowledge that the economies of EECA countries are intertwined with those of Ukraine and Russia to a larger extent.

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APPENDIX: SUPPLEMENTARY TABLES AND FIGURES

Table A1: Descriptive statistics

Statistic	LRGDP	KOFGI	GI	Population_G	GFCF	LF_Participation	Inflation	HC
Mean	24.4157	68.5813	0.0513	-0.0473	6.4147	66.0257	6.9879	98.7006
Median	24.4274	69.7187	-0.0234	-0.1566	5.7888	66.9600	4.1453	96.1672
Maximum	28.0105	85.2069	1.2342	2.4705	90.0373	79.1200	168.620	290.958
Minimum	21.7094	35.5064	-1.2281	-3.8477	-49.6728	41.4700	-1.5448	71.0781
Standard deviation	1.5460	10.5237	0.6653	0.8725	13.8978	7.9604	11.9870	19.6582
Skewness	0.3383	-0.5693	-0.0221	0.5990	0.5055	-1.0009	7.1281	5.1736
Kurtosis	2.4251	2.6555	1.7399	4.3960	8.2360	3.8398	78.2127	40.5051
Jarque-Bera	16.393	29.425	33.057	70.355	591.268	97.983	121842.9	31472.56
	(0.0003)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	0.0000	0.0000
Countries (n)	25	25	25	25	25	25	25	25
Periods (T)	20	20	20	20	20	20	20	20
Observations (N) = nT	500	500	500	500	500	500	500	500

Note: Probability in parentheses

Table A2: Spearman rank-order correlation analysis

	LRGDP	KOFGI	GI	Population_G	GFCF	LF_ Participation	Inflation	HC
LRGDP	1.0000							
KOFGI	0.4850***	1.0000						
	(12.3646)	-----						
GI	0.1999***	0.7908***	1.0000					
	(4.5480)	(28.8050)	-----					
Population_G	0.0030	-0.3177***	-0.3594***	1.0000				
	(0.0663)	(-7.4694)	(-8.5866)	-----				
GFCF	-0.0870**	-0.2157***	-0.1469***	-0.0046	1.0000			
	(-1.9471)	(-4.9242)	(-3.3102)	(-0.1021)	-----			
LF_ Participation	0.2904***	0.3770***	0.3306***	-0.3170***	0.0586	1.0000		
	(6.7667)	(9.0733)	(7.8096)	(-7.4504)	(-1.3079)	-----		
Inflation	0.0713	-0.3231***	-0.3397***	0.0645	0.0241	-0.0623	1.0000	
	(1.5934)	-(7.6107)	(-8.0510)	(1.4416)	(0.5372)	(-1.3923)	-----	
HC	0.0569	-0.0006	0.0291	-0.1445***	-0.0003	0.2550***	0.3233***	1.0000
	(1.2715)	(-0.0123)	(0.649677)	(-3.2565)	(-0.0069)	(5.8779)	(7.6171)	-----

Notes: t-Statistics are in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table A3: Unit root test

Variable	Levin-Lin-Chu		Im-Pesaran-Shin	
	Adjusted t*		W-statistic	
LRGDP(-1)	-3.62864***	Level	-4.41802***	Level
Kofi	-10.1306***	Level	-4.32891***	Level
KOFegi	-5.63903***	Level	-2.53932***	Level
KOFsgi	-11.0048***	Level	-5.06905***	Level
KOFpgi	-9.85576***	Level	-3.05917***	Level
GI	-1.76257**	Level	-4.00367***	Level
C_corruption	-16.4619***	1st difference	-2.27766***	Level
G_effectiveness	-20.5689***	Level	-18.1017***	Level
P_stability	-6.04320***	Level	-7.04261***	Level
R_law	-5.52630***	Level	-5.24089***	Level
R_quality	-5.53583***	Level	-5.53767***	Level
V_accountability	-5.97523***	Level	-5.70056***	Level
P_growth	-2.68887***	Level	-7.05861***	Level
GFCF	-10.6812***	Level	-7.84588***	Level
LF_participation	-11.5995***	Level	-11.7058***	Level
Inflation	-23.0396***	Level	-13.9822***	Level
H_capital	-1.98014**	Level	-3.11364***	Level

Note: * p<0.10, ** p<0.05, *** p<0.01

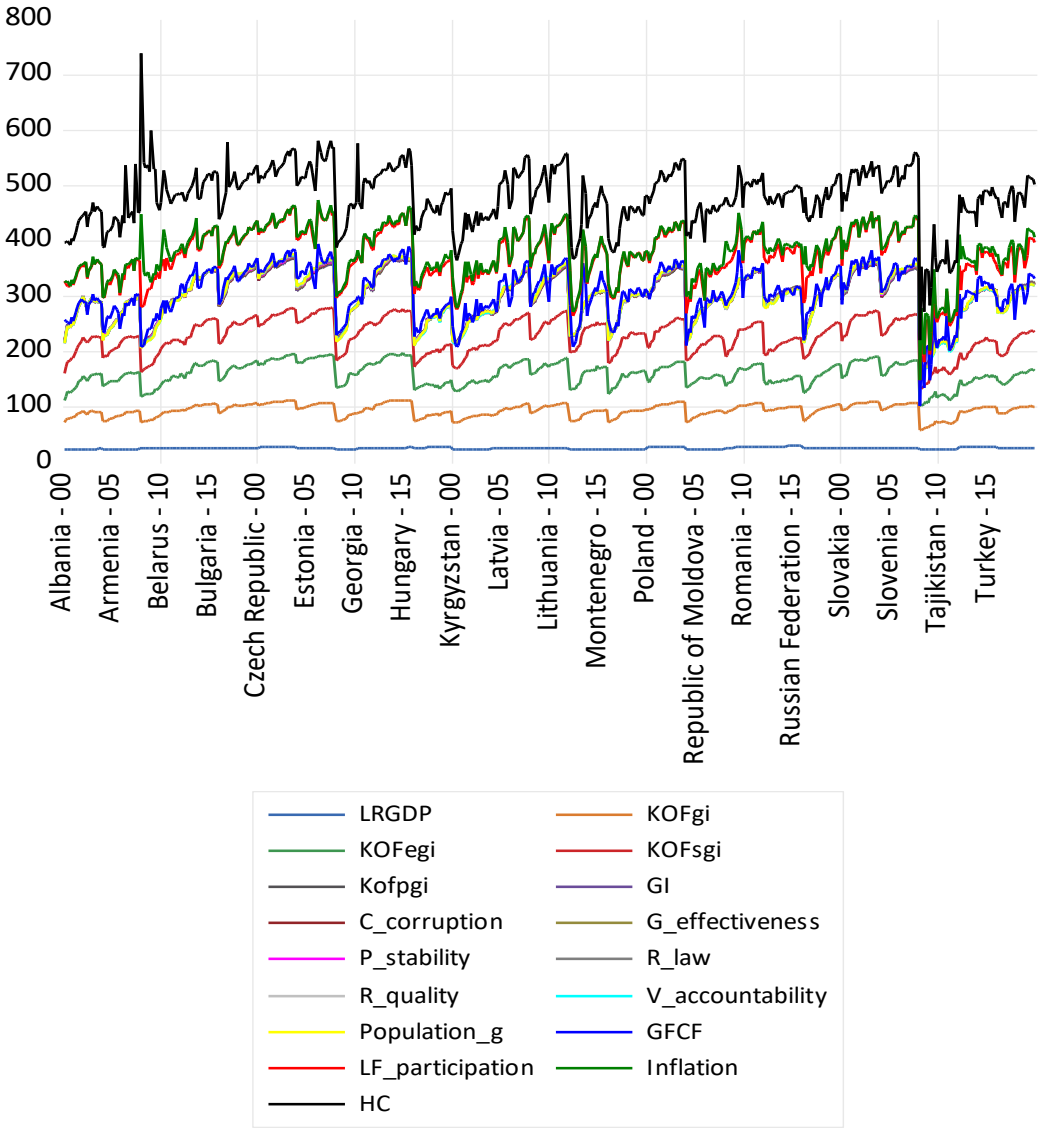

Figure A1: Stacked graph of variables
Source: Generated from EViews 12

Table A4: Wald test

Model	Chi-square	Probability	Null hypothesis
Model R1	570.8599	0.0000	Rejected
Model R2	20850.46	0.0000	Rejected
Model R3	19328.78	0.0000	Rejected
Model ME1	570.9524	0.0000	Rejected
Model ME2	8629.842	0.0000	Rejected
Model ME3	12803.83	0.0000	Rejected

Note: R, Relationship; ME, Moderating Effect.
Source: Outputs generated from EViews 12