

The Impact of Globalization on Economic Growth in Transition Countries

Bojan PEJOVIĆ*

Abstract

The paper analyzes the impact of economic, social, and political components of globalization on the gross domestic product of transition countries. Available data from 1995 to 2018 were analyzed for two groups of European transition countries, divided according to geographical criteria into Western Transition (WT) countries and Eastern Transition (ET) countries. Based on the results of the panel ARDL approach, it was shown that economic and social globalization positively impact gross domestic product in both groups of countries in the long-run. In contrast, political globalization hurts the gross domestic product. Dumitrescu and Hurlin's causality test showed that in WT countries, there is a significant causality from social globalization to gross domestic product and from social globalization to political globalization. In ET countries, there is significant causality from political globalization to economic and social globalization, while economic globalization causes gross domestic product.

Keywords: *economic growth, globalization, ARDL approach, causality panel, transition economies*

JEL Classification: C23, F62, P30

DOI: <https://doi.org/10.31577/ekoncas.2023.08-09.04>

Article History: *Received:* January 2023 *Accepted:* December 2023

Introduction

The link between economic development and globalization is high on the agenda of policymakers and academic researchers (Chang and Lee, 2010). A deeper understanding of globalization, its components, and its connections with economic development will enable more successful management and adaptation of national

* Bojan PEJOVIĆ, University of Montenegro, Faculty of Economics, Cetinjski put 2, 81000 Podgorica, Montenegro; e-mail: bojan.p@ucg.ac.me

economies to supranational trends. Globalization is a multidimensional process, so it is crucial to understand the connections between the specific components of globalization and economic growth. One component of globalization is economic globalization's increasing interdependence of world economies due to increasing cross-border trade in goods and services, international capital flows, and the vast and rapid spread of technology (Shangquan, 2000). Due to the importance of the globalization process and the multidimensionality of the process, as well as the importance of the relationship with the economic growth of countries as a measure of globalization and its domains, different indicators are taken. The most significant globalization index used in numerous scientific works is the KOF globalization index published by the Swiss Economic Institute (Danish and Wang, 2018; Didžgalvytė et al., 2019; Rahman, 2020; Shahbaz et al., 2018; Shittu et al., 2020). The KOF globalization index is monitored *de facto* and *de jure*. *De facto* indices were used to show the research's accurate picture, influences, and interdependencies.

The KOF index includes three sub-indices that measure separately: economic globalization, social globalization, and political globalization. All sub-indices have the same specific weight, and each can be further divided into subgroups which are further divided into variables. Economic globalization includes trade and financial globalization. Globalization of trade is measured by trade in goods, trade in services, and diversification of trading partners. In contrast, financial globalization is measured by foreign direct investment, portfolio investment, international debt, international reserves, and international income. Social globalization includes interpersonal, informational, and cultural globalization. International traffic, transfers, international tourism, the number of international students, and migration measure interpersonal globalization. The use of broadband Internet measures the globalization of information, the number of international patents, and the export of high technology. Cultural globalization is measured by trade in cultural goods, personal services, international labels, and the number of internationally famous McDonald's restaurants and IKEA stores. Political globalization is measured by the number of embassies, UN peacekeeping missions, and international non-governmental organizations. Within each sub-indexes, groups of variables have the same weight, while the weight for each variable is different. This paper aims to analyze the impact of three sub-indices of globalization on gross domestic product per inhabitant in countries in transition, dividing the sample into two groups of countries according to geographic criteria.

Many studies analyze the impact of globalization on economic growth in countries around the world (ASEAN, OECD, EU-27, Visegrad Group, Sub-Saharan Africa). However, not all of these studies analyze the impact of globalization on

economic growth in transition countries. Countries in transition have gone through, and some are still going through, a turbulent period of organizational change and transition to a market economy. The impact of globalization and the potential benefits it offers are of particular importance to decision-makers in countries in transition due to the development gap behind Western market economies. Additionally, analyzing the impact of different components of globalization can be a reasonable basis for decision-making to stimulate further economic growth by improving specific aspects of globalization.

1. Literature Review

The impact of globalization on economic growth in the literature can be considered in different ways. The most common approaches to the analysis of a given problem are the research of the impact of globalization measured by some of the globalization indices, where in addition to the globalization index, the effect of some variables on the gross domestic product is also considered. The second type of research presents measured impacts of individual components of the globalization index on gross domestic product. Applying both approaches, they want to investigate the relationships between the analyzed variables to give decision-makers recommendations on improving economic growth in countries.

Critical is the work of Dreher (2006), which investigates the impact of the globalization index and its dimensions: economic, social, and political on the gross domestic product in 123 countries from 1970 to 2000. The results indicate that globalization has a positive effect on economic growth, while the impact of political globalization is not significant. Fuinhas et al. (2019) in their work investigating the effect of financial market development and globalization on the economic growth of ten countries in the period from 1980 to 2015. By applying the ARDL approach in assessing long-run and short-run impacts, they determine that the KOF globalization index *de facto* and *de jure* has a statistically significant impact on the economic growth of the analyzed countries. Due to the existence of negative and statistically significant error correction coefficients, it is concluded that there is a cointegration between financial market development, globalization, and economic growth. Meyer (2020) analyzes the cointegration between globalization and economic growth in the Visegrad Group countries from 1990 to 2019. In addition to the analyzed cointegration, two control variables were included in the research: domestic investment and the consumer price index (CPI). The analysis confirms a long-run relationship between the variables, where globalization and domestic investment, in the long-run, significantly affect economic growth with similar coefficient values. In the short-run, based on the Granger causality test, it has been

found that globalization causes economic growth, while there is a two-way link between investment and economic growth. A similar research approach was applied in these studies, but they do not deal with the analysis of transition countries, but the sample was selected based on other criteria.

One of the works that examines the relationship between economic growth, globalization, and the level of education in Romania for the period from 1990 to 2011 concludes that there is a positive correlation between economic growth and the level of globalization, then globalization and education, as well as between economic growth and the level of education (Dima, 2014). Barry (2010), using data from 41 countries from 1995 to 2005, explores the relationships between globalization and other traditional growth factors such as trade, foreign direct investment, loans, aid, natural resources, corruption, and the rule of law. Research has shown that globalization has a positive, albeit statistically insignificant, impact on economic growth in sub-Saharan Africa. Ying et al. (2014), using a panel approach, explores the short-run impact and long-run balance between globalization and growth in ASEAN countries between 1970 and 2008. It is concluded that globalization has a positive effect on economic growth, especially in terms of globalization components, economic globalization has a positive effect on economic growth, and social globalization hurts economic growth. In contrast, political globalization has a negative, statistically insignificant impact. It is evident that depending on which country or group of countries is the subject of the researcher's analysis, very different findings are reached.

Meraj (2013) analyzes the impact of globalization and trade openness on economic growth in Bangladesh using the ARDL model and the Granger causality test. The results indicate a positive impact of globalization on economic growth. Ray (2012) examines the causal relationships between globalization and economic growth in India. The analysis showed a positive impact of private investment, openness, and human resources on gross domestic product. It is concluded that there is a two-way link between globalization and economic growth in India. Polasek and Sellner (2013) analyze the impact of globalization on economic growth in the EU-27 countries at the level of the NUTS-2 region in the period from 2001 to 2006 using the spatial Chow-Lin procedure. The results indicate that most regions benefit significantly from globalization as measured by increased trade openness and foreign direct investment. In his paper, Moghaddam (2012) analyzes the impact of globalization measured by globalization indicators on economic growth in eight countries from 1980 to 2010. The analyzed countries (Brazil, China, India, South Korea, Malaysia, Singapore, Iran, and Turkey) show that the growth of foreign direct investment measured by the share in gross domestic product positively impacts foreign trade at the international and regional levels.

Kilic (2015) tests the effects of economic, social, and political globalization on growth rates in developing countries and explores the causal relationships between variables. The analysis results indicate that the economic growth of the analyzed countries is positively affected by economic and political globalization, while social globalization has a negative impact. The existence of a two-way causal link between political and social globalization and economic growth and a one-way link between social globalization and economic growth has been established. Maqbool-ur-Rahman (2015) uses the KOF globalization index in its research, which includes globalization's economic, social, and political components. Globalization and economic growth encourage each other, and there is a two-way connection between them in India, while a one-way connection is characteristic of Pakistan and Bangladesh. Political decision-makers are recommended to consider globalization as a factor of economic growth. Hasan (2019) investigates the impact of globalization (general, economic, social, and political) on South Asia's economic growth from 1971 to 2014. The results indicate that general, economic, and political globalization increases economic growth in the long-run. However, in the short-run, the components of globalization do not have a significant impact. Wen et al. (2016), on the example of 92 countries from 1970 to 2011, using the Pedroni cointegration test and a panel vector of autoregressive approach, explores the links between globalization and economic growth. The results show a weak cointegration between economic growth and general globalization, as well as when the components of globalization are considered. A two-way causality has been established between economic growth and the general index of globalization, economic and social globalization, while political globalization harms economic growth.

Although many studies examine the literature on the relationship between globalization and economic growth, only a few existing studies investigate this issue using the example of some countries in transition. Furthermore, the main criticism of the existing studies is that they need to pay more attention to factors such as the degree of development of the country, the historical circumstances of development, and closeness to Western countries. In addition, certain methodological flaws were observed in some studies that need to consider the heterogeneity of the analyzed countries. Since there is probably heterogeneity and cross-sectional dependence of the data, the appropriate methodology will be applied to obtain the most reliable results. To overcome the shortcomings mentioned above, this study will analyze both the short-run and long-run links between the components of globalization and the gross domestic product, as well as the analysis of Granger causality between variables, using the example of two subgroups of transition countries.

2. Methodology

To investigate the impact of economic, social, and political globalization on the economic growth of transition countries, models were estimated for two groups of economies in transition, i.e. for Western Transition (WT) and Eastern Transition (ET) countries.

$$gdppc_{it} = f(eco_{it}, soc_{it}, pol_{it}) \tag{1}$$

where $i = 1, \dots, N$, $t = 1, \dots, T$.

where $gdppc$ is gross domestic product per capita, eco is index of economic globalization, soc is index of social globalization, pol is index of political globalization, i represents the country, and t represents the time.

Panel ARDL models will be estimated for two groups of countries to analyze long-run relationships between variables based on Pesaran et al. (1999).

$$\Delta gdppc_{it} = \alpha_i + \sum_{j=1}^{m-1} \beta_{ij} \Delta gdppc_{i,t-j} + \sum_{l=0}^{n-1} \varphi_{il} \Delta eco_{i,t-l} + \sum_{r=0}^{p-1} \gamma_{ir} \Delta soc_{i,t-r} + \sum_{u=0}^{s-1} \theta_{iu} \Delta pol_{i,t-u} + \sigma_1 gdppc_{i,t-1} + \sigma_2 eco_{i,t-1} + \sigma_3 soc_{i,t-1} + \sigma_4 pol_{i,t-1} + \varepsilon_{it} \tag{2}$$

The advantages of the chosen method are that it is suitable for analyzing long-run relationships between variables, with pool mean group estimator and homogeneous long-run coefficients in the panel, regardless of whether the variables are stationary or integrated of the first order. Also, it includes a dynamic component, which is crucial in the analysis of the movement of the gross domestic product. In addition, it enables analysis of the impact in the short- and long-run. The ARDL panel approach was used by Attiaoui et al. (2017) to determine the relationship between renewable energy consumption, CO2 emissions, and economic growth, da Silva et al. (2018) used the same approach to investigate the determinants of renewable energy growth in sub-Saharan countries, while Onuoha et al. (2018) exploring the causal relationship between foreign direct investment (FDI) and macroeconomic variables. After a long-run relationship between variables was established to examine short-run effects, the Dumitrescu-Hurlin causality test was used based on Dumitrescu and Hurlin (2012). The difference from the standard Granger causality test is that the Dumitrescu-Hurlin test assumes heterogeneity of coefficients across observation units. A linear heterogeneous model is considered:

$$y_{i,t} = \alpha_i + \sum_{i=1}^K \gamma_i^{(k)} y_{i,t-k} + \sum_{i=1}^K \beta_i^{(k)} x_{i,t-k} + \varepsilon_{i,t} \tag{3}$$

where is $K \in \mathbb{N}^+$ i $K \in \mathbb{N}^*$ i $\beta_i = (\beta_i^{(1)}, \dots, \beta_i^{(k)})$ i $\alpha_i, \gamma_i^{(k)}$ i $\beta_i^{(k)}$ represent the constant, the lag parameter, and the slope coefficient, respectively. The null and alternative hypotheses are defined as follows:

$$H_0 : \beta_i = 0, H_0 : \begin{cases} \beta_i = 0 \quad \forall_i = 1, 2, \dots, N \\ \beta_i \neq 0 \quad \forall_i = N_1 + 1, N_1 + 2, \dots, N \end{cases} \quad (4)$$

The null hypothesis claims that no causality exists in any observation unit, while the alternative hypothesis claims that there is at least one causal link in the panel data. Due to the frequent occurrence of interdependence in the panels, Pesaran's cross-sectional dependence (CD) test was conducted (Pesaran, 2004).

$$CD = \sqrt{\frac{2T}{N(N-1)}} \left(\sum_{i=1}^{N-1} \sum_{j=i+1}^N \hat{\rho}_{ij} \right) \quad (5)$$

where $\hat{\rho}_{ij}$ represents the correlation coefficients between the data for each observation. H_0 is tested: There is no dependency among the countries in the panel; H_1 : There is a dependency among the countries in the panel. A coefficient homogeneity test was performed based on Pesaran and Yamagata (2008) and Blomquist and Westerlund (2013), where the null hypothesis is tested that the slope coefficients are equal across observation units, as opposed to the alternative that the slope coefficients are different.

3. Results and Discussion

The paper investigates the impact of globalization's economic, political, and social components on the economic growth of transition countries. The analysis covers the period from 1995 to 2018 due to the availability of data and a period characterized by relative stability and progress for transition countries. For a more detailed analysis, countries in transition are divided into two groups according to the geographical criterion of proximity to developed Western countries, according to the findings of Pejović (2006). The first group consists of those countries that are geographically closer to the West – WT countries, while the second group consists of countries that are to the East – ET countries. The first group of countries consists of the Czech Republic, Estonia, Croatia, Hungary, Lithuania, Latvia, Poland, Slovakia, and Slovenia. In contrast, the second group of countries consists of Albania, Bulgaria, Bosnia and Herzegovina, Belarus, Moldova, Northern Macedonia, Montenegro, Romania, Russia, Serbia, and Ukraine. The variables used in the paper are given in Table 1.

Table 1
Variables Used in the Analysis

Symbol	Variable	Source
gdppc	GDP per capita (constant 2010 USD)	World Development Indicators
eco	Economic Globalisation, de facto	KOF Swiss Economic Institute
soc	Social Globalisation, de facto	KOF Swiss Economic Institute
pol	Political Globalisation, de facto	KOF Swiss Economic Institute

Source: Author.

Data on globalization’s economic, social, and political components were taken from the KOF Swiss Economic Institute (Gygli et al., 2019). The paper used de facto indicators, and Table 2 shows descriptive statistics for the two groups of analyzed transition countries. Average gross domestic product values and indices of economic, social, and political globalization are higher in WT countries. The average gross domestic product in WT countries is more than 2.5 times higher than in ET countries, so this classification corresponds to the division according to the level of development. The coefficient of variation of the gross domestic product is higher in ET countries, as are the coefficients of variation of the index of all components of globalization.

Table 2
Descriptive Statistics

	Variable	Obs	Mean	Std. Dev.	Min	Max
WT countries	gdppc	216	14062.201	4708.091	5147.244	26760.484
	eco	216	72.116	10.271	39.472	85.893
	soc	216	74.071	7.948	50.188	85.432
	pol	216	77.063	12.762	40.782	93.586
ET countries	gdppc	264	4943.635	2437.787	870.205	11844.439
	eco	264	58.517	10.486	29.266	80.315
	soc	264	62.448	10.605	38.688	80.729
	pol	264	67.912	19.153	26.822	92.686

Source: Own calculations.

Based on the presentation of the correlation matrix in Table 3, we can observe a positive correlation between all analyzed variables for both groups of countries. Positive correlation coefficients are expected because all variables in the general case represent indicators of a country’s development. All correlation coefficients for both groups of countries are less than 0.8, which is a desirable feature that indicates the absence of multicollinearity problems in further research. In WT countries, there is a high correlation of 0.786 between social globalization and gross domestic product, while in ET countries, the correlation coefficient is 0.6. There is also a high correlation of 0.698 and 0.772 between the social and economic globalization indices for both groups of countries.

Table 3
Correlation Matrix

	Variables	(1)	(2)	(3)	(4)
WT countries	(1) gdppc	1			
	(2) eco	0.447	1		
	(3) soc	0.786	0.698	1	
	(4) pol	0.435	0.17	0.469	1
ET countries	(1) gdppc	1			
	(2) eco	0.335	1		
	(3) soc	0.6	0.772	1	
	(4) pol	0.524	0.246	0.325	1

Source: Own calculations.

Based on the results of Pesaran's CD test shown in Table 4, it can be concluded that there is cross-sectional data dependence for all variables for both groups of countries. Identification of cross-sectional data dependence will determine the choice of unit root test. The consequences of cross-sectional data dependence are reflected in the fact that a sudden shock to any of the analyzed variables in one of the countries will affect the variables in other countries.

Table 4
Pesaran CD Test

	Variable	CD-test	p-value	corr	abs(corr)
WT countries	gdppc	28.36	0.000	0.965	0.965
	eco	27.13	0.000	0.923	0.923
	soc	28.72	0.000	0.977	0.977
	pol	24.71	0.000	0.841	0.841
ET countries	gdppc	34.43	0.000	0.948	0.948
	eco	29.31	0.000	0.807	0.807
	soc	34.94	0.000	0.962	0.962
	pol	30.92	0.000	0.851	0.851

Source: Own calculations.

A test of homogeneity of slopes was also conducted to select an appropriate unit root test. The null hypothesis that the slope coefficients are homogeneous is rejected for both groups of countries. Therefore, the coefficients are heterogeneous, according to the test results shown in Table 5.

Table 5
Slope Coefficient Homogeneity Test

		Delta	p-value
WT countries		8.016	0.000
	adj.	9.009	0.000
ET countries		16.759	0.000
	adj.	18.836	0.000

Source: Own calculations.

After determining the interdependence of data and heterogeneity of coefficients in testing the existence of a unit root, Pesaran’s unit root test will be used, which is robust to the existence of interdependence and heterogeneity in the panels. For a more detailed analysis, the results of unit root tests for 0, 1, and 2 lags are presented for original and differentiated data. Based on the test results for WT countries, it can be seen that the condition that all series are stationary at the level or the first difference is met (Table 6). Based on the results shown in Table 7 for the ET group of countries, all data are also stationary at the level or first difference.

Table 6
Pesaran’s Unit Root Test for WT Countries

Variable	Level			First difference	
	lags	Zt-bar	p-value	Zt-bar	p-value
gdppc	0	0.265	0.605	-2.611	0.005***
gdppc	1	-2.594	0.005***	-1.258	0.104
gdppc	2	-0.026	0.490	-0.860	0.195
eco	0	-5.656	0.000***	-10.225	0.000***
eco	1	-4.055	0.000***	-7.235	0.000***
eco	2	-1.091	0.138	-3.400	0.000***
soc	0	-1.911	0.028**	-9.642	0.000***
soc	1	-1.828	0.034**	-5.044	0.000***
soc	2	-1.206	0.114	-3.539	0.000***
pol	0	-1.133	0.129	-7.964	0.000***
pol	1	-1.834	0.033**	-6.587	0.000***
pol	2	-0.595	0.276	-4.293	0.000***

Source: Own calculations.

Table 7
Pesaran Unit Root Test for ET Countries

Variable	Level			First difference	
	lags	Zt-bar	p-value	Zt-bar	p-value
gdppc	0	-1.295	0.098*	-7.216	0.000***
gdppc	1	-0.560	0.288	-4.801	0.000***
gdppc	2	0.990	0.839	-2.413	0.008***
eco	0	-4.905	0.000***	-11.164	0.000***
eco	1	-3.595	0.000***	-6.291	0.000***
eco	2	-2.481	0.007***	-4.671	0.000***
soc	0	-2.388	0.008***	-10.673	0.000***
soc	1	-0.872	0.192	-4.836	0.000***
soc	2	-0.928	0.177	-1.642	0.050**
pol	0	-3.248	0.001***	-9.569	0.000***
pol	1	-2.310	0.010**	-5.609	0.000***
pol	2	-2.252	0.012**	-2.196	0.014**

Source: Own calculations.

Kao and Pedroni cointegration tests were conducted to examine the cointegration among the variables for the analyzed groups of countries. For WT countries, based on both conducted tests, it can be concluded that there is a cointegration

relationship between the variables. For the ET group of countries, based on the Kao cointegration test with a significance of 10%, there is cointegration, while based on Pedroni's cointegration test, the modified Phillips-Perron *t* statistic corresponds to the existence of cointegration. In summary, there is cointegration for both groups of countries, and the significance of the error correction coefficients in the estimated models will verify.

Table 8
Cointegration Tests

		WT countries		ET countries	
		<i>Statistic</i>	<i>p-value</i>	<i>Statistic</i>	<i>p-value</i>
Kao test	Modified Dickey-Fuller <i>t</i>	1.228	0.110	1.132	0.129
	Dickey-Fuller <i>t</i>	1.894	0.029	1.261	0.104
	Augmented Dickey-Fuller <i>t</i>	0.280	0.390	1.697	0.045
	Unadjusted modified Dickey-Fuller <i>t</i>	1.238	0.108	1.417	0.078
	Unadjusted Dickey-Fuller <i>t</i>	1.906	0.028	1.573	0.058
Pedroni test	Modified Phillips-Perron <i>t</i>	2.801	0.002	1.855	0.032
	Phillips-Perron <i>t</i>	3.040	0.001	-0.207	0.418
	Augmented Dickey-Fuller <i>t</i>	4.373	0.000	1.042	0.149

Source: Own calculations.

After confirming the existence of the cointegration relationship, the corresponding PMG-ARDL models were estimated. The PMG-ARDL model for WT countries is presented in Table 9.

Table 9
PMG-ARDL Model for ET Countries

Variable	Coefficient	Standard Error	p-value
Long-Run Equation			
eco	804.995***	209.166	0.000
soc	318.539***	75.910	0.000
pol	-288.115***	104.109	0.006
Short-Run Equation			
ECT	-0.093**	0.039	0.017
D(eco)	27.427	23.308	0.239
D(soc)	96.864***	24.159	0.000
D(pol)	-13.725	37.619	0.715
Constant	-4257.626**	2053.414	0.038

Source: Own calculations.

For the WT countries, it is observed that in the long-run, the growth of economic globalization has a strong positive effect on the gross domestic product per capita, with a significance of 1%. Also, the impact of social globalization on gross domestic product is positive and significant but with a lower coefficient than economic globalization. Political globalization has a negative impact in the long-run, with a significance of 1%. The error correction coefficient is statistically

significant with an error risk of 1% and has a negative sign, thus fulfilling the required condition. The value of the error correction coefficient of -0.093 shows that after the shock, the model returns to equilibrium by 9.3% during each period. In the short-run, only social globalization has a statistically significant and positive impact on gross domestic product per capita.

The estimated PMG-ARDL model for ET countries is shown in Table 10. Based on the estimated model, in the long-run, political and social globalization have a positive and significant impact with a significance of 1%. In comparison, the impact of economic globalization on gross domestic product per capita is negative and statistically significant, with a significance level of 10%. The impacts of individual components of globalization for ET countries are in the same direction as for WT countries, so economic and social globalization have a long-run positive impact on gross domestic product. In contrast, political globalization has a negative impact in both groups of countries. The error correction coefficient is negative and statistically significant at 10%. The model returns to equilibrium by 5.3% over time. In the short-run, the gross domestic product per capita level is significantly positively influenced by social globalization, with a significance of 5%. In comparison, the impact of political globalization is positive and significant, with a risk of error of 10%.

Table 10

PMG-ARDL Model for ET Countries

Variable	Coefficient	Standard Error	p-value
Long-Run Equation			
eco	113.795*	59.314	0.056
soc	313.617***	28.435	0.000
pol	-276.355***	69.996	0.000
Short-Run Equation			
ECT	-0.053*	0.029	0.071
D(eco)	-10.540	7.768	0.176
D(soc)	25.937**	11.449	0.024
D(pol)	43.493*	26.193	0.098
Constant	407.306	254.732	0.111

Source: Own calculations.

Based on the Dumitrescu and Hurlin causality test shown in Table 11, we want to examine the causality between the variables for both groups of analyzed countries. The test was performed for the first data differences due to the requirement that all series for which the test is performed be stationary. Starting from the null hypothesis, which claims that there is no Granger causality between the variables, based on the tilde Z -bar and p-value, we conclude that for WT countries, there is causality in the direction of social globalization to gross domestic product per capita, as well as from social globalization to political globalization.

Table 11

Dumitrescu and Hurlin Causality Test

Null hypothesis:	WT countries		ET countries	
	Z-bar tilde	p-value	Z-bar tilde	p-value
H0: deco does not Granger-cause dgdppc.	0.314	0.753	2.168	0.030**
H0: dsoc does not Granger-cause dgdppc.	2.640	0.008***	-0.131	0.896
H0: dpol does not Granger-cause dgdppc.	-1.433	0.152	1.247	0.212
H0: dgdppc does not Granger-cause deco.	0.592	0.554	0.420	0.675
H0: dsoc does not Granger-cause deco.	-0.154	0.877	0.448	0.654
H0: dpol does not Granger-cause deco.	1.308	0.191	3.186	0.001***
H0: dgdppc does not Granger-cause dsoc.	-1.255	0.209	0.781	0.435
H0: deco does not Granger-cause dsoc.	1.441	0.150	-0.444	0.657
H0: dpol does not Granger-cause dsoc.	1.553	0.120	3.076	0.002***
H0: dgdppc does not Granger-cause dpol.	-0.957	0.338	-0.825	0.409
H0: deco does not Granger-cause dpol.	-0.002	0.998	1.203	0.229
H0: dsoc does not Granger-cause dpol.	5.471	0.000***	0.067	0.946

Source: Own calculations.

For ET countries, it is observed that there is causality from political globalization to social and economic globalization, as well as causality from social globalization to gross domestic product per capita. For WT countries, social globalization, which includes interpersonal, informational, and cultural globalization, causes gross domestic product and the index of political globalization. Conversely, political globalization causes economic and social globalization in ET countries. Additionally, economic globalization causes gross domestic product only in ET countries.

The division of countries according to geographic criteria corresponds to the division into more developed and less developed transitional countries, so that the conclusions can be generalized about the level of development of the analyzed countries. With the limitations that every generalization entails, political globalization causes social and economic globalization for countries with a lower level of development and indirectly affects the gross domestic product. In countries with a higher level of development, social globalization directly causes political globalization and gross domestic product.

Conclusion

The paper analyzes the impact of social, economic, and political globalization on the gross domestic product of transition economies from 1995 to 2018. Economies in transition are divided into two groups based on geographic criteria, namely the first group of countries that are closer to the West – WT countries and the second group of countries that are closer to the East – ET countries. The paper uses the panel ARDL approach to investigate globalization's long- and short-run

impacts on gross domestic product per capita. The Dumitrescu and Hurlin causality test was conducted to examine causal relationships between variables for both groups of countries. Among the data, the existence of interdependence for both groups of countries was determined, which means that any change in some of the analyzed variables in one of the countries will have an impact on other countries. Namely, it was confirmed that there is a dependence concerning the influence of some factors common to the group of countries. After analyzing the stationarity of the data and determining cointegration, the panel ARDL model was estimated for each group of countries. The models were estimated using the pool mean group estimator for both groups of countries, assuming that long-run coefficients are homogeneous within the same group of countries.

The analysis results for both groups of countries show that, in the long-run, the level of social and political globalization significantly positively affects the gross domestic product per capita. In contrast, the influence of political globalization, in the long-run, is significant and negative. The social and political component of globalization has a significant impact in both groups of countries with a risk of error of 1%, while the impact of economic globalization in ET countries is significant with a risk of error of 10%, and in WT countries with a risk of error of 1%. In the short-term, the impact of social globalization on gross domestic product is significant in both groups of countries. In contrast, the impact of political globalization is significant only in ET countries, with an error risk of 10%. All countries in transition can stimulate economic growth in the long-run by increasing the degree of social and economic transition, so it is recommended that decision-makers focus on these components. The social component of globalization is additionally essential because, even in the short-term, it significantly affects the increase of the gross domestic product in both groups of countries. By encouraging social globalization, decision-makers can stimulate economic growth in the short- and long-term.

Dumitrescu and Hurlin's causality analysis shows that WT countries have unidirectional causal relationships between social globalization, gross domestic product, and political globalization. Namely, social globalization causes gross domestic product and political globalization. In ET countries, there are unidirectional causal relationships from political globalization to economic and social globalization and from economic globalization to gross domestic product. In summary, while in WT countries, the fundamental causality starts from social globalization, in ET countries, political globalization causes economic and social globalization.

The study results for both groups of analyzed transition countries are from the research by Wen et al. (2016), where the positive impact of social and economic globalization and the negative impact of political globalization on the gross

domestic product was determined. Additionally, the positive impact of economic and social globalization is consistent with the results of Chang and Lee (2010) for OECD countries. However, the results of political globalization are different. Also, the positive impact of economic globalization on economic growth corresponds to previous conclusions reached by Ying et al. (2014).

References

- ATTIAOUI, I. – TOUMI, H. – AMMOURI, B. – GARGOURI, I. (2017): Causality Links among Renewable Energy Consumption, CO₂ Emissions, and Economic Growth in Africa: Evidence from a Panel ARDL-PMG Approach. *Environmental Science and Pollution Research*, 24, No. 14, pp. 13036 – 13048.
- BARRY, H. (2010): Globalization and Economic Growth in Sub-Saharan Africa. *Gettysburg Economic Review*, 4, No. 1, Art. 4.
- BLOMQUIST, J. – WESTERLUND, J. (2013): Testing Slope Homogeneity in Large Panels with Serial Correlation. *Economics Letters*, 121, No. 3, pp. 374 – 378.
- CHANG, C. P. – LEE, C. C. (2010): Globalization and Economic Growth: A Political Economy Analysis for OECD Countries. *Global Economic Review*, 39, No. 2, pp. 151 – 173.
- Da SILVA, P. P. – CERQUEIRA, P. A. – OGBE, W. (2018): Determinants of Renewable Energy Growth in Sub-Saharan Africa: Evidence from Panel ARDL. *Energy*, 156, pp. 45 – 54.
- DANISH – WANG, Z. (2018): Dynamic Relationship between Tourism, Economic Growth, and Environmental Quality. *Journal of Sustainable Tourism*, 26, No. 11, pp. 1928 – 1943.
- DIDŽGALVYTĖ, M. – PEREIRA, E. T. – OSTEIKAITĖ, A. (2019): The Effect of Globalisation for Economic Growth of Developing Countries. *Taikomoji Ekonomika: Sisteminiai Tyrimai = Applied Economics: Systematic Research*. Kaunas: Vytauto Didžiojo universitetas, 13, No. 1, pp. 13 – 28.
- DIMA, S. (2014): The Link Between Globalisation, Economic Growth and Education: An Analysis in the Case of Romania. [Studia Universitatis Vasile Goldiș.] *Arad-Seria Științe Economice*, 24, No. 4, pp. 94 – 103.
- DREHER, A. (2006): Does Globalization Affect Growth? Evidence from a New Index of Globalization. *Applied Economics*, 38, No. 10, pp. 1091 – 1110.
- DUMITRESCU, E. I. – HURLIN, C. (2012): Testing for Granger Non-Causality in Heterogeneous Panels. *Economic Modelling*, 29, No. 4, pp. 1450 – 1460.
- FUINHAS, J. A. – MARQUES, A. C. – LOPES, C. (2019): The Impact of Financial Development and Globalisation on Economic Growth: Evidence from a Macro Panel of Ten Countries. *Asian Economic and Financial Review*, 9, No. 3, pp. 366 – 388.
- GYGLI, S. – HAELG, F. – POTRAFKE, N. – STURM, J. E. (2019): The KOF Globalisation Index – Revisited, *Review of International Organizations*, 14, No. 3, pp. 543 – 574.
- HASAN, M. A. (2019): Does Globalization Accelerate Economic Growth? South Asian Experience Using Panel Data. *Journal of Economic Structures*, 8, No. 1, pp. 1 – 13.
- KILIC, C. (2015): Effects of Globalization on Economic Growth: Panel Data Analysis for Developing Countries. *Petroleum-Gas University of Ploiesti Bulletin, Technical Series*, 67, No. 1, pp. 1 – 11.
- MAQBOOL-UR-RAHMAN, M. (2015): Impacts of Globalization on Economic Growth-Evidence from Selected South Asian Countries. *Journal of Management Sciences*, 2, No. 1, pp. 185 – 204.
- MERAJ, M. (2013): Impact of Globalization and Trade Openness on Economic Growth in Bangladesh. *Ritsumeikan Journal of Asia Pacific Studies*, 32, pp. 40 – 50.
- MEYER, D. F. (2020): The Impact of Globalisation on Economic Growth: The Case of Visegrad Countries. *Forum Scientiae Oeconomia*, 8, No. 2, pp. 25 – 36.

- MOGHADDAM, A. A. (2012): Globalization and Economic Growth: A Case Study in a Few Developing Countries (1980 – 2010). *Research in World Economy*, 3, No. 1, pp. 54 – 62.
- ONUOHA, F. C. – OKONKWO, I. C. – OKORO, P. – OKERE, K. (2018): The Causal Relationship between Foreign Direct Investment (FDI) and the Macro-Economy of Selected West African Countries: Panel ARDL/Granger Causality Analysis. *African Research Review*, 12, No. 1, pp. 140 – 163.
- PEJOVIC, S. (2006): Diferencijacija Rezultata Institucionalnih Promena u Centralnoj i Istocnoj Evropi: Uloga Kulture. *Social Philosophy and Policy*, 23, No. 1.
- PESARAN, M. H. (2004): General Diagnostic Tests for Cross-Sectional Dependence in Panels. *Empirical Economics*, pp. 1 – 38.
- PESARAN, M. H. – YAMAGATA, T. (2008): Testing Slope Homogeneity in Large Panels. *Journal of econometrics*, 142, No. 1, pp. 50 – 93.
- PESARAN, M. H. – SHIN, Y. – SMITH, R. P. (1999): Pooled Mean Group Estimation of Dynamic Heterogeneous Panels. *Journal of the American statistical Association*, 94, No. 446, pp. 621 – 634.
- POLASEK, W. – SELLNER, R. (2013): Does Globalization Affect Regional Growth? Evidence for NUTS-2 Regions in EU-27. *DANUBE: Law, Economics and Social Issues Review*, 4, No. 1, pp. 23 – 65.
- RAHMAN, M. M. (2020): Environmental Degradation: The Role of Electricity Consumption, Economic Growth and Globalisation. *Journal of environmental management*, 253, 109742.
- RAY, S. (2012): Globalization and Economic Growth in India: A Granger Causality Approach. *JL Pol'y – Globalization*, 2, pp. 18.
- SHAHBAZ, M. – SHAHZAD, S. J. H. – ALAM, S. – APERGIS, N. (2018): Globalisation, Economic Growth and Energy Consumption in the BRICS Region: The Importance of Asymmetries. *The Journal of International Trade – Economic Development*, 27, No. 8, pp. 985 – 1009.
- SHANGQUAN, G. (2000): Economic Globalization: Trends, Risks and Risk Prevention. *Economic – Social Affairs, CDP Backround Paper*, 1, pp. 1 – 8.
- SHITTU, W. O. – YUSUF, H. A. – EL HOUSSEIN, A. E. M. – HASSAN, S. (2020): The Impacts of Foreign Direct Investment and Globalisation on Economic Growth in West Africa: Examining the Role of Political Governance. *Journal of Economic Studies*, 47, No. 7, pp. 1733 – 1755.
- WEN, J. – CHANG, C. P. – WENG, J. H. – LIU, J. (2016): Globalization and Real GDP: New Evidence Using Panel Vector Autoregression. *The Singapore Economic Review*, 61, No. 05, 1550065.
- YING, Y. – CHANG, K. – LEE, C. (2014): The Impact of Globalization on Economic Growth. *Roman J Econ Forecasting*, XVII, No. 2, pp. 25 – 34.