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MACROECONOMIC VOLATILITY AND ECONOMIC GROWTH IN CENTRAL AND EASTERN EUROPE

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For analysis, we selected a group of Central and Eastern European countries that joined the European Union: Bulgaria, Romania, Poland, Hungary, the Czech Republic, Slovakia, Slovenia, Estonia, Lithuania, Latvia, as well as post-Soviet European countries: Ukraine, Belarus, Russia, Moldova and Albania and conducted a study of the economic growth in the period from 1991 to 2019, which covers 420 observations based on IMF World Economic Outlook Database [3].

In our research, we used three periods: total period 1991–2019, as well measurements were carried out for each country during the economic boom of 2000–2008 and after the crisis of 2009–2019.

We calculated the ΔGDP indicator – the average value of annual GDP growth for the period, as well as the standard deviation of this indicator for the corresponding period. Over the entire studied period, the results indicate high volatility of economic growth indicators in countries where the average value of this indicator is quite low, which is typical for Bulgaria, Moldova, Romania, the Russian Federation, and Ukraine.

It is important to note, that volatility indicators during the economic boom of 2000–2008 and after the global financial crisis of 2008 are significantly different. High rates of economic growth cause low volatility in almost all countries except Estonia and Latvia (Table 1). The post-crisis period is accompanied by a sharp decrease in the rate of economic growth by 2-3 times and, accordingly, an increase in the volatility of this indicator. The results show that, on average, the volatility of the economic growth rate increased by 1,7 times. There is a significant differentiation of these indicators between countries. The highest volatility of economic growth indicators increased in the Baltic states, in particular, in Lithuania by 3 times, and in Latvia by 2 times. The most stable economies are Estonia, Poland. Slovak Republic.

We made an attempt to assess the impact of the volatility of macroeconomic indicators: inflation, unemployment, public debt, export and import volumes on the rates of economic growth in the CEE countries for the three periods mentioned above. In general, the volatility of inflation, public debt, and import volumes negatively affects rates of economic growth for the period 1991–2019.

Table 1

Economic Growth and its Volatility in CEE

	1991–2019		**2000–2008**		**2009–2019**	
	ΔGDP	**ΔGDP s.d.**	**ΔGDP**	**ΔGDP s.d.**	**ΔGDP**	**ΔGDPs.d.**
Albania	2,98	7,95	6,19	1,17	2,82	1,08
Belarus	3,21	6,29	8,04	2,47	1,71	3,24
Bulgaria	0,76	5,60	5,96	1,16	1,79	2,23
Czech Republic	2,61	2,67	4,33	1,79	1,69	2,80
Estonia	3,88	5,44	6,52	4,79	1,94	5,76
Hungary	1,57	3,79	3,44	1,64	1,72	3,34
Latvia	3,26	6,12	7,20	4,53	1,27	5,82
Lithuania	4,23	4,98	7,01	2,73	1,69	5,60
Moldova	1,56	7,92	5,90	2,14	3,33	4,19
Poland	3,39	3,28	4,06	1,94	3,49	1,24
Romania	1,92	5,52	6,22	2,09	2,23	3,70
Russian Federation	1,75	5,75	6,97	1,78	1,03	3,60
Slovak Republic	4,13	3,10	5,71	2,79	2,42	2,81
Slovenia	2,92	2,94	4,23	1,33	1,03	3,72
Ukraine	-0,61	8,52	6,54	3,05	-0,97	6,58

Source: estimation of author

Our study showed a significant differentiation of the impact of the volatility of macroeconomic indicators in the period of economic boom and in the period of recovery from the crisis. Increasing volatility of economic growth rates, inflation, current account, and import volumes has a positive effect on economic growth rates during an economic boom.

Table 2

Volatility of Macroeconomic Variables and Economic Growth in CEE

Types of interactions between variables	Coefficients of correlation 1991–2019	Coefficients of correlation 2000–2008	Coefficients of correlation 2009–2019
s.d.GDP ↔ ΔGDP	-0,46	0,46	-0,63
s.d. Inflation ↔ ΔGDP	-0,65	0,52	-0,43
s.d. Unemployment ↔ ΔGDP	0,31	0,08	0,14
s.d. Budget Deficit ↔ ΔGDP	0,15	-0,03	-0,20
s.d. Current Account ↔ ΔGDP	-0,14	0,50	-0,26
s.d. Government Debt ↔ ΔGDP	-0,60	0,14	-0,62
s.d. Volume of Exports ↔ ΔGDP	-0,21	-0,09	-0,20
s.d. Volume of Imports ↔ ΔGDP	-0,60	0,43	-0,64

Source: estimation of author

In the post-crisis period, the influence of volatility changes. High volatility of economic growth rates, inflation, public debt, import volumes significantly reduces economic growth. F. Coricelli and I. Masten associate the high level of volatility of macroeconomic indicators in the CEE E. Ianchovichina point out that volatility is influenced by significant flows of foreign capital, terms of trade and institutional changes [2].

We believe that in the period of crises, there should be a different approach to regulating the volatility of macroeconomic indicators in comparison with the economic boom. The internal and external balance of the economy is more important in the period of recovery from the crisis.

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