



The Impact of Macroeconomic Indicators on Economic Growth in Post-Soviet Union Countries

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ABSTRACT

This study investigates the influence of macroeconomic indicators on economic growth in Post-Soviet Union countries. It specifically examines the roles of Foreign Direct Investment (FDI), inflation, and corruption on GDP growth from 2015 to 2022. The research aims to address the issue of economic volatility in these countries, which primarily rely on limited sectors like oil and gas. By understanding these relationships, the study provides insights for enhancing economic stability and growth in the region. *Design/Methods/Approach.* Employing regression and cross-sectional analyses, this study evaluates data sourced from international databases to explore the relationship between key macroeconomic indicators and economic growth. *Findings.* The analysis indicates that FDI positively affects GDP growth, while inflation and corruption negatively impact economic performance. These findings highlight the necessity for policies that attract foreign investment and control inflation and corruption to promote economic growth. The study's scope is limited by the availability of reliable data from some Post-Soviet Union countries. Future research could benefit from including more diverse economic indicators and extending the analysis period. This research fills a gap in the literature by focusing on the unique economic conditions of Post-Soviet Union countries. It offers valuable insights for policymakers, businesses, and investors aiming to improve economic stability and growth in these regions.

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1. INTRODUCTION

Global economic landscape is continuously evolving, with modern economic growth acting as a crucial determinant of national prosperity. In the aftermath of historical transformations such as the Industrial Revolution, economic theories have advanced, emphasizing the sustained increase in output and improved living standards. Many Post-Soviet Union countries are stuck relying too much on things like oil and gas, making their economies not very diverse. This can be a big issue because when the prices of these resources go up and down, it messes with how much money the country is making (GDP growth). The indicators we're looking at foreign direct investment, inflation, and corruption are all connected to this problem. For example, if a country doesn't have a lot of different things making money, it's harder to get other countries to invest in it FDI. Relying too much on just a few industries can also cause prices to go up inflation. And if the government is a bit corrupt, it makes it tough for new industries to start up. We want to study how fixing these issues can help these countries' economies grow better. There are some factors that increase economic growth. These are:

First factor is Foreign Direct Investment. FDI is a pivotal form of cross-border capital flow that entails lasting ownership and managerial control in foreign enterprises (R Sijabat, 2023). Its impact on economic growth is profound, influenced by factors like FDI type, source, destination, institutional environments, and spillover effects on domestic sectors (MLT Nguyen, 2022). FDI is now closely tied to human capital and innovation, attracting multinational corporations to regions with skilled workforces and innovation-friendly environments. This shift has turned FDI into a vector for knowledge, technology, and best practices transfer, fostering growth in knowledge-driven economies. Additionally, sustainability considerations are shaping FDI practices, with investors prioritizing destinations aligned with environmental responsibility (Lyubov Tsoy, Almas Heshmati, 2023).

Second Factor is Inflation. Global inflationary pressures are expanding beyond food and energy, impacting businesses worldwide with elevated costs in energy, transportation, and labor. Notably, more than half of the items in the price index in the United Kingdom, the United States, and the euro area show inflation above 4%, doubling their targets from the previous year. Tight labor market conditions, coupled with low unemployment rates, are driving wage growth, mitigating the loss of purchasing power but contributing to broad-based inflation. As the global economic cycle shifts and major central banks tighten monetary policies, headline inflation is expected to peak in the current quarter but remain elevated in 2023, exceeding central bank targets in most G20 countries. While the United States is making progress in curbing inflation, the euro area and the United Kingdom, facing the lingering effects of energy cost spikes and delayed monetary tightening, are projected to experience sustained inflationary pressures.

Third factor is Corruption. A pervasive issue in many developing countries poses multifaceted challenges to economic growth and societal well-being. It acts as a deterrent to both domestic and foreign investment, hindering economic development by fostering unfair competition and market distortions. The misallocation of resources, driven by bribery and favoritism, disrupts efficient production processes and undermines a competitive economy. Public funds meant for essential services may be diverted for personal gain, impeding human capital development and overall economic productivity. Corruption weakens the rule of law, compromising contracts and property rights, creating an insecure business environment. It exacerbates income inequality, perpetuating economic disparities and hindering inclusive

development. Widespread corruption contributes to political instability, deterring investment, while eroding public trust in government institutions diminishes civic engagement and compliance with regulations, further impeding economic progress. In Central Asia, many political leaders used COVID-19 as a smokescreen to introduce new restrictions on rights and accountability during the last year, while populist governments in Eastern Europe have severely cracked down on the freedoms of expression and assembly needed to call out corruption. Across the region, authoritarian regimes spied on, intimidated and attacked activists, journalists, opposition leaders and ordinary citizens.

This year, only three countries from the region score above the global average of 43: Georgia (CPI score: 55), Armenia (49) and Montenegro (46). Belarus (41), once also above the average, dropped by 6 points since last year. Turkmenistan (19), Tajikistan (25) and Kyrgyzstan (27, down 4 points since last year) are the region's worst performers.

This study investigates the macroeconomic indicators influencing economic growth in Post-Soviet Union countries, focusing on Foreign Direct Investment (FDI), inflation, and corruption from 2015 to 2022. The relevance of this research stems from the region's reliance on limited economic sectors, primarily oil and gas, which exposes these economies to volatility and hampers diversified growth. By addressing these issues, the study aims to provide insights into fostering stable economic growth in these countries.

The impact of Foreign Direct Investment (FDI) on Economy growth Jilenga (2016), examines the impact of foreign debt and foreign direct investment (FDI) on economic growth in Tanzania in 1971-2011 using the ARDL model. The results of the study show that debt will drive economic growth in Tanzania in the end. However, foreign direct investment shows a negative impact on economic growth. In the short term, it is found that there is no causal relationship debt and economic growth. The research of I Made Yudisthira and I Gede Sujana Budhiasa, (2012).

The research of Zulkefly, A.K., et al (2006), examined the long-term relationship between total expenditure, income (tax and non-tax) and economic growth of ASEAN-5 countries, namely Malaysia, Indonesia, Thailand, Singapore and the Philippines. The result of variance decomposition shows that the strong influence on expenditure for state income namely Malaysia, Indonesia and the Philippines, which supports the income-expenditure hypothesis.

The impact of the inflation rate on Economy growth

Quartey, (2010) using the Johansen co-integration methodology, investigated whether the revenue maximising rate of inflation is growth maximising in Ghana. He found that there is a negative impact of inflation on growth. Furthermore, the study found a revenue maximising rate of inflation at 9.14 percent over the period 1970-2006 using the Laffer curve. He further established that the rate of inflation that is growth maximising is not a single digit one.

Hasanov, (2010) employed annual data set on growth rate of real GDP, Consumer Price Index Inflation and growth rate of real Gross Fixed Capital Formation to investigate whether there was any threshold effect of inflation on economic growth over the period of 2001-2009. Estimated threshold model indicated that there was non-linear relationship between inflation and economic growth in the Azerbaijani economy and threshold level of inflation for GDP growth was 13 percent. Inflation rate lower than 13 percent reflected statistically significant positive effect on GDP growth but this positive relationship became

negative when inflation exceeded 13 percent. He added that, economic growth was expected to decline by about 3 percent when inflation increased above the 13 percent threshold.

The impact of the corruption on economy growth

Several researchers have theoretically confirmed the negative impact of corruption on the state economy and described events, thereby confirming the harmfulness of such an influence (Blackburn et al., 2006; De Vaal and Ebben, 2011; Ivanyna et al., 2016). According to Blackburn et al. (2006), the negative impact of corruption on the country’s economy and, in particular, on its productivity has been identified, where the authors argue that different countries have different productivity levels. Thus, it explicates the differences in corruption’s effects on these countries’ economies (Haque and Kneller, 2009; Akimova et al., 2020). Also, these latter studies determine the limit of corruption levels. Before reaching this limit, researchers contend that the hypothesis of "grease the wheels”, according to which corruption can positively impact economic growth, is possible. Through this process, governments have the opportunity to know if they need to take action to combat corruption and under what conditions.

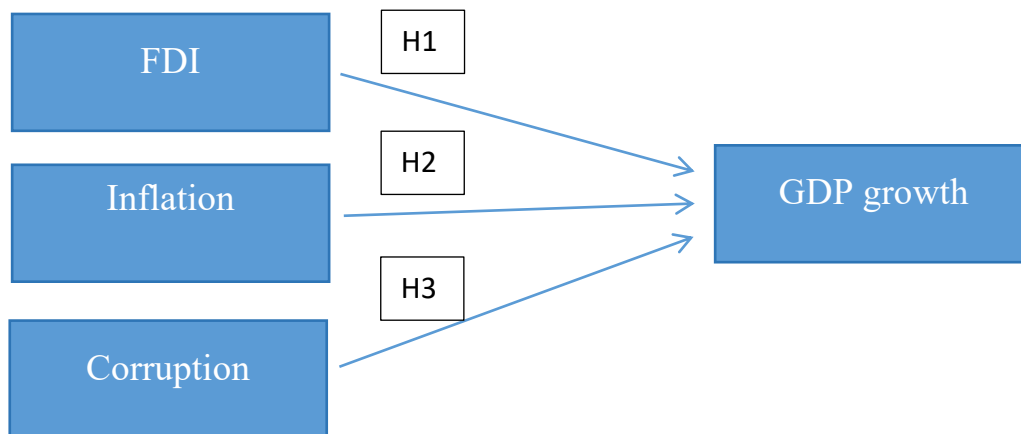


Figure1. Research Framework

Research Hypothesis

H1: Foreign Direct Investment (FDI) has a positive influence on GDP growth in Post Soviet Union countries.

H2: Inflation has a negative influence on GDP growth in Post Soviet Union countries.

H3: Corruption has a negative influence on GDP growth in Post Soviet Union countries.

2. METHOD

In this pivotal chapter, the methodology employed for examining the impact of macroeconomic indicators on GDP growth rate in ex-Soviet Union countries is comprehensively detailed. This includes elucidation on the study design, the chosen population and sample, the intricacies of the data collection instruments and techniques, the approach to data analysis, and the crafting of hypotheses. The chapter also delves into the

operationalization of variables, offering a nuanced understanding of how each selected indicator will be measured and utilized in the study.

The overarching goal of the research design is to provide a methodical and justified framework for addressing the research questions posed in this study. A quantitative approach is employed to investigate the relationships between the chosen macroeconomic indicators (FDI, Inflation, and Corruption Perception Index) and the GDP growth rate of ex-Soviet Union countries.

Quantitative research is deemed appropriate for this study due to its ability to offer systematic and statistical insights into the relationships between variables. Given the nature of the data collected, particularly the GDP growth rate being a continuous variable, a quantitative approach allows for precise measurement and analysis.

Data Collection

The data for this study is derived from reliable sources encompassing the period *from 2015 to 2022*. The macroeconomic indicators, namely FDI, Inflation, Interest Rate, and Corruption Perception Index, are collected for each country within the ex-Soviet Union region. The GDP growth rate serves as the dependent variable, reflecting the economic performance of these nations over the specified timeframe.

Description of the approach

This study employs a robust quantitative approach to rigorously examine the relationships between key macroeconomic indicators—Foreign Direct Investment (FDI), Inflation, and Corruption Perception Index (CPI)—and the GDP growth rate of ex-Soviet Union countries. The quantitative framework relies on regression analysis, specifically modeled as

$$\text{GDP growth rate}_{i,t} = \beta_0 + \beta_1 \text{FDI}_{i,t} + \beta_2 \text{INF}_{i,t} + \beta_3 \text{CPI}_{i,t} + \epsilon_{i,t}.$$

This analysis ensures a systematic exploration of how variations in these indicators collectively influence the GDP growth rate. The study spans the period from 2015 to 2022, utilizing authoritative data sources for FDI, Inflation, and Corruption Perception Index, as well as GDP growth rate data.

3. RESULT AND DISCUSSION

Multicollinearity Test

The multicollinearity test was conducted to test whether a correlation was found between the independent variables in the regression model. The regression model is good if there is no correlation between independent variables. It can be seen from the Tolerance and Variance Inflation Factor (VIF) values to determine the existence of multicollinearity. The following are the results of the multicollinearity test:

Table 1. Multicollinearity tests

Model	B	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		Std. Error		Beta	t	Sig.	Tolerance	VIF
1 (Constant)	5.209	1.516			3.436	0.001		
FDI (X1)	0.002	0.060	0.003	0.037	0.971	0.990	1.010	
Inflation (X2)	0.250	0.068	0.340	3.662	0.000	0.956	1.046	
CPI (X3)	0.023	0.031	0.067	0.720	0.473	0.955	1.048	

a. Dependent Variable: GDP Growth (Y)

Table 1 presents crucial coefficients and collinearity statistics for assessing multicollinearity:

- *FDI (X1)*: Insignificant impact on GDP Growth (t = 0.037, Sig. = 0.971), no multicollinearity concerns (VIF = 1.010).
- *Inflation (X2)*: Significant negative influence on GDP Growth (t = -3.662, Sig. = 0.000), no problematic multicollinearity (VIF = 1.046).
- *CPI (X3)*: Insignificant impact on GDP Growth (t = -0.720, Sig. = 0.473), no notable multicollinearity issues (VIF = 1.048).

Results indicate stable predictors with minimal multicollinearity, affirming reliable estimations of FDI, Inflation, and CPI effects on GDP Growth.

Simple Linear Regression Test

Simple linear regression analysis in this research aims to determine the magnitude of the influence of audit fees on audit quality. The regression results, based on the SPSS 23 program analysis tool, are obtained in the table below.

Table 2 Regression results

Model	B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	
1	(Constant)	2.576	0.512		5.031	0.000
	FDI (X1)	0.018	0.062	0.027	0.283	0.778
2	(Constant)	4.247	0.641		6.620	0.000
	Inflation (X2)	-0.241	0.066	-0.327	3.626	0.000
3	(Constant)	2.620	1.376		1.903	0.060
	CPI (X3)	7.223E-05	0.032	0.000	0.002	0.998

a. Dependent Variable: GDP Growth (Y)

Table 2 provides a comprehensive overview of the unstandardized coefficients and associated statistics for the simple linear regression analysis conducted on GDP Growth (Y) with respect to the independent variables (X1, X2, X3).

1. Constant and FDI (X1):

- The constant (B = 2.576) represents the expected GDP Growth (Y) when all variables, including FDI (X1), are set to 0.
- The unstandardized coefficient for FDI (X1) is 0.018, with a standard error of 0.062. However, this coefficient is statistically insignificant (p = 0.778), implying that FDI does not significantly influence GDP Growth.

2. Constant and Inflation (X2):

- The constant (B = 4.247) signifies the anticipated GDP Growth (Y) when all variables, including Inflation (X2), are at 0.
- The unstandardized coefficient for Inflation (X2) is -0.241, with a standard error of 0.066. This coefficient is statistically significant (p < 0.05), suggesting that Inflation has a notable impact on decreasing GDP Growth.

3. Constant and CPI (X3):

- The constant (B = 2.620) indicates the expected GDP Growth (Y) when all variables, including CPI (X3), are set to 0.

- The unstandardized coefficient for CPI (X3) is 7.223E-05, with a standard error of 0.032. However, this coefficient is statistically insignificant ($p = 0.998$), indicating that CPI does not significantly affect GDP Growth.

4. CONCLUSION

Based on the results of data analysis and discussions that have been described regarding the influence of macroeconomic indicators on GDP growth in the ex-Soviet countries for the 2015-2022 period, using simple and multiple regression analysis methods, the following conclusions can be drawn:

H1 is rejected, signifying that the research did not find a statistically significant influence of Foreign Direct Investment (FDI) on GDP growth during the 2015-2022 period. This implies that the hypothesized positive effect of FDI on GDP growth, as suggested by traditional economic theories and neoclassical economic theory, is not supported by the empirical analysis. The research contradicts the findings of (Adegbite & Ayadi, 2010), who argued that the impact of FDI on economic growth depends on various factors such as institutional quality and absorptive capacity.

H2 is accepted, indicating a statistically significant negative impact of the inflation rate on GDP growth during the 2015-2022 period. This implies that countries with higher inflation rates, such as Azerbaijan, Kazakhstan, and Kyrgyz, tended to experience lower GDP growth rates. The findings align with economic theory, suggesting that high inflation can lead to uncertainty, reduced investment, and overall economic instability. However, this research contradicts the findings of Umaru and Zubairu (2012), who argued that inflation possesses a positive impact on economic growth through encouraging productivity, output levels, and the evolution of total factor productivity.

H3 is rejected, implying that a specific element (x3a) within the Corruption Perception Index (CPI) does not have a statistically significant impact on overall economic growth during the 2015-2022 period. This suggests that the hypothesized negative effect of corruption perception on GDP growth is not supported by the empirical analysis. The research challenges conventional wisdom that emphasizes the negative impact of corruption on economic growth and aligns with recent studies arguing for a more nuanced understanding, acknowledging that the relationship between corruption.

This study concludes that FDI positively impacts GDP growth, while inflation and corruption negatively affect economic performance in Post-Soviet Union countries. Policymakers should focus on creating an investment-friendly environment, implementing effective inflation control measures, and strengthening anti-corruption frameworks to foster economic stability and growth. Further research could expand the scope of this study by incorporating additional variables and extending the analysis period to provide more comprehensive insights.

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