Causality between Corruption and Poverty: An application to Western Balkan countries

Emi Malaj[*]

[1]*Department of Economics, University of Vlora, Albania*

[*]*emi.malaj@univlora.edu.al Email of the corresponding author*

Abstract – The main goal of this article is the investigation of the causal relationship between poverty and corruption in Western Balkan countries. The considered time period is from 2013 to 2021. The vast majority of empirical papers have shown a negative correlation between corruption and economic growth, or between the corruption index and poverty indicators; countries with less corruption experience more economic growth and less poverty. Higher levels of corruption are also related to a higher economic, financial and social inequality, and to a higher number of people living above the poverty line. Corruption discourage foreign direct investments, compromise the quality of public services and infrastructure, and reduce tax revenues.

Keywords – Corruption, Poverty, Balkans, Inequality, Education.

I. INTRODUCTION

According to Transparency International (TI), corruption is the abuse of entrusted power for private gain. Corruption can take several different forms, and can include behaviours like: public servants asking or taking money and favours in exchange for services; politicians abusing public money or granting public works or contracts to their relatives, sponsors and friends; corporations bribing officials to get lucrative deals.[1] On the other hand, poverty is usually defined as the scarcity of a fixed amount of money or material possessions. Poverty is a complex variable and can include politic, economic and social elements. The World Bank measures poverty at the international line of $1.90 a day, in order to track progress toward meeting its objective of reducing the share of people living in extreme poverty to less than 3 percent by the year 2030.

The correlation between corruption and poverty has been analyzed by numerous authors. A higher level of corruption leads to a higher inequality and to a higher number of people below the poverty line.

The main objective of this paper is the investigation of the causal relationship among corruption and poverty in Western Balkan (WB) countries, using a dynamic panel system GMM estimator. In the following section we give a general overview of theoretical and empirical articles related to the correlation between poverty, corruption and economic growth. In section three, we formulate a particular econometric model for the WBs, including basic and original independent variables. Section four reports some relevant concluding remarks.

II. MATERIALS AND METHOD

The inverse relationship between corruption and economic growth has been confirmed in numerous empirical works. Corruption does encourage and promote poverty, but this pattern is complex and influenced by economic and governance factors. Anti-corruption programs and policies that are designed to address issues of inequality, economic growth, governance capacity, government services in health and education, and public trust are likely

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[1] https://www.transparency.org/en/what-is-corruption.

to reduce both corruption and poverty (Chetwynd, Chetwynd and Spector, 2003). According to Biswas, Tortajada and Boey (2016), with an increasing population, intensification of global inequalities, and accelerating economic activities, corruption has become pervasive and commonplace. The authors argue that in many countries, providing gifts, bribes, and free services to public servants is part of the local culture, as ways to show gratitude and maintain good relations. Ildırar and İşcan (2015) analyze the relationship between poverty, corruption, and economic performance, using a panel sample of Eastern European Central Asian countries. They show that corruption affects directly economic performance, whereas low economic performance leads to poverty. Furthermore, results imply that rules against corruption can affect economic growth indirectly through their impact on corruption.

Ünver and Koyuncu (2016) study the impact of poverty on corruption using annual unbalanced panel data of 154 countries for the years 2000-2013. They use corruption measures from three alternative sources as a dependent variable, whereas independent variables are related to five poverty measures. In addition, the study has different control variables, such as foreign direct investments (FDI), inflation rate, trade openness, and democracy level. According to the respective empirical results, poverty variables and inflation rates have statistically significant and positive impact on corruption, whereas FDI, democracy levels, and trade openness have statistically significant and negative effects. Bosco (2016) explores several hypotheses on the determinants of perceived corruption in political and public sectors of European countries. The author analyzes the relationship between corruption and risk of poverty, showing that social distress encourages corruption at any level of per capita income, and interacts with political, economic and cultural variables. Furthermore, public expenditure has an adverse effect on corruption. Dankumo, Ishak, Bani and Hamza (2019) analyze the relationship between public expenditure, corruption and poverty in Nigeria through the ARDL bounds test. The respective findings reveal a long-run relationship between corruption, public expenditures and poverty. Corruption is positively related to poverty, despite increase in the corruption index. The authors suggest some measures to enhance the corruption index, thereby allowing public expenditure to impact on poverty. Han, Li and Xu (2022) study how China's last anti-corruption campaign affects poverty incidence. The poor households in counties that are more exposed to the anti-corruption campaign are related to a significantly higher level of income and a lower probability of being in poverty post-campaign. The authors find supportive evidence for three plausible mechanisms under the poverty-reducing effect of the anti-corruption campaign, such as 'enhanced formal credit support', 'improved access to transfer payment', and 'reduced government expropriation'.

Vinayagathasan and Ramesh (2022) investigate the relation between poverty and corruption, based on the panel data of SAARC countries for the years 1996–2019. The authors employ the panel ARDL of pooled mean group estimation technique to analyze the data, and focus on capability poverty, using the human development index (HDI) as a proxy for poverty. The respective findings suggest that an increase in corruption score and increase in women's labor force participation have a significant impact in eradicating poverty or increasing social welfare.

III. RESULTS

Arellano and Bond (1991) presents specification tests which are applicable after estimating a dynamic model from panel samples by the generalized method of moments (GMM). Furthermore, they analyse the practical performance of these techniques using both simulated and real observations. This GMM estimator optimally makes use of all the linear moment restrictions that derive from the hypothesis of absence of serial correlation in the errors, in a model that includes lagged dependent variables, individual effects and no strictly exogenous factors. Arellano and Bond suggest a test of serial correlation based on the GMM residuals and also compare it with both Sargan tests of over-identifying restrictions, and Hausman (specification) tests.

We take into consideration an empirical equation for the investigation of the Granger causal relationship between poverty and corruption. The employed estimator is GMM (dynamic panel system), following the logic of Negin, Rashid and Nikopour, (2010). The theoretical model in this case is:

$$y_{it} = \alpha + \sum \delta_j y_{i,t-j} + \sum \beta_i x_{i,t-l} + \sum \gamma_k z_{i,t-k} + u_{it}$$

The causality-based variables (x and y) are poverty and corruption. Whereas, variables z can be used as mediators between corruption and poverty; and include rural political freedom, population, inflation, gender, and stability. The inclusion of lagged levels of the dependent variable as explanators is the main characteristic of dynamic panel data equations. The Corruption Perceptions Index (CPI) is collected from TI. CPI is the most used global corruption index in the world; it measures how corrupt each country's public sector is perceived to be, according to experts and businesspeople. A country's score is the perceived level of public sector corruption on a scale from 0 to 100, where 0 means highly corrupt and 100 means very clean.[2] The Human Poverty Index (HPI) is an indicator of the living standard in a specific country and it is developed by the United Nations (UN) in order to complement the Human Development Index (HDI). Whereas, the Political Freedom and Stability indicator is based on Kaufmann, Kraay and Mastruzzi (2008). The indicators are based on hundreds of specific and disaggregated individual factors measuring various dimensions of governance, taken from dozens of data sources, provided by 32 different organizations. Kaufmann, Kraay and Mastruzzi (2008) considered 212 countries and territories and measured six dimensions of governance in the years 1996-2007: Political Stability and Absence of Violence/Terrorism, Voice and Accountability, Government Effectiveness, Rule of Law, Regulatory Quality and Control of Corruption.

We have summarized in Table 1 the estimation results for five different specifications of the poverty model (the main explanator is corruption), following the logic of Negin, Rashid and Nikopour (2010). We include in our analysis all the six WB countries (Albania, North Macedonia, Serbia, Montenegro, Bosnia and Herzegovina and Kosovo) for the time period 2013-2021. We have not considered control variables in the first equation; in the second equation, we take into account the rural population as a control variable. In the third equation, we consider the gender variable and the

rural population as control variables; in the fourth equation we also take into account the inflation variable. In the fifth equation we also include the indicator of political freedom and stability as a control variable.

Table 1. Estimation results.

Dependent log(HPI)t	model (1)	model (2)	model (3)	model (4)	model (5)
log(HPI)t-1	0,699***	0,832***	0,889***	0,916***	0,942***
log(CPI)t-2	0,004	-0,077***	0,117***	-0,069**	-0,139**
log(CPI)t-1	0,028	0,072	0,027	-0,061	0,022
log(CPI)t-2	0,033*	0,048	0,026	0,018	0,048
log(CPI)t-3	0,276***	0,293***	0,215***	0,237***	0,238***
log(CPI)t-4	-0,116***	-0,0835*	-0,082**	-0,015**	-0,089
log(rural)t		0,224***	0,237***	0,228***	0,296***
log(gender)t			-0,148***	-0,142***	-0,227***
log(inflation)t-2				0,071***	0,033***
log(political_free.)t					-0,022***
AR(1) (p-value)	0	0	0	0	0
AR(2) (p-value)	0.135	0.145	0.127	0.248	0191
Sargan test (p-value)	0.228	0.311	0.393	0.317	0.273
Wald test	287.1	188.2	129.3	173.7	88.4

Empirical results show a relatively high explanatory power of the poverty equation. We can use the AR(1) and AR(2) statistics for the determination of the optimal lag. We observe a statistically significant relation between poverty and corruption in all our equations. The variable of rural population is statistically significant at 1% level and positive in all the respective equations. Furthermore, the gender variable is significant at 1% level in the third,

fourth and fifth equation. We can also confirm the significativity of political freedom and stability variables and of lagged inflation at 1% level. The Wald test shows that corruption causes poverty at 1% level; as a result, we can use corruption for the prediction of poverty.

IV. CONCLUSION

The main goal of this study was the investigation of the causal relationship between poverty and corruption in the six WB countries for the time period 2013-2021. The vast majority of empirical papers have shown a negative correlation between corruption and economic growth, or between the corruption index and poverty; countries with lower corruption experience more economic growth and less poverty. Higher levels of corruption are also related to a higher economic, financial and social inequality, and to a higher number of people living above the poverty line. Corruption discourage foreign direct investments, compromise the quality of public services and infrastructure, and reduce tax revenues.

We formulated and estimated five different equations through dynamic panel system GMM estimators for all the WB countries. We took into account some basic and innovative factors, including political freedom, rural population, inflation, stability and gender. The main defining feature of dynamic panel data models is the inclusion of lagged levels of the dependent variable. Results showed a relatively high explanatory power of the considered models. The explanators were statistically significant in each of the equations. The estimated Wald tests confirmed the statistically significant relationship between poverty and corruption.

REFERENCES

[1] Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. The review of economic studies, 58(2), 277-297.

[2] Biswas, A. K., Tortajada, C., & Boey, A. (2016). Corruption, economic development and poverty alleviation. The Diplomat, 1-4.

[3] Bosco, B. (2016). Old and new factors affecting corruption in Europe: Evidence from panel data. Economic Analysis and Policy, 51, 66-85.

[4] Chetwynd, E., Chetwynd, F., & Spector, B. (2003). Corruption and poverty: A review of recent literature. Management Systems International, 600, 5-16.

[5] Dankumo, A. M., Ishak, S., Bani, Y., & Hamza, H. Z. (2019). The Relationship between Public Expenditure, Corruption and Poverty in Nigeria. Jurnal Ekonomi dan Studi Pembangunan, 11(1), 76-89.

[6] Han, L., Li, X., & Xu, G. (2022). Anti-corruption and poverty alleviation: Evidence from China. Journal of Economic Behavior & Organization, 203, 150-172.

[7] Ildırar, M., & İşcan, E. (2015). Corruption, Poverty and Economic Performance: Eastern Europe and Central Asia (ECA) Countries. In International conference on Eurasian economies.

[8] Negin, V., Abd Rashid, Z., & Nikopour, H. (2010). The causal relationship between corruption and poverty: A panel data analysis.

[9] Ünver, M., & Koyuncu, J. Y. (2016). The impact of poverty on corruption. Journal of Economics Library, 3(4), 632-642.

[10] Vinayagathasan, T., & Ramesh, R. (2022). Corruption–poverty nexus: evidence from panel ARDL approach for SAARC countries. Asian Journal of Comparative Politics, 7(4), 707-726.