Research Article / Araştırma Makalesi

THE IMPACT OF CORRUPTION AND GOVERNANCE ON POVERTY: A PANEL DATA ANALYSIS

Mehmet NACAR¹, Abdullah ÖZÇİL², Canan Gamze BAL³

ABSTRACT

Governance is the process of organizing and directing the principles of management, decision-making mechanisms, resource allocations and interactions of an organization or community. One of the main factors in deterioration of the economy is the weakness of governance. No other action is as damaging to existing economic systems and structures as corruption. With deterioration of the economy and the emergence of income inequality, poverty has become evident in all regions of the world. This study explains the impact of corruption and governance on poverty in terms of corporate governance. The relationship between World Governance Indicators (WGI), published since 2012 and covering 157 countries, Corruption Perceptions Index (CPI) and Gross Domestic Product (GDP) data are analysed. Panels Corrected Standard Errors (PCSEs) regression model focuses on the impact of CPI and WGI on the GDP. It is concluded in this study that the explanatory power of corruption and governance on GDP dimension of poverty is 59.2%. The results were compared with similar studies from different perspectives and recommendations were presented.

Keywords: Corruption, Governance, Poverty, GDP, Income Inequality

JEL Classification: 132, D73, D31, G34

YOLSUZLUK VE YÖNETİŞİMİN YOKSULLUK ÜZERİNDEKİ ETKİSİ: BİR PANEL VERİ ANALİZİ

ÖZET

Yönetişim bir kurumun veya topluluğun yönetim ilkelerini, karar alma mekanizmalarını, kaynak tahsisleri ve etkileşimlerini organize etme ve yönlendirme sürecidir. Ekonominin bozulmasında ana etkenlerden birisi de yönetişimin zayıflığıdır. Mevcut ekonomik sistem ve yapının bozulmasına yolsuzluk kadar başka hiçbir eylem zarar veremez. Ekonominin bozulması ve gelir eşitsizliğinin ortaya çıkmasıyla birlikte dünyanın tüm bölgelerinde yoksulluk belirgin hale gelmiştir. Bu çalışma, kurumsal yönetişim açısından yolsuzluk ve yönetişimin yoksulluk üzerindeki etkisini açıklamaktadır. Çalışmada 2012 yılından bu yana yayınlanan ve 157 ülkeyi kapsayan Dünya Yönetişim Göstergeleri (WGI), Yolsuzluk Algı Endeksi (CPI) ve Gayri Safi Yurtiçi Hasıla (GSYİH) verileri arasındaki ilişki analiz edilmektedir. Panel Düzeltilmiş Standart Hatalar (PCSE'ler) regresyon modeli Dünya Yönetişim Endeksi (WGI) ve Yolsuzluk Algı Endeksinin yoksulluk üzerindeki (GDP) etkisine odaklanmıştır. Bu çalışmada yolsuzluk ile yönetişimin, yoksulluğun Gayri Safi Yurtiçi Hasıla boyutu üzerindeki açıklama gücünün %59,2 sonucuna varılmıştır. Sonuçlar, benzer çalışmalar ile farklı bakış açılardan karşılaştırılmış ve öneriler sunulmuştur.

Anahtar Kelimeler: Yolsuzluk, Yönetişim, Yoksulluk, GSYİH, Gelir Eşitsizliği

JEL Sınıflandırması: 132, D73, D31, G34

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1. Introduction

The characteristics expected from a prosperous society include basic humanistic demands such as justice, the rule of law, fair income distribution, economic growth, a high level of human development and quality in education and health services. These basic characteristics are the factors that enhance the development and economic level of a country. Corruption is one of the most important issues that emerge from the deterioration of one or more of these expected basic characteristics. Corruption is a socio-economic issue that damages organizational culture, reduces loyalty and needs to be eliminated in terms of corporate governance in both public institutions and private companies. The common expectation of all people living together is to have fair and equal fundamental rights. Unfortunately, it is observed that poverty is at its highest level in developing or underdeveloped countries because corruption increases income inequality.

Corruption is an old and widespread phenomenon that has moved throughout human history (Kafel, 2016; Fukuyama, 2018; Eigen, 2002; Adebayo, 2013). It is mentioned in the Arthashastra, a treatise on public administration dating back to the 4th century B.C. in India, just as it is impossible not to taste honey or poison that one may find at the tip of one's tongue, so it is impossible for one dealing with government funds not to taste, at least a little bit, of the King's wealth (Shamasastry, 1915; Rangarajan, 1992). According to Ghahari et al. (2021), corruption and fraudulent, collusive, and corrupt practices related to development result in inefficiencies, inequalities, and distortion of resources. Corruption is a multifaceted phenomenon that ranges from a minor infraction or small act of restricted compensation to widespread mass looting by governmental servants.

According to the declaration of the IMF in 2016, there is moral outrage against how the rich and powerful take advantage of the system for their benefit. In some countries, especially the ones with weak institutions in terms of governance, citizens have taken to the streets to make a strong statement to their leaders that they will no longer tolerate corruption, a time of increasing income and wealth inequality. For example, as Acemoglu et al. (2018), Nikitina (2014) and Kırşanlı (2023) stated that popular dissatisfaction with the spread of corruption was a major factor in the Arab Spring and regime change in Ukraine in 2014, therefore corruption is a problem that may even lead to changes in political structure and country's leaders.

Corruption, poverty and effective governance are complex and critical issues facing many countries worldwide, interacting with each other and profoundly affecting the economic, social and political development of societies. This study aims to explain the relationship between corruption and governance indicators on poverty and make recommendations for the future. It aims to reveal the significant relationship between the Worldwide Governance Indicators, the Corruption Perception Index and the GDP per capita of countries. While measuring poverty only based on income level may appear simple, the multidimensional approach is more intricate and involves harder-to-quantify elements (Chetwynd et al., 2003). Therefore, in this study, GDP was used as a measurement tool for low income, which is a sub-dimension of poverty.

2. Conceptual Framework

2.1. Corruption and Its Impacts

Corruption is an ancient and worldwide phenomenon that undermines all government functions, directly affects its monetary and fiscal policies, and causes chronic social and economic problems by damaging human capital (İnam et al., 2019). It is usually defined as misuse of public issues for private gain, including but not limited to corruption, nepotism, bribery, extortion, influence peddling and fraud (Chetwynd et al., 2003; Karakaş & Çak, 2007). Stapenhurst (2000) defined corruption simply as misconduct of public power for the benefit of an individual or a loyal group. This occurs at the interface of the public and private sectors when public officials abuse their official positions by accepting, demanding or extorting bribes. According to the World Bank (2022) Corruption occurs where opportunity and tendency coincide. Corruption erodes trust in government and countermines the social contract. This causes concerns worldwide, particularly in contexts of fragility and violence. Inequalities and displeasure are maintained and fueled by corruption, which breeds fragility, violent extremism, and conflict.

At the 20th International Anti-Corruption Forum, held in December 2022 in Washington D.C., the main issues of the Washington Declaration were rooting out corruption and defending democratic values. Global corruption and its impunity are the main sources of numerous problems affecting the poorest and most vulnerable countries and communities worldwide. States should re-establish and strengthen institutional controls and balances over power among executive authorities, legislative bodies and courts as well as through appropriate independent supervisory bodies ensuring the transparency of the government and protecting the freedom of media. Governments must be responsive to the public; public institutions and civil society must be vigilant to prevent despotic over-influence. For democracy to prevail over authoritarianism, public institutions must be transparent, responsive and accountable (IACC, 2022). In this context, Klitgaard has suggested a model to explain the fundamentals of corruption. He describes the model as Corruption = Monopoly Power + Discretion – Accountability (Klitgaard, 1996).

The fact that the Corruption Perception Index, published every year since 1995, points out that the economy has not been able to progress in a healthy way for many years in countries where corruption has been suffered intensively. Research on corruption concludes that corruption alone does not lead to poverty. However, corruption has a straight impact on the economic and governance elements, which leads to poverty (Chetwynd et al., 2003; Ildırar & İşcan, 2015). Farooque et al. (2022) also explore that corruption leads to inefficiency and destabilizes economic growth and sustainability. Corrupt countries are less likely to be able to take constructive socio-economic steps for sustainable development, such as avoiding negative impacts on institutions/governance, ensuring the rule of law/judiciary, maintaining the long-term efficiency of programs and enterprises for economic and social welfare, improving the current and future quality of life of the people.

Government institutions in developing countries are often not effective in achieving economic efficiency; bribery and corrupt practices are common and weaken the effectiveness of government institutions (Ozpolat & Ozsoy, 2024). Corruption disproportionately affects the poor and most vulnerable, raising expenses and restricting access to essential services including

justice, health, and education. Corruption in the purchasing of pharmaceuticals and medical devices can drive up costs and result in substandard or harmful products. The humanitarian expenses of counterfeit medicines and vaccines in terms of health-related and lifelong effects on children far exceed the economic expenses. Informal payments for services can be especially devastating for poor people (World Bank, 2024).

Corruption is so intricate and prevalent that undermines societies exposed to corruption in social, medical, political and economic issues, from infant mortality to deterioration and decreased trust in the governments. Approximately 18 million people, which is one-third of the number of people who die annually, die at a very young age due to poverty-related reasons every year (Kabaş, 2009). In a country with high levels of corruption with a wide range of negative consequences, polluters or extractors of natural resources offer bribes to responsible officials, limiting effective government control over environmental quality and delaying the implementation and control of strict environmental policy laws (Ozpolat & Ozsoy, 2024; Sekrafi & Sghaier, 2018). The second finding of the Sekrafi & Sghaier (2018) study shows that there is a significant negative relationship between the control of corruption and the amount of CO2 in the atmosphere. A one percentage point increase in the level of corruption control reduces CO2 levels by 0.0808 percentage points.

Bribery is a term used to describe corruption that involves offering, promising, providing, accepting or soliciting an advantage directly or indirectly in violation of the law as a means of incentivizing or rewarding someone to act or not act in relation to carrying out their obligations (ISO, 2024). The OECD (2000) states that bribery can involve money, other material advantages, such as membership in a private club or a scholarship for a child, or non-material advantages, such as positive publicity.

While mentioning the consequences of corruption, Transparency International Organization (2022) and Danish & Nawaz (2022) declare that it erodes trust, undermines democracy, hinders economic development and exacerbates inequality, poverty, social division and environmental crisis. Public officials who ask for or receive bribery or favours in exchange for public services, politicians who misuse public properties or grant public works or contracts to their sponsors, friends and family members and companies that bribe officials to get lucrative deals are examples of corrupt behaviour. It may be incorrect to define corruption as a deviation from the rules and laws of society or states. In a society governed by a strict regime, deviation from the rules may not always be regarded as corruption, but it may sometimes mean protecting of basic human values.

In addition to all factors that cause corruption, Seligson (2002) stated that unprecedented opportunities for corruption have emerged with the expansion of trade and economic reforms. The expansion of drug trafficking threatens to exacerbate corruption in police and judicial authorities in many countries. Corruption is not only related to money; it occurs in different forms, such as nepotism, rent, embezzlement and extortion.

2.2. Poverty in Terms of Gross Domestic Product

Experiencing its richest era within a widespread discourse of globalization, our world is also passing through a period in which the number of the poor has reached to the highest level. When discussing globalization, most of us think of Silicon Valley, internet cafes and cell

phones. However, there is another face of globalization. There are millions of poor people in our country and various countries worldwide, whose voices are hardly heard, who cannot get enough to eat, who cannot benefit from basic health and education services and who have difficulty meeting their basic needs (Senses, 2001).

Although the level of prosperity in the world has increased drastically in the last half century, almost half of the world population still struggles to live below the poverty line, which is \$ 2.15 per day (Kabaş, 2009). According to Banerjee et al. (2006), the poor are not just cold and hungry; they are also frequently malnourished, illiterate, and prone to illness, unemployment, alcoholism, and depression. They are also shut out of many markets and social groups, at risk from natural disasters, and preyed upon by rapacious officials and organized crime.

Due to its multifaceted nature, poverty is expressed in different ways around the world. Some countries and regions view poverty as a disadvantage, while others grapple with social exclusion and unequal distribution of resources (Cobbinah et al., 2013). Being impoverished might mean many different things, depending on whether we agree with the government's understanding of the term. Some people become impoverished due to a brief period of financial hardship brought on by a divorce or unemployment (Corcoran et al., 1985).

Being poor and poverty are not synonyms. Being poor refers to a situation that is easier to overcome, while poverty refers to a situation that has become entrenched, hardened and difficult to resolve. According to Wolfensohn (1999), poverty is more than just a matter of income. People with low income seek a regular source of income for peace of mind as well as a sense of well-being such, as health, community and security. Desai (2000) also used similar expressions that poverty is about living in a participatory society where people define and achieve their own well-being and where the state is an enabling rather than an inhibiting institution. This does not mean that income and consumption levels are unimportant. However, public goods such as health care, clean water, literacy and a healthy environment are equally important. The dignity of poor people requires that they enjoy human rights and participate in decisions that affect their lives.

Poverty reduction is often used as a reference for promoting economic growth that permanently lifts as many people as possible above the poverty line. Because donors focus on only one aspect of poverty reduction (growth), other legitimate goals, such as reducing chronic poverty or providing social services to countries that cannot otherwise be served, are ignored (Barder, 2009). Although low economic growth levels of countries are among the main causes of poverty, unfair income distribution can also be a significant reason. In his speech at the official opening of the World Bank's annual joint meeting with the International Monetary Fund (IMF) in Dubai, the President of the World Bank, James Wolfensohn, confessed the current situation in all its nakedness: The world is very unstable, a small minority is in control. The majority have no hope. There is too much fighting and suffering. Rich countries give low-income countries only 56 billion dollars annually in development aid. Yet the same countries spend \$300 billion on agricultural subsidies and \$600 billion on defence (Şahin, 2015).

Empirical research shows that poor people pay the highest percentage of their income as bribes. Some studies even suggest that poor people can be exploited because they don't have the power to complain. Whenever some amount of money is stolen or misdirected, it deprives the poor of equal life opportunities and deprives governments of investing in human capital

(World Bank, 2024). Thus, the people with low incomes play a role in exacerbating poverty by having to feed a monster that victimizes them.

2.3. Governance and Its Principles

A society is a social structure formed by people living together on the same land, cooperating to sustain their lives and realize many basic interests. This gathered human community has had to unite around common expectations and needs over thousands of years in history in order to meet their basic needs and improve their living standards. Governance refers to the processes and structures used to manage and direct an organization, community, or any other collective entity. It involves establishment of policies, decision-making procedures, and the overall framework within which an entity operates. Governance aims to ensure that an organization or system operates effectively, efficiently, and ethically, while also considering the interests of various stakeholders.

Definition of corporate governance by OECD is: Good corporate governance fosters long-term investment, financial stability, and business integrity. It also creates an environment of trust, transparency and accountability necessary to foster stronger growth and a more inclusive society. It is based on four fundamental principles: fairness, transparency, accountability and responsibility (Claessens, 2006). Key aspects of governance include decision-making, accountability, transparency, rule of law and participation. Governance can be implemented at various levels, including corporate governance for businesses, public governance for government entities, and community governance for local communities or online platforms. Effective governance is crucial for success and the sustainability of any organization or community as it helps manage risks, foster accountability, and build trust among stakeholders.

In public administration, governance, which is associated with many debates ranging from the changing nature of the relationship between the ruler and the ruled to the search for democratization, from improving the service-providing capacity of the state to the rule of law, finds application area at global, national and local spatial scales (Sobacı, 2007). Governance is one of the restructuring tools to ensure that the public sector improves its quality and efficiency by utilizing the power of the private sector and civil society (Nkwede, 2013; Demirel, 2010). Two categories dominate in restructuring these tools. The first focuses on patterns of behaviour - the actual behaviour of firms as measured by performance, productivity, growth, financial structure and treatment of shareholders and other stakeholders. The second concerns the normative framework - the rules by which firms operate, rules that come from sources such as the legal system, financial markets and factor (labour) markets. Both definitions include the concepts of corporate social responsibility and sustainability (Claessens & Yurtoğlu, 2012).

Governance reforms mentioned in Khan's (2007) study refer to strengthening state capabilities to enforce institutional rules that are important for economic and social development. The table below, according to Shah (2004), shows that the incidence of corruption is negatively correlated with the quality of governance. The reforms needed in countries with high or low corruption levels are examples of institutions that need strengthening.

Table 1: Degrees of Corruption and Governance Strategies Implemented by Countries.

Incidence of corruption	Quality of governance	Priorities of anti-corruption efforts			
High	Poor	Establishment of rule of law; strengthening institutions of participation and accountability; establishment of citizens' charter; limitation of government intervention; implementation of economic policy reforms.			
Medium	Fair	Decentralization and reformation of economic policies and public management.			
Low	Good	Establishment of anticorruption agencies; strengthening financial accountability; raising public and official awareness; encouragement of anti-bribery pledges; conduct high-profile prosecutions.			

Source: Shah (2004).

3. Variables and Measurements

3.1. Research Design and Data

This study aims to explain the relationship between corruption and governance indicators on poverty and to make forecasts for the future. It aims to reveal a significant relationship between World Governance Indicators, the Corruption Perception Index and GDP per capita of countries. The reason why the article is based on 2012 is that the Corruption Perception Index (CPI) was rated in the range of 0-10 before 2012 and was updated to be rated between 0-100 after 2012. In order to avoid two different data sets, post-2012 scores (0-100) are included in the analysis. In addition, 157 countries were included in the analysis because the GDP values published by the IMF do not include data for some countries, so 157 countries with GDP data were included in the analysis. The data pool consists of the data of 157 countries between 2012 and 2022. There is balanced panel data since countries with missing indicator data are excluded from the analysis.

The availability of countries' panel data for regression analysis is tested with stationarity, autocorrelation, changing variance and horizontal cross-section dependence assumptions. The Haussman test determines the choice between fixed and random effects models. In addition, the fixed coefficient model is preferred to increase the interpretability of the results. Within the scope of the analysis, 157ⁱ countries with data on all variables are evaluated. The relationship between Gross Domestic Product (GDP)ⁱⁱ, Global Corruption Index (Corruption)ⁱⁱⁱ and Worldwide Governance Indicators (WGI)^{iv} is analysed. The main objective of the research is to investigate the amount and significance of the effect of WGI and Corruption Index values on GDP. The research model established for this purpose is shown in Figure 1.

Governance indicators published by the World Bank have been published since 1996 and have six dimensions: Voice & Accountability (WGI1), Political Stability and Absence of Violence/Terrorism (WGI2), Government Effectiveness (WGI3), Regulatory Quality (WGI4), Rule of Law (WGI5) and Control of Corruption (WGI6). Descriptive statistics of 1727 (11 years x 157 Countries x 8 Variables) observation values of the variables used in the research for the period 2012-2022 are given in Table 2.

Corruption Index

Control of Corruption

Rule of Law

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Figure 1: Research Design

Source: Prepared by the authors.

Table 2: Descriptive Statistics of Variables

Average 15080.11 43.931 48.007 44.208 49.025 50.214 47.821 47.246 Median 5476.744 38 45.894 41.981 47.619 48.815 45.07 43.333 Maximum 134802.3 92 100 99.528 100 100 100 100 Minimum 250.118 11 0.483 0.476 0.943 0.472 0.469 0.474 SD 21130.01 18.874 27.781 25.999 28.733 28.583 28.525 28.466 Skewness 2.181 0.7814 0.225 0.265 0.133 0.109 0.251 0.31 Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932 Total 26043344 75869 82908.12 76346.65 84666.24 86719.64 82586.96 81594.30		_							
Median 5476.744 38 45.894 41.981 47.619 48.815 45.07 43.333 Maximum 134802.3 92 100 99.528 100 100 100 100 Minimum 250.118 11 0.483 0.476 0.943 0.472 0.469 0.474 SD 21130.01 18.874 27.781 25.999 28.733 28.583 28.525 28.466 Skewness 2.181 0.7814 0.225 0.265 0.133 0.109 0.251 0.31 Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932		GDP	Corruption	WGI1	WGI2	WGI3	WGI4	WGI5	WGI6
Maximum 134802.3 92 100 99.528 100 100 100 100 Minimum 250.118 11 0.483 0.476 0.943 0.472 0.469 0.474 SD 21130.01 18.874 27.781 25.999 28.733 28.583 28.525 28.466 Skewness 2.181 0.7814 0.225 0.265 0.133 0.109 0.251 0.31 Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932	Average	15080.11	43.931	48.007	44.208	49.025	50.214	47.821	47.246
Minimum 250.118 11 0.483 0.476 0.943 0.472 0.469 0.474 SD 21130.01 18.874 27.781 25.999 28.733 28.583 28.525 28.466 Skewness 2.181 0.7814 0.225 0.265 0.133 0.109 0.251 0.31 Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932	Median	5476.744	38	45.894	41.981	47.619	48.815	45.07	43.333
SD 21130.01 18.874 27.781 25.999 28.733 28.583 28.525 28.466 Skewness 2.181 0.7814 0.225 0.265 0.133 0.109 0.251 0.31 Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932	Maximum	134802.3	92	100	99.528	100	100	100	100
Skewness 2.181 0.7814 0.225 0.265 0.133 0.109 0.251 0.31 Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932	Minimum	250.118	11	0.483	0.476	0.943	0.472	0.469	0.474
Curtosis 8.214 2.649 1.982 2.044 1.832 1.817 1.896 1.932	SD	21130.01	18.874	27.781	25.999	28.733	28.583	28.525	28.466
	Skewness	2.181	0.7814	0.225	0.265	0.133	0.109	0.251	0.31
Total 260/334/4 75860 82008 12 763/6 65 8/666 2/4 86710 6/4 82586 96 8150/4 30	Curtosis	8.214	2.649	1.982	2.044	1.832	1.817	1.896	1.932
10tal 20043344 73007 02700.12 70340.03 04000.24 00717.04 02300.70 01374.30	Total	26043344	75869	82908.12	76346.65	84666.24	86719.64	82586.96	81594.30

Source: Calculated by the authors.

Equation (1) represents the regression model established within the research scope. Here, GDP is the dependent variable, Corruption Index and WGI indicators are used as independent variables.

$$GDP_{it} = c + \beta_1 Corruption_{it} + \beta_2 WGI1_{it} + \beta_3 WGI2_{it} + \beta_4 WGI3_{it} + \beta_5 WGI4_{it} + \beta_6 WGI5_{it} + \beta_7 WGI6_{it} + \epsilon_{it}$$
 (1)

In Equation (1) is the GDP value of country i at time t as the dependent variable and Corruption, WGI1, WGI 2, WGI3, WGI4, WGI5, WGI6 is used as the explanatory variable. is the vector of dependent variable coefficients and is the fixed variable value. it is the error term of the estimation for sample i at time t.

ⁱ The list of countries is available in the appendix.

ii https://www.imf.org/external/datamapper/NGDPD@WEO/WEOWORLD

iii https://www.transparency.org/en/cpi/2022

iv https://databank.worldbank.org/source/worldwide-governance-indicators

3.2. Empirical Results

The model is tested with a Lagrange Multiplier (LM) test to see whether the data can be pooled or whether there are random effects between the horizontal sections; the results show random effects between horizontal sections. As a result of the Hausman test, it is observed that the horizontal sections are suitable for the fixed effects model. As a result of the Hausman test, the fixed effects model is preferred and it is concluded that the estimators are uncorrelated with the error term; that is, there is no endogeneity problem. As a result of the Chow test for horizontal cross-sections, it is also found that the data are suitable for the fixed effects model. The tests in terms of time dimension were repeated; the LM and Hausman tests conclude that there are random effects and the Chow test concludes that there are fixed effects.

According to LM, Hausman & Chow's tests, fixed effects in the horizontal cross-section and random effects in time were selected as effect specifications in panel data settings. As a result of these selections, the multi-collinearity problem between the variables is tested and it is found that centered Variance Inflation Factors (VIF) values are less than 10. Therefore, the variables have no multicollinearity problem (Kroll & Song 2013; O'brien, 2007). The centered VIF values of variables are shown in Table 3.

Table 3: Variable VIF values

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
Corruption	1412.152	470.552	1.611
WGI1	589.108	234.928	1.315
WGI2	199.167	68.091	1.117
WGI3	415.512	173.232	1.397
WGI4	488.304	213.15	1.298
WGI5	732.707	289.811	1.501
WGI6	515.685	199.854	1.787
С	2726.981	469.217	NA

Source: Calculated by the authors.

The model was subjected to homogeneity tests according to its characteristics. According to Hsiao (1986) and Pesaran & Yamagata (2008), the distribution of slope coefficients is heterogeneous in both homogeneity tests.

Considering data of 157 countries for 11 years, Pesaran's horizontal cross-section dependence tests (2004, 2015) are conducted for the horizontal cross-section dependence of all variables. In both tests, it is concluded that all variables except WGI2 and WGI4 have cross-sectional dependence. WGI2 and WGI4 variables, which do not have horizontal cross-sectional dependence, are found to be stationary at level 1 with the first-generation unit root tests. The other variables are found to be stationary at the first level with the second-generation unit root tests.

According to Bhargava et al.'s Durbin-Watson test (1982) and Baltagi & Wu's Locally Best Invariant (LBI) test (1999), an autocorrelation problem exists. Breusch & Pagan's Lagrange Multiplier test (1979) also shows an inter-unit correlation problem. The modified Wald Test (Greene, 2000) detects a heteroskedasticity problem. Shapiro & Wilk's (1965) normality test showed that the residuals are not normally distributed. Due to the explained characteristics of the regression model, it is decided to use the Panels Corrected Standard Errors (PCSEs) estimation model (Greene, 2018; Ikpesu et al., 2019). Table 4 shows the results of the PCSEs regression model.

Table 4: Prais-Winsten Regression, Correlated Panels Corrected Standard Errors (PCSEs)

GDP	Coef.	St.Err.	t-value	p-value	95% Conf	Interval	Sig	
Corruption	606.44	130.958	4.63	0	349.766	863.113	***	
WGI1	-50.008	26.869	-1.86	.063	-102.669	2.654	*	
WGI2	54.645	15.688	3.48	0	23.898	85.392	***	
WGI3	94.476	24.221	3.90	0	47.004	141.947	***	
WGI4	72.944	24.298	3.00	.003	25.322	120.567	***	
WGI5	99.532	43.967	2.26	.024	13.359	185.706	**	
WGI6	-71.774	60.506	-1.19	.236	-190.363	46.815		
Constant	-20870.602	2310.203	-9.03	0	-25398.517	-16342.687	***	
Mean dependent var			15080.107	SD depend	lent var	21130.009		
R-squared			0.592	Number of obs			1727	
Chi-square			300.111	Prob > chi2	2		0.000	

Source: Calculated by the authors.

Table 4 shows that the explanatory power of the model is 59.2%. Notably, WGI1 and WGI6 variables are insignificant at a 5% significance level. The lower the country's score in the corruption index, the more corruption occurs. Therefore, it means that the higher the score in the corruption index, the higher the GDP is affected. In other words, a strong negative relationship exists between actual corruption and GDP. Among the independent variables, the most significant and positively significant variable is the Corruption Index. It is followed by WGI5, WGI3, WGI4 and WGI2 variables respectively.

4. Findings and Discussion

In this study, the power of corruption and governance indicators to explain poverty is 59.2%. This panel data analysis reveals that there is a strong positive correlation between poverty (GDP) in countries and corruption (CPI) data, which can occur in different types (bribery, fraud, extortion, embezzlement and nepotism, etc.) in public and private sector institutions and organizations, including non-profit aid organizations.

Similar studies comparing rich and low-income countries have shown that weaknesses in governance have an impact on corruption and ultimately lead to poverty. When corruption is

not tackled, productivity and investments decline; hence, capital, economic growth and development tend to decline over time (Poveda et al., 2019; Carballo, 2010; Gültekin, 2015). These studies have proven the correlation between governance, corruption and poverty, which aligns with the negative correlation between corruption and poverty found in this study. According to Chetwynd et al. (2003), lower levels of corruption lead to better governance and significantly affect economic growth. Better governance is associated with lower corruption and lower poverty levels. Empirical evidence in the study by Farooque et al. (2022) showed that indicators of poor governance tend to have higher levels of corruption and lower growth in developing countries.

Asayama (2020) found in his study that the relationship between the first indicator of governance, Voice and Accountability (WGI1), and Poverty (GDP) is insignificant. Voice/Freedom can contribute economically by encouraging innovation in developing countries. The impact of Voice and Accountability on GDP may differ between developed and developing countries.

The findings obtained with the variables examined show that terrorism, political and civil unrest in response to unmet socioeconomic problems lead to socioeconomic problems and the outputs of unemployment, poverty and lack of education due to the loss of economic power continue to turn the wheel of corruption (Animasahun, 2016; Piazza, 2006; Fagbemi & Fajingbesi, 2022; Poveda et al., 2019). The correlation between political stability and absence of violence/terrorism (WGI2) and GDP in this study is also significant, and findings in other related studies support this significant relationship.

The role of governments in improving well-being and quality of life (QOL) is critical because governments have the tools, such as organization, money and public policies, to influence people's well-being. The nexus between the institutional framework of a society and the disparities in pleasure and contentment among nations is quite strong. Furthermore, political institutions are essential for increasing the distribution of both political and economic power, which in turn opens up citizens' access to the market, facilitates education, and leads to greater well-being in society through investment opportunities (Danish & Nawaz, 2022).

In their studies, Mauro (1995) and Çukurçayır et al. (2012) argue that in addition to political stability, an effective government is also important in the fight against poverty and that bureaucratic efficiency helps high investment and growth. The relationship between government effectiveness (WGI3) and poverty (GDP) is also significant.

One of the most powerful weapons in the hands of governments in the fight against poverty is the quality of the legal regulation. In our analysis, the relationship between regulatory quality (WGI4) and poverty is significant and positive. The quality of the regulator, which encompasses all legal/legislative rules in force, is the key to the effective and efficient execution of the practices of public and private sector institutions and organizations of a country by the law.

Law is the mortar that holds all the pillars of governance firmly together. There is a strong and significant relationship between poverty and the rule of law (WGI5). Studies by (Bhagat, 2020; Anjinappa, 2015; Mbaku, 2014), which mention the rule of law in poverty reduction, also support this significant correlation.

The relationship between poverty and control of corruption (WGI6), the last governance indicator in our study is insignificant. In contrast to our findings, Bhagat (2020) and Sekrafi & Sghaier (2018) show that an increase in the level of control of corruption increases level of the GDP. We expect this to be a consequence of the fact that all these indicator data, except poverty data, are perceptual data. Robbins et al. (2013) found that company employees commit more than 85% of theft and fraud in all organizations, which aligns with our findings.

5. Conclusions and Recommendations

Chetwynd et al. (2003) argue that rigorously designed anti-corruption programs can lead to significant results in poverty reduction. The literature also suggests that programs that succeed in reducing corruption can help reduce poverty if they boost economic growth, bring about a fairer distribution of income, bolster the ability and institutions of governance, enhance public faith in the state, and improve government services, particularly in the areas of health and education.

However, the findings of Gong & Xiao (2017) suggest that combatting corruption may be more challenging than anticipated. According to a report by Statistics South Africa, although over than two-thirds of South African households witnessed an increase in corruption in the country, nearly half opted not to report corruption and felt that efforts to do so were pointless. The report highlighted that citizens' responses to suspected corrupt behaviour are a good indicator of their tolerance for corruption. Citizens are more inclined to report suspected occurrences of corruption if they believe it to be unacceptable. Schatz's (2013) study highlights the necessity for radical measures to address the pervasive issue of corruption. It mentions the possibility that even independent horizontal institutions dedicated to combatting corruption may encounter similar challenges. Doig et al. (2007) discuss a similar dilemma in their study, which concerns whether the institutional structure of state institutions in a developing country selected for anti-corruption is corruption confronting or not.

Karakaş (2007), on the other hand, mentioned the importance of organized society as the fight against corruption is a comprehensive phenomenon that the state cannot do alone and that civil society organizations play an important role in making large segments of society aware of the concept of corruption. It was also highlighted that one of the problems in implementation of anti-corruption programs is that operational activities cannot be fully implemented due to inadequate funding and staff idle for long periods, which is not a good experience. General problems of the Government Inspectorate in Uganda include high staff turnover (20% per year), inexperienced staff, lack of cooperation between departments, government non-compliance with the inspectorate recommendations, transportation, and lack of technical expertise. These problems and implementation gaps can negatively affect the success of the fight against corruption.

IFAC also signed the Business to Government Call to Action on the 20th anniversary of UNCAC. With the Call to Action signed by more than 500 businesses, IFAC made recommendations to governments, such as accelerating the effective implementation of UNCAC, increasing transparency and sustainability in public service procurement, supporting collective action, effectively using technology to fight corruption, and promoting ethical leadership (IFAC, 2024).

The concept of freedom of expression refers to the ability of each individual to express their thoughts, ideas and opinions to others freely. As Stapenhurst (2000) points out, a free press, which is central to development, is not a luxury because if you cannot give poor people a voice, if they have no right to expression, if corrupt and unjust practices cannot be addressed, you cannot build the social consensus needed to bring about change.

According to Jones (2002), information and communication technologies (ICTs) also transform the relationship between citizens and governments. All OECD governments are providing increasing amounts of information over the Internet and citizen groups are increasingly using the Internet to influence governments. The importance of transparency can be better understood in light of World Bank data; in Afghanistan, the country's National Procurement Authority (NPA) has been instrumental in developing a transparent procurement system, taking steps to root out corruption to improve the management of public finances and to make the procurement system more transparent. Also, in Mongolia, the World Bank supported the publication of citizen budgets, updated online portals to access expenditure information, and supported government efforts to promote open budgets.

As stated by Türen (2016), in the relationship between corruption and countries' Online Readiness Levels, the appropriate use of information technologies and technical control tools, such as the ability to record commercial and tax transactions instantly and to question them when necessary, can be beneficial in the fight against corruption. E-government applications have increased the perception that states can become transparent and that individuals are important within this system. Information systems are an argument that can be actively used in the fight against corruption. With free media and active and proper use of information and communication technologies, transparency/accountability mechanisms of institutions and organizations can be further strengthened.

In addition, democratization, which means people choosing their own form of government and participating in governance, has promoted more responsible political regimes, a free press, and engaged civic society. Although its ability to reduce corruption is questionable, it has helped bring wrongdoing to light and increase public awareness of the problem in general. Many corruption scandals, for example, in third-world countries such as Korea, Brazil, Venezuela and South Africa, are a global problem, not confined to a single region or political regime (Williams, 1999).

Fagbemi & Fajingbesi (2022) argue that socioeconomic conditions play an important role in political stability and that poor living conditions strongly correlate with the risk of civil conflict associated with violence in Sub-Saharan Africa. However, he recommended that due to the vulnerability of political systems to socioeconomic challenges, policymakers should be aware and conscious of programs to improve the social and economic conditions of the masses to strengthen the effective functioning of governments and political stability by creating improved social welfare for societies.

While the root cause of poverty is primarily economic, it is also influenced by sociological, political, environmental and governance factors which can exacerbate economic corruption. Global corruption and impunity associated with it constitute significant sources of numerous issues affecting the world's poorest and most vulnerable countries and communities worldwide. Through executive authorities, legislatures and courts as well as appropriate inde-

pendent oversight bodies, states must restore and strengthen institutional checks and balances on power, ensuring government transparency and protecting media freedoms. Governments must be responsive to the public, both public institutions and civil society must be vigilant in preventing authoritarian overreach (IACC, 2022).

An artificial intelligence system that can identify 225 red flags of possible fraud in public procurement procedures and potentially lead to cost savings was developed in Brazil with assistance from the World Bank. So far, the system has identified hundreds of high-risk cases, including firms likely to be shell companies, affiliated firms competing with each other, public officials working for the same government agency that awarded the contract, and others (World Bank, 2024). The ISO 37001 Anti-bribery Management Systems Standard is an international framework designed to fight against corruption effectively. Transparency and trust are the building blocks of any organization's credibility. Nothing damages effective institutions and fair trade like bribery, which is why ISO 37001 was created. By providing a global way to address destructive criminal activity where more than a trillion dollars of dirty money circulate yearly, ISO 37001 tackles one of the world's most destructive and challenging problems head-on. It takes a decisive approach to rooting out corruption.

To address the challenges, Nigeria started implementing extensive World Bank-backed Public Financial Management (PFM) reforms. The introduction of cashless policies, Treasury Single Accounts (TSA), the Government Integrated Financial and Management Information System (GIFMIS), the Integrated Personnel Payroll Information System (IPPIS), the Biometric Verification Number (BVN), and other digital efforts are some of these developments. Enhancing public sector efficiency, transparency, and service delivery is the goal (Alhaji & Tanya, 2024).

The 2001 Enron Scandal may be the biggest and most influential example of fraud. It revealed a massive financial fraud and manipulation that impacted the US economy. Public financial governance and IFAC practices can be a safety net to prevent such incidents from recurring. What is clear from these explanations and examples is that by adding technology and international standards to the legal regulator, it is possible to strengthen public financial governance, which is subject to audit at all times, by providing a transparent functioning. A World Bank judiciary project in Kenya aimed at ensuring the rule of law played a pivotal role in establishing an advanced data analytics system. This system is utilized to monitor the performance of courts, judges and court staff. Surveys of court users are used in conjunction with the performance management system, which functions as part of an anti-corruption initiative, to identify and resolve corruption concerns (World Bank, 2024).

Kevin Dancey, CEO of IFAC (International Federation of Accountants), states that corruption in the public sector undermines the quality of public services and the rule of law. This negative impact seriously jeopardizes not just markets and economies but also the level of living in the majority of nations (IFAC, 2024).

Employee theft encompasses a wide range of issues, from corruption (including embezzlement) to the falsification of expenditure documents and the unauthorized removal of software and office supplies from company premises. Control over this process can be achieved through auditing, one of the four functions of management. Managers want to ensure that company secrets are not leaked, so they monitor employees' computers, e-mails and instant mes-

sages. Three types of control mechanisms, namely Forward, Simultaneous and Feedback, can be used by managers to control corruption (Robbins et al., 2013).

To think that corruption is only a commercial and financial issue is to oversimplify the issue. In our article, we have discussed a phenomenon that can affect from infant mortality to the quality of the air we breathe. All of these problems can be corrected with a strict and uncompromising discipline against corruption. Despite the existence of global initiatives such as the United Nations Convention Against Corruption (UNCAC), which has been instrumental in the fight against corruption since its establishment in 2003, eradication of corruption remains a formidable challenge. With strong institutions and National-International Organizations that effectively implement the Indicators of Governance, there is hope for humanity that corruption and poverty can be kept to a minimum.

Conflicts of Interest

The authors declare that they have no conflict of interest.

Declaration of Contribution Rate

The authors have equal contributions.

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