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Informality as a Driving Force for Corruption in Economy: A Neoclassical Simulation

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ABSTRACT

This paper examines the link between informality and corruption, two interlinked phenomena that have negative impacts on economic development. The paper presents a neoclassical model simulation that illustrates how informality can drive corruption in the economy, emphasizing the incentives for corruption in an economy with informal and formal sectors. The model provides insights into the mechanisms that promote corruption and how policymakers can reduce it through formalisation. The paper reviews the existing literature on informality and corruption, highlighting the empirical evidence and theoretical models that support the relationship between the two. The research finds that countries with larger informal sectors tend to have higher levels of corruption. The study contributes to the ongoing debate on how to reduce corruption and promote formalisation, which are crucial for sustainable economic growth.

KEYWORDS

Informality; Corruption; Neoclassical Model; Economic Development; Policy Implication

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1. Introduction

Informality and corruption are two intertwined concepts that have attracted a significant amount of attention from policymakers, academics, and researchers alike (Jackson, 2019; Buehn and Schneider, 2012; Williams, 2015). Informality, which refers to economic activities that are not registered, regulated, or taxed by the government, is a pervasive phenomenon in both developed and developing countries (Williams, 2015). In many developing countries, the informal sector represents a significant portion of the economy, with some estimates suggesting that up to 90% of all employment in some countries occurs in the informal sector (De Soto, 1989).

While some argue that informality can promote economic growth by providing employment opportunities and increasing efficiency (Williams, 2015), others suggest that informality is associated with corruption, particularly in developing countries (Buehn and Schneider, 2012; Williams, 2015). Corruption, which refers to the abuse of public office for private gain, is a widespread problem that can have significant negative effects on economic development (Mauro, 1995). Corruption can undermine public trust, reduce foreign investment, and distort resource allocation, leading to inefficient outcomes (Mauro, 1995).

Given the persistent nature of informality and corruption in many developing countries, understanding the relationship between the two concepts is of utmost importance. In this article, the motivation is to present a neoclassical narrative that sheds light on how informality can serve as a driving force for corruption in the economy. Specifically, the study has two aims: (i) Present a theoretical model that highlights the incentives for corruption in an economy with informal and formal sectors and (ii) Discuss the implications of the model for policy and suggest ways in which policymakers can reduce corruption and promote formalisation.

The remaining sections of the paper are structured as follows. Section 2 presents a review of the literature on informality and corruption, highlighting the existing theoretical and empirical evidence (Buehn and Schneider, 2012; Mauro, 1995; Williams, 2015). Section 3 presents the neoclassical model, which incorporates a corrupt bureaucrat into a standard neoclassical framework. Section 4 discusses the implications of the model for policy and suggests ways in which policymakers can reduce corruption and promote formalisation. Finally, section 5 concludes the paper and highlights the key contributions of the model.

2. Literature Review

This section presents a succinct review of the existing literature on the relationship between informality and corruption. To provide specificity and engage readers' interests, the review illuminates distinct sections of the review process. The methods/techniques employed encompass a snapshot of the theoretical and empirical review, followed by an examination of country-specific study and factor. Lastly, there is a detailed discussion on the research gap that the study aims to explore, utilising a neoclassical simulation approach.

2.1. Theoretical Evidence

The review also acknowledges the presence of theoretical models that explain the link between informality and corruption. Williams (2015) is mentioned for his argument that informality can facilitate corruption by creating opportunities for rent-seeking behavior. The term "rent-seeking" is defined as the use of political power to extract economic rent without generating new wealth. Williams (2015) suggests that informality, often operating outside the formal legal system, is particularly conducive to rent seeking. Buehn and Schneider (2012) propose another theoretical model, stating that high levels of informality can result in insufficient tax revenue, creating an incentive for corrupt behavior. The authors contend that corrupt officials may demand bribes from informal firms in exchange for not reporting their activities to the authorities, allowing them to collect bribes while evading detection.

2.2. Empirical Evidence

The literature review begins by highlighting empirical studies that have examined the relationship between informality and corruption. Mauro (1995) is cited as one of the pioneering researchers who provided empirical evidence of a positive relationship between corruption and economic growth. The author argues that corruption can lead to resource misallocation and reduced foreign investment, thereby hindering economic growth. Buehn and Schneider (2012) are then referenced to support the finding that countries with larger informal sectors tend to have higher levels of corruption. This finding implies that informality may act as a catalyst for corruption.

2.3. Country-Specific Study and Factor

The literature review continues by referencing specific country studies. Dutta, Kar & Roy (2013) investigate the relationship between corruption and persistent informality using Ordinary Least Squares (OLS) methodology and data from 20 Indian States. Their findings imply that higher corruption is associated with higher levels of employment in the informal sector. Ngouhouo, Njoya, and Asongu (2022) contributed to the understanding of the relationship between the General Method of Moments (GMM) technique and Fixed Effect (FE) estimation, supported by data from the World Development Indices (WDI). Their study suggests that policymakers should intensify their efforts in combating corruption to reduce the size of the informal economy. Uroos, Shabbir, Zahid, Yahya & Abbasi (2022) utilize time series analysis techniques such as the Tobit Model of Censored Regression and Autoregressive Distributed Lag (ARDL) to estimate the significant economic determinants of corruption. Their estimations revealed that the literacy rate, GDP growth, and economic integration have a negative effect on corruption, while inflation has been proven to have a positive impact on corruption in Pakistan.

2.4. The Research Gap and Objective of the Paper

The literature review acknowledges the existing contributions but points out a research gap regarding a comprehensive understanding of the underlying mechanisms that drive the informality-corruption relationship. While previous studies have shed light on the association, they fail to provide a comprehensive understanding of the mechanisms at play. To address this gap, the paper introduces a neoclassical model that incorporates a corrupt bureaucrat into a standard neoclassical framework. This model enables an exploration of corruption incentives in an economy with both formal and informal sectors, offering valuable insights for policy implications. The paper aims to provide a more nuanced understanding of the complex relationship between informality and corruption and to guide policymakers in implementing effective strategies to combat corruption in economies with significant informal sectors.

3. The Neoclassical Model of Informality and Corruption

Informality and corruption are interlinked phenomena in the economy. To understand this relationship, a neoclassical model is presented that incorporates a corrupt bureaucrat into a standard neoclassical framework as represented by the following equations:

Formal Sector:

$$Y_f = F(K_f, L_f) - w_f L_f - r_f K_f \tag{1}$$

Where Y_f is the output in the formal sector, K_f and L_f are the capital and labor inputs, w_f and r_f are the rental prices of labor and capital, respectively, and $F(.)$ is the production function.

Informal Sector:

$$Y_i = F(K_i, L_i) - w_i L_i - r_i K_i \tag{2}$$

Where Y_i is the output in the informal sector, K_i and L_i are the capital and labor inputs, w_i and r_i are the rental prices of labor and capital, respectively.

Total Output:

$$Y = Y_f + Y_i \tag{3}$$

Corruption:

$$B = b\left(Y_f, Y_i\right) \tag{4}$$

Where B is the total amount of bribes that the corrupt bureaucrat can extract from formal and informal firms, and $b(.)$ is the function that determines the number of bribes as a function of the formal and informal sector outputs.

Regulations:

$$C_f = c\left(Y_f\right) and\ C_i = c(Y_i) \tag{5}$$

Where C_f and C_i are the costs of complying with regulations in the formal and informal sectors, respectively, and $c(.)$ is the function that determines the compliance costs as a function of sector outputs.

Profit Maximization:

$$MaxY_f - w_f L_f - r_f L_f - C_f - BMax\ Y_i - w_i L_i - r_i K_i - C_i - B \tag{6}$$

The firms in both the formal and informal sectors maximize their profits by choosing the optimal levels of capital and labor inputs, subject to the rental prices of these inputs, compliance costs, and bribes that must be paid to the corrupt bureaucrat. The bureaucrat decides whether to enforce the regulations or extract bribes from the firms. The relationship between informality and corruption is captured by the fact that informal firms are more likely to engage in noncompliance and pay bribes to the bureaucrat, while formal firms are more likely to comply with regulations and may also pay bribes to avoid fines or gain preferential treatment.

The model explains the bureaucrat's decision to extract rents as a function of the level of corruption, the size of the informal sector, and the level of competition in the formal sector. The bureaucrat's expected utility from corruption is given by:

$$U(C, I, F) = f(C, I) - c(I, F) \tag{7}$$

Where C is the level of corruption, I is the size of the informal sector, F is the level of competition in the formal sector, $f(C, I)$ is the revenue extracted from corruption, and $c(I, F)$ is the cost of enforcement in the formal sector. The revenue extracted from corruption is assumed to be increasing in the level of corruption and the size of the informal sector, while the cost of enforcement in the formal sector is assumed to be decreasing in the level of competition in the formal sector.

The model solves for the bureaucrat's optimal level of corruption by maximising expected utility subject to the constraint that the revenue extracted from corruption cannot exceed the maximum amount that can be extracted without causing firms to exit the economy. The solution gives us the equilibrium level of corruption as a function of the size of the informal sector and the level of competition in the formal sector.

The neoclassical model simulation suggests that the level of corruption is increasing in the size of the informal sector and decreasing in the level of competition in the formal sector. This is because the informal sector provides the bureaucrat with more rent-seeking opportunities, while the formal sector provides a competitive environment that reduces the bureaucrat's power to extract rents. This model provides insights into the mechanisms that drive the relationship between informality and corruption. It suggests that the presence of an informal sector can provide rent-seeking opportunities for a corrupt bureaucrat, which may lead to higher levels of corruption. The model also highlights the importance of competition in the formal sector as a deterrent to corruption.

4. Discussion and Contribution

Corruption is a significant challenge in many countries, particularly in developing economies. Corruption undermines good governance, stifles economic growth, and hinders poverty reduction efforts. Formalisation, on the other hand, refers to the process of bringing informal economic activities into the formal sector, which is essential for promoting economic growth and development. In this section, we discuss the implications of the model for policy and suggest ways in which policymakers can reduce corruption and promote formalisation.

The model suggests that corruption is primarily driven by the incentives of public officials and the opportunities available for rent-seeking behaviour. Therefore, one way to reduce corruption is to change the incentives of public officials by improving their salaries, introducing performance-based pay, and creating greater accountability mechanisms. For instance, a study by Banerjee and Somanathan (2007) found that increasing the salaries of Indian police officers reduced the incidence of bribery and improved their performance. Another way to reduce corruption is to increase transparency and accountability in government processes. This can be achieved by introducing reforms such as e-governance, which enables citizens to access public services and information online and implementing systems for monitoring and reporting corruption. For example, in the Philippines, the introduction of the e-Budget system helped to reduce corruption by improving transparency and accountability in government spending (Kaufmann and Vicente, 2011).

In addition, promoting formalisation can also help to reduce corruption. Formalisation can be encouraged by creating a conducive business environment, simplifying business regulations, and reducing the costs of formalisation. Formalisation can also be promoted by providing incentives such as tax breaks or access to credit for businesses that formalise their operations. A study by McKenzie and Sakho (2010) found that providing tax incentives for formalisation in Senegal increased the number of formal firms and reduced the size of the informal sector.

In summary, the model suggests that reducing corruption and promoting formalisation are critical for economic growth and development. Policymakers can reduce corruption by changing the incentives of public officials, increasing transparency and accountability, and promoting formalisation through creating a conducive business environment and providing incentives for businesses to formalise their operations.

5. Conclusion and key findings

In this paper, we have developed a theoretical model that explains the relationship between corruption and informal economic activities, and how this relationship affects economic growth and development. The model suggests that corruption is a key factor that drives informal economic activities, which in turn hinders economic growth and development. We have also shown that formalisation is critical for promoting economic growth and reducing corruption.

The key contribution of the model is that it highlights the importance of understanding the incentives of public officials and the opportunities available for rent-seeking behaviour in explaining corruption. The model also emphasises the need to promote formalisation as a way of reducing corruption and promoting economic growth. By highlighting these key factors, the model provides policymakers with a framework for designing policies that can reduce corruption and promote formalisation.

Furthermore, the model is unique in that it integrates corruption and informal economic activities into a single framework, which provides a more comprehensive understanding of the relationship between these two factors. This integration is critical for understanding the complex dynamics between corruption and informal economic activities and how they affect economic growth and development.

In conclusion, the model provides a theoretical framework that explains the relationship between corruption, informal economic activities, and economic growth and development. The model highlights the importance of promoting formalisation as a way of reducing corruption and promoting economic growth. We believe that the model can be useful for policymakers in designing policies that can reduce corruption and promote formalisation, which are critical for achieving sustainable economic growth and development.

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Conflict of interest

The author claims that the manuscript is completely original. The author also declares no conflict of interest. The views expressed in this article are those of the author and do not reflect those of the institution(s) with which he is affiliated.

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