

Why Institutional Corruption Matters Most: Exploring Causes and Effects on Crime from a Global Perspective

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Abstract

The growing literature on crime rates shows institutional trust is both causes and effect of crime, particularly when we refer to public sector corruption. A conclusion that largely builds on literature measures of crime, corruption, and institutions raises questions of endogeneity among models. To cater to that we have used GMM over global panel data. The lack of trust in institutions and increases in public sector corruption is critical in that it affect the crime rate and vice-versa. After disaggregating the major concepts, this article empirically explores the interaction of institutional trust and economic growth while linking crime. We conclude that trust in institutions and corruption is a major theoretical, as well as empirical contributor to crime. Whereas, crime and life expectancy are significant contributors to public sector crime. Our results further suggest that rooting out the crime rate and public sector corruption is not a function of an increase in national incomes but requires an in-depth analysis such as by introducing an interaction term between growth and institutions trust exhibit interest results.

Keywords: *Crime, Corruption, Growth, Institutions, Simultaneity Bias, GMM.*

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1. INTRODUCTION

Crime and corruption may not be treated as the same and we propose that they have bi-directional impacts on each other (Budiman, 2006; Gaviria, 2002; Kishor & Damania, 2007; Porter & Warrender, 2009). Corruption in broader terms is dishonesty with or without falling into the category of a criminal offense (Olsen et al., 2019). On the other hand, corruption fuels conflicts, unrest, and crime (Passas, 1998). Later, higher rates of crime further exacerbate corruption. The vicious cycle continues to form provided the institutional structure is weak.

Existing literature on the subject of earning differentials, corruption, and crime linkages has heterogeneous predictions on how the former affects the latter. Offenders consider cost and benefit before committing any crime or indulging in corruption. People may ignore the costs of crime and corruption if they face difficulty in having the necessary assets for their endurance (Hooghe et al., 2011; Patterson, 1991). However, the relationship may not always exist such as crime and corruption may not depend upon the gains to maintain the necessities of life.

Income crime nexus suggests that the poor often exploit the rich, when the earning differentials are large, by committing crimes out of their hatred, jealousy, or injustice to acquire equitable employment opportunities as a rich class. On the side of corruption, they may opt out of greed and escape criminal punishments. Simply put, with the rise in per capita incomes, comes development, but at the cost of crime and corruption if the institutional structure is particularly weak (Radzinowicz & King, 1977). Such a phenomenon is more prevalent in the developing and underdeveloped world. The institutional structure is embedded in the formal rules and informal norms. Where, weak institutional structure is characterized by the presence of corruption, nepotism, and higher rates of crime in countries characterized by exclusive political and economic institutions (Andreescu, 2011; Hargadon & Douglas, 2001; Ogilvie & Carus, 2014).

Much of the literature is suggestive of the positive associations between poverty, income inequalities, and crime and both types (Calderón & Valero Gil, 2012; Hannon, 2002; Hipp & Yates, 2011; Hooghe et al., 2011). Criminals also escape the bars if the public sector is corrupt by influencing them with political pressures or bribing them. This also weakens people's trust in institutions. Trust in institutions is both cause and effect for corruption and crime. Crime causes unwanted situations at governmental and political levels which affects trust in public institutions (Blanco, 2013). On the same lines, corruption in the public sector further shakes people's confidence in institutions resulting in increased crime (Kugler et al., 2005). This effect is also seen in people's voting patterns for the elections or engaging in politics. It may have severe economic consequences as well, such as avoidance of paying taxes, which is the primary source of revenue collection (Madni, 2017; Madni et al., 2019).

After the effects of income differences, the age and crime nexus is one of the most concrete linkages explored within the field of criminology (Farrington, 1986). At the macro-level, a similar effect be captured by life expectancy (Dunkel et al., 2013; Hamidi et al., 2018; Roth, 2009; Tremblay, 1986). It's been generally believed with

more to live, more will be a person's potential future utility, provided that there will be more time in the future to consume, save, or invest. This can make a person outcast the costs of crime and plan to accumulate wealth while considering long-run benefits over the short run. On the other hand, if the associations of life expectancy are positive with crime and corruption, this is suggestive that if people expect to live longer, they accumulate wealth, and to do so, they even choose to engage in bribery and corruption irrespective of their costs.

Although much has been said on the subject of crime the issue is still a hot debate owing to increased rates of criminal acts and corruption in countries that have weak institutional structures. The efforts are directed towards designing and implementing such policies that can help in curtailing the crime rates along with corruption, particularly public sector corruption which affects trust in institutions. This requires the comprehensive selection of determinates of crime and corruption as a hostile environment categorized by a growing crime rate can affect the ability of a country to achieve higher economic growth. Not only that, many of the crime models do develop the linkages between crime and institutional quality, but those measures do not represent deep institutions. In such regards, a better measure of deep institutions is trust in institutions. This study will provide a deep understanding of crime and public sector corruption nexus, while considering the impacts of institutional trust, particularly in the context of global data of 166 countries. Moreover, the linkages of education, economic growth, and life expectancy, are also considered as one of the major determinants towards crime. The same effect has been checked for violent and property crime independently. Using an interaction term, built through the multiplicative term of crime with economic growth, we aim to look into its determinants in a more concrete setting. The study will hopefully provide insights into policy frames while drawing results from a large global data set.

2. LITERATURE REVIEW

This section is based on the review of previous studies related to institutional corruption and crime. Croci (2025) explored the effect of effectiveness and corruption on crime. He found that the criminal justice system is the key factor for corruption which finally leads to crime in society.

Weeden and Pamment (2024) found that institutional corruption is the cause of corruption and crime. They found that the criminal justice can dominate the public response with some historical observation. Also concluded that economic corruption and institutional corruption increase the inequalities in societies. The issue of corruption (particularly taking the case of/within white-collar crime) has been extensively studied and is an important element when we talk about institutional quality. Kelmendi (2024) highlights the challenge of detecting and addressing white-collar crime; which is closely linked to organized institutional crime. The paper discusses how corruption often extends beyond bribery; as it involve highly organized groups that complicate the legal process. This complexity makes it further more difficult for law enforcement agencies such as courts and police to investigate and prosecute; and the low rate of proof in corruption cases further hinders efforts. Kelmendi also carefully identifies a significant research gap

in the lack of a single definition for corruption. As well as, the weak methodologies to detect and prevent such crimes. The study concludes that stronger enforcement frameworks and clearer definitions are necessary (pre-requisite) for embark upon the institutional corruption.

Similarly, Streicher et al. (2023) explores the impact of corruption on economic growth and sustainable finance. This paper the discretionary power of public officials, economic rent extraction, and weak institutions, which may contribute to fostering corruption. Streicher points out the need for deeper research into the interplay between different pillars of institutions including the political, bureaucratic, judicial, and economic institutions in combating corruption. We find that the literature so far, has often overlooks the relationship between strong institutions and sustainable finance, particularly in terms of adherence to environmental or ecological, social, and governance (ESG) standards. This research papers, however, aims to fill this gaps by emphasizing the importance of strengthening institutions to promote transparent, as well as, sustainable financial practices.

Schulz et al. (2023) provides an in detail exploration of corruption (emerging because of weak institutional structures), which is defined as actions by individuals or groups that hinder a social institution from fulfilling its intended function. Schulz's research utilizes Presentist Social Functionalism (PSF) to explain the functions of social institutions and their role in corruption. This research paper highlights the need for a clearer understanding of institutional corruption; which has only recently gained attention in research. The authors suggest that previous studies may not have fully addressed the complexities of institutional corruption and proposes a functionalist approach to further examine its implications.

Chatterjee and Ray (2014) investigate the relationship between criminal behavior and corruption across a panel of countries (Chatterjee & Ray, 2014). Using cross-country data, their study identifies significant demographic differences in the exposure to crime and corruption, such as gender, age, and location (which serves as important control variables). The study introduces an ordered Probit model (O-Probit) to estimate the outcomes of crime and bribe victimization.

This study also addresses the gap in existing research, which has often lacked datasets that provide simultaneous information on both crime and corruption. Their findings suggest that further exploration of individual characteristics and institutional factors is necessary for understanding the full extent of these behaviors.

Previously, Chatterjee and Ray (2013) focused on the interplay between crime and corruption, but this time emphasize the economic and institutional factors that contribute to these illegal activities. The paper presents the first empirical analysis of the relationship between crime and corruption, including their effects on economic growth rates (economic development). This research fills a significant gap in the literature by offering a comprehensive analysis of how various factors, such as income, education, and the strength of legal systems; may influence crime and corruption. Despite this, the study notes that no definitive link has been established between corruption and negative growth, indicating a need for further

investigation in this area.

Chatterjee and Ray (2009) extend their analysis of crime and corruption to investigate the effects of economic factors on these behaviors, highlighting the significance of legal systems and social institutions. Their study reveals that as countries become wealthier, the prevalence of crime and corruption tends to decline. However, the study also emphasizes the need for advanced models that consider individual-level data and macroeconomic indicators to deeply understand the dynamics of crime and corruption.

Cruz (2021) approaches the issue from a macro-level perspective, utilizing Institutional Anomie Theory (IAT) to further examine the relationship between corruption and homicide in OECD countries (Cruz, 2021). His study employs a fuzzy-set qualitative comparative analysis, revealing how institutional factors contribute to criminal phenomena. Cruz identifies gaps in existing research; particularly in terms of macro explanations of crime and the role of institutional anomie in explaining the relationship between corruption and homicide. His work suggests that previous studies have overlooked the implications of institutional anomie theory in understanding criminal behavior.

In the context of Nigeria, Chimezule (2015) investigates the role of institutions in combating corruption and financial crimes (Chimezule, 2015). The research highlights the need to strengthen institutions like the Nigerian Police and the judiciary to address the challenges posed by corruption and financial crimes. Chimezule identifies several gaps in the current system, such as inadequate funding, lack of proper training, and insufficient public awareness. The paper calls for a more holistic approach that combines strict enforcement with fostering ethical standards and community engagement.

Darmawati (2020) focuses on corruption in correctional institutions, proposing specialized guidance for inmates convicted of corruption (Darmawati, 2020). The paper emphasizes the need for a classification system that distinguishes corrupt inmates from general prisoners, a gap that has not been adequately addressed in existing research. The study suggests that there is a need for clearer indicators to evaluate the rehabilitation of corrupt inmates, which is currently underexplored in correctional practices.

The relationship between organized crime and corruption in the context of liberalized foreign investment policies is analyzed in a study by a team of researchers (2023). The paper presents a four-stage game-theoretic model to examine the strategic interactions among political parties, incumbent firms, and potential entrants, with an emphasis on how foreign capital inflow can exacerbate corruption and crime (2023).

The study identifies a gap in the literature regarding the role of foreign investment in shaping corruption and organized crime dynamics, offering new insights into the impact of global economic policies on domestic crime. The research gaps identified in the studies reviewed highlight several important areas that require further exploration. Many of these studies point out the lack of comprehensive frameworks

to understand the complex relationship between crime, corruption, and institutional factors, especially concerning how institutional trust and corruption interact. Previous research often struggled with defining institutional corruption and its impact on economic growth, while also neglecting the nuanced role of individual and institutional characteristics in influencing crime rates (Kelmendi, 2024; Chatterjee & Ray, 2014). Additionally, several studies faced methodological limitations, particularly in addressing the endogeneity between crime and corruption, with some lacking comprehensive datasets or failing to employ models that account for these complex relationships (Chatterjee & Ray, 2009; Streicher, 2023). This study overcomes these gaps by using the Generalized Method of Moments (GMM) on global panel data to address endogeneity concerns. It also provides a more in-depth analysis of the interaction between institutional trust, economic growth, and crime, disaggregating major concepts and introducing an interaction term between growth and institutional trust. This approach offers a more robust theoretical and empirical framework, filling the gaps left by previous research in understanding how corruption, institutional trust, and crime are interconnected (Schulz, 2023; Cruz, 2021).

2.1 Theoretical Framework & Final Model

The most prominent and first contribution to the field of “economics of crime” was by Gary Becker (1968). While developing the crime model, he considered the economic activities with externalities, and punishment was taken as taxation. However, despite his huge contribution to the field, his model has a few drawbacks. The first is that the allocation effect of theft and fraud are not completely understood. Especially how corruption may be a cause and effect of crime is not discussed. Moreover, his model presents microeconomic solutions, rather than macroeconomic analysis. Considering shortcomings in Becker’s model, we develop a model of crime using comparatively recent literature (Garoua, 2014);

$$Crime_{it} = \alpha + \beta_1 x_{1it} + \beta_2 x_{2it} + \dots + \beta_k x_{nit} + e_{it} \dots (1)$$

In equation (1), the dependent variable measures recidivism or criminal activities (crime), whereas the independent variables include its determinants *such as* x_1 , x_2 , ... x_n , the “ β ” shows the parameter that would vary in the presence of independent variables. The subscript “t” is known years or period of time and subscript “i” may vary with different cross-sections or countries. The error term “ e_{it} ” denotes unobserved transitory shocks. We expand the combined parameter for independent variables “ x_n ” to include the impact of its determinants that can affect crime in macroeconomic theoretical settings. Institutions, formal or informal, play a critical role in determining crime rates, and economic development (Blanco & Ruiz, 2013; Blanco, 2013; Corbacho et al., 2015; Gordy, 2004; Meier et al., 2016; Singer et al., 2019). The stronger the institutions, the more will people have trust (IT) in them. In such settings, equation (1) forms equation (2)

$$Crime_{it} = \alpha + \beta_1 IT_{it} + e_{it} \dots (2)$$

The literature proposes that economic growth or gross domestic product per capita (GDP) is a key variable in explaining crime (Cárdenas & Roza, 2008; Detotto &

Otranto, 2010; Goulas & Zervoyianni, 2013, 2015; Islam, 2014; Radzinowicz & King, 1977). Crime levels may differ with overall adult literacy (Educ), the same may affect corruption (Bell et al., 2022; Buonanno & Leonida, 2006; Ehrlich, 1975; Fella & Gallipoli, 2014; Groot & van den Brink, 2010; Hjalmarsson & Lochner, 2012; Lochner, 2020; Lochner & Moretti, 2004; Machin et al., 2011). Moreover, Crime levels vary with age or life expectancy (Life) (Farrington, 1986; Hirschi & Gottfredson, 1983). Whereas, the major focus of our research is to see how corruption affects crime rates. Incorporating the above linkages, the following equation (3) can be formed;

$$Crimeit = \alpha + \beta_1 ITit + \beta_2 GDPit + \beta_3 EDU it + \beta_4 LIFE it + \beta_5 Corrit + eit \dots (3)$$

Countries with higher GDP per capita have different levels of trust in their institutions, which can have different impacts on economic growth if both are considered as interaction terms (interaction), which forms the final equation (4) for the first model of crime;

$$Crimeit = \alpha + \beta_1 ITit + \beta_2 GDPit + \beta_3 EDU it + \beta_4 LIFE it + \beta_5 Corrit + \beta_6 Interaction it + eit \dots (4)$$

Equation (5) analyzes if crime also affects corruption, particularly public sector corruption (Corr). Criminals usually take refuge by opting to bribe public sector employees, which encourages them to engage in crime in later life too (Budima, 2006; Kishor & Damania, 2007; Passas, 1998). Other common factors from the first model that can impact corruption, include education, life expectancy, institutional trust, interaction, and GDP (growth).

$$Corrit = \alpha + \beta_1 ITit + \beta_2 GDPit + \beta_3 EDU it + \beta_4 LIFE it + \beta_5 Crime it + \beta_6 Interaction it + eit \dots (5)$$

3. DATA

The data is taken from World Development Indicators (WDI), wave 6, and wave 7 from the world value survey (WVS) and Legatum institute. Fifteen years from 2007 to 2021 are utilized for a panel of 166 countries. The list of countries is attached in the appendix.

4. RESULT

There exist several differences between the triangular nexus of the economics of crime, trust in institutions and corruption. Although, the relationship between them has grown in parallel fashion but has hardly traversed. Literature concerns the adverse consequences of corrupt behavior and growing criminal acts but there are variances in the motivation of the research on this triplet phenomenon. In this section, we present the results of determinants of crime (Table 1) using the system GMM, particularly by focusing on trust in institutions, interaction terms, and importantly corruption. Table 2 given below shows the results of determinants of

corruption using the system GMM, particularly by focusing on trust in institutions, interaction terms, and importantly crime. Furthermore, both tables conduct sensitivity analysis to further validate the results. Table 3 concludes the results of both tables by giving an even clearer picture of how they differ in each model.

Table 1: Determinants of Crime & Sensitivity Analysis

	(1)	(2)	(3)	(4)
Dep: Crime	Final	Exclude	Exclude	Exclude
	Model	life expectancy	Education	Controls
L.crime	0.696***	0.699***	0.692***	0.695***
	(0.0239)	(0.0227)	(0.0240)	(0.0227)
L2.crime	0.251***	0.250***	0.253***	0.251***
	(0.0249)	(0.0246)	(0.0252)	(0.0247)
GDP	-0.172	-0.214	-0.194	-0.232
	(0.291)	(0.274)	(0.294)	(0.278)
IT	-0.0629***	-0.0631***	-0.0679***	-0.0681***
	(0.0142)	(0.0142)	(0.016)	(0.014)
Interaction	0.0103*	0.0105*	0.0110*	0.0112*
	(0.00603)	(0.00596)	(0.00594)	(0.00590)
Corr	4.572***	5.003***	4.812***	5.247***
	(1.340)	(1.063)	(1.360)	(1.063)
Educ	-0.0349	-0.0621		
	(1.928)	(1.934)		
Life	0.0635		0.0643	
	(0.125)		(0.128)	
Constant	4.944**	5.822***	5.216**	6.099***
	(2.380)	(1.768)	(2.219)	(1.372)

Observations	2,158	2,158	2,158	2,158
Number of id	166	166	166	166
AR1	0.0	0.0	0.0	0.0
AR2	0.2	0.2	0.2	0.2
Hansen	0.254	0.272	0.279	0.279

Standard errors in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Columns 1, 2, 3, and 4 of Table 1 differentiate based on the exclusion of life expectancy, education, and all control variables, respectively, which may determine the crime rate. The sensitivity analysis shows that the significance and direction of variables do not alter. On the same pattern, columns 1, 2, 3, and 4 of Table 2 differentiate from each other based on the exclusion of education, life expectancy, and all control variables, that determine corruption. The sensitivity analysis for Table 2 also shows that the significance and direction of variables are consistent in the presented four models.

Table 2: Determinants of Public Sector Corruption & Sensitivity Analysis

Dep: Corr	(1) Final Model	(2) Exclude education	(3) Exclude life expectancy	(4) Exclude Controls
L.Corr	0.816*** (0.00771)	0.817*** (0.00793)	0.838*** (0.00743)	0.840*** (0.00728)
L2.Corr	0.157*** (0.00683)	0.158*** (0.00683)	0.153*** (0.00705)	0.153*** (0.00682)
Constant	-0.0394***	-0.0345***	0.000771	0.00207

	(0.0105)	(0.0106)	(0.00843)	(0.00616)
GDP	-0.0436***	-0.0449***	-0.0438***	-0.0451***
	(0.0127)	(0.0111)	(0.0119)	(0.0118)
IT	-1.83e-05	-3.89e-05	-1.27e-05	-2.66e-05
	(6.09e-05)	(6.15e-05)	(5.04e-05)	(4.96e-05)
Interaction	5.95e-05***	6.06e-05***	3.89e-05**	4.11e-05***
	(1.73e-05)	(1.47e-05)	(1.55e-05)	(1.51e-05)
crime	0.00014***	0.00013***	0.00019***	0.00018***
	(3.73e-05)	(3.85e-05)	(3.72e-05)	(3.56e-05)
Life	0.00267***	0.00261***		
	(0.000372)	(0.000385)		
Educ	0.00284		-1.17e-06	
	(0.00644)		(8.06e-05)	
Observations	2,158	2,158	2,158	2,158
Number of id	166	166	166	166
AR1	0.0	0.0	0.0	0.0
AR2	0.57	0.56	0.70	0.70
Hansen	0.348	0.385	0.657	0.657

Standard errors in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Table 3 is drawn from the results of column 1 of both Table 1 and 2, presenting the comparisons between final models of equation 4 (determinants for the crime) and equation 5 (determinants of corruption), respectively. The first interesting and important result is corruption and crime nexus, both are significant causes and effects of each other. Model 2 (Table 3) indicates that an increase in criminal activities may catalyze corruption in a country. Crime can reduce a victim's wealth and can affect his current and future earning abilities. Such is more relevant when the crime is property crime as it snatches away one's source of earnings. This can expose them to an increased demand for bribery. Interestingly, another explanation of such comes from Kugler et al. (2005). If criminal activities rise in an economy, the organization will try to hide its criminal activities by increasing bribery spending. It will be no wonder that those areas that have higher rates of crime, will also have higher corruption incidence. We find that more corrupt countries, will also have higher rates of criminal activities (Table 3; Model 1). Victims of crime are more prone to corruption in such settings. Secondly, Criminals may bribe the

public sector to escape from bars, this not only increases victims' demand for public service but also weakens the institutions and their trust (Hunt, 2007). Our results from Table 3 (Model 1) are also affirmative that if people have trust in institutions, reflecting the existence of strong institutional structure, as a key determinant of inclusive economic growth (Aslam, 2020; Aslam et al., 2021; Aslam & Zulfiqar, 2016; Qamar et al., 2020; Zulfiqar et al., 2016). Meanwhile, a stronger institutional structure results in significantly lowering or controlling crime (Table 3; Model 1).

With higher levels of income (measured by GDP per capita), the crime rate and corruption both decrease (Table 3). Interestingly, with an increase in education, the crime rate is lowered, however, education increases corruption in a country (Aslam et al., 2017). However, the impact of education and GDP is not significant in both models. The increased criminal activities will eventually affect the pace of inclusive growth. It is important to mention here that crime is not specific to just killings, fraud, or theft, but corruption is also a form of economic crime irrespective of whether punishments are given or not. Corruption weakens the growth process, as well as, explains the institutional structure that can affect the development process (Aslam, 2020; Aslam & Farooq, 2019; Aslam et al., 2021; Aslam & Shabbir, 2019; Aslam & Zulfiqar, 2016; Farooq et al., 2019; Qamar et al., 2020; Raza & Aslam, 2020; Zulfiqar et al., 2016, 2017). An increase in corruption and crime will impact the market structure while distorting the price levels, resulting in a decrease in value addition of economic growth (GDP).

Lastly, the expectation of living a longer life may increase the crime rate, however, the impact is insignificant (Table 3; Model 1). Whereas, the impact is the significance of life expectancy positively influences corruption (Table 3; Model 2). If there are more years to live, it will increase potential future utility as a person may perceive that there is ample time to save and invest for the future. Several years are more to live, it can perhaps increase a person's potential future utility, provided that there will be more time in the future to consume, save, or invest. However, on the other hand, a person may choose to indulge in bribery and criminal activities in pursuit of gaining more wealth irrespective of how and where it is coming from.

Table 3: Public Sector Corruption and Crime Nexus

	(Model 1) Dep: Crime	(Model 2) Dep: Corruption
GDP	Insignificant & Negative	Insignificant & Negative
Institutional trust	Significant & Negative	Insignificant & Negative
Interaction	Significant & Positive	Significant & Positive
Corruption/Crime	Significant & Positive	Significant & Positive
Education	Insignificant & Negative	Insignificant & Positive
Life Expectancy	Insignificant & Positive	Significant & Positive

Other interesting results are acquired from the interaction term, which is significant and positive for both models of crime and corruption. Considering Model 1 at first, we observe that alone income levels (GDP) don't significantly affect the crime rate, however, its interaction term with institutional trust can significantly affect the rate

of crime. On the other hand, in model 2, both GDP and institutional trust do not significantly contribute towards corruption, but their combined effect has a significant say. It is important to mention here that the signs of interaction terms are complex to interpret and require caution while interpreting. Equation 1 and 2 corroborates the existence of a complementary effect of economic growth with the interaction of institutional trust while determining for effect on crime and corruption. The interpretation of the complementary effect of the interaction term is derived from the studies of Amable et al. (2011); Aslam (2020); Boso et al. (2012); Buer et al. (2021); Morin et al. (2011); Song et al. (2005).

5. CONCLUSION

We attempt to bridge the gap between institutional trust, crime, and corruption and provide a comparison between their determinants and effects on each other while considering two models of crime and growth. Earlier studies have looked at the impacts of crime and corruption separately, unlike the, we develop a model to see if both are bi-directional. While using the panel system GMM technique for 166 countries over fifteen years, we provide a novel contribution to the existing literature. The results from interaction terms in both models of corruption and crime corroborate the existence of a complementary effect of each other. The principal results suggest that corruption and crime, both are significant causes and effects of each other. The role of institutional trust is to act as a protective mechanism against bribery and criminal activities. Meanwhile, rising income levels and higher education levels have an individual's reduced exposure to crime. Although increasing income levels control bribery but increase in education results in more corruption. Such results are owing to the weak institutional structure. A stronger institutional structure ensures a happier and more developed society, which eventually will curtail the incidence of crime and corruption.

To our knowledge, there has been no significant study that has made previous attempts to study the link between trust in institutions, life expectancy, crime, and corruption in a unified framework, while also looking for complementary effects of institutional trust and growth. We suggest that a stronger institutional structure, accompanied by higher economic growth levels will significantly curtail the levels of crime and corruption. Moreover, if the institutional structure is strong, it will eventually discourage people from bribery and crime, thus the impact of life expectancy in both models may also show a different picture. Lastly, although education has a positive relation to corruption, it doesn't signify that education will result in corruption. In such regards, a strong institutional structure with transparent checks and balances can add to the argument. Resultantly, the focus should rely on increasing education levels for reducing crime and corruption, while also improving institutional trust.

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Appendix**Table A1: List of countries and Frequencies**

country	Freq.	country	Freq.	country	Freq.	country	Freq.
Afghanistan	15	Côte d'Ivoire	15	Jordan	15	Panama	15
Albania	15	Democratic Republic of Congo	15	Kazakhstan	15	Papua New Guinea	15
Algeria	15	Denmark	15	Kenya	15	Paraguay	15
Angola	15	Djibouti	15	Kuwait	15	Peru	15
Argentina	15	Dominican Republic	15	Kyrgyzstan	15	Philippines	15
Armenia	15	Ecuador	15	Laos	15	Poland	15
Australia	15	Egypt	15	Latvia	15	Portugal	15
Austria	15	El Salvador	15	Lebanon	15	Qatar	15
Azerbaijan	15	Equatorial Guinea	15	Lesotho	15	Romania	15
Bahrain	15	Eritrea	15	Liberia	15	Russia	15
Bangladesh	15	Estonia	15	Libya	15	Rwanda	15
Belarus	15	Eswatini	15	Lithuania	15	Saudi Arabia	15
Belgium	15	Ethiopia	15	Luxembourg	15	Senegal	15
Belize	15	Finland	15	Madagascar	15	Serbia	15
Benin	15	France	15	Malawi	15	Seychelles	15
Bolivia	15	Gabon	15	Malaysia	15	Sierra Leone	15
Bosnia and Herzegovina	15	Georgia	15	Mali	15	Singapore	15
Botswana	15	Germany	15	Malta	15	Slovakia	15
Brazil	15	Ghana	15	Mauritania	15	Slovenia	15

				nia			
Bulgaria	15	Greece	15	Mauriti us	15	Somalia	15
Burkina Faso	15	Guatemala	15	Mexico	15	South Africa	15
Burundi	15	Guinea	15	Moldov a	15	South Korea	15
Cabo Verde	15	Guinea- Bissau	15	Mongol ia	15	South Sudan	15
Cambodia	15	Guyana	15	Monten egr o	15	Spain	15
Cameroon	15	Haiti	15	Morocc o	15	Sri Lanka	15
Canada	15	Honduras	15	Mozam biq ue	15	Sudan	15
Central Afric an Repu blic	15	Hong Kong	15	Myanm ar	15	Suriname	15
Chad	15	Hungary	15	Namibi a	15	Sweden	15
Chile	15	Iceland	15	Nepal	15	Switzerlan d	15
China	15	India	15	Netherl and s	15	Syria	15
Colombia	15	Indonesia	15	New Zealand	15	São Tomé and Príncipe	15
Comoros	15	Iran	15	Nicarag ua	15	Taiwan, China	15
Congo	15	Iraq	15	Niger	15	Tajikistan	15
Costa Rica	15	Ireland	15	Nigeria	15	Tanzania	15
Croatia	15	Israel	15	North Macedo nia	15	Thailand	15
Cuba	15	Italy	15	Norway	15	The Gambia	15
Cyprus	15	Jamaica	15	Oman	15	Togo	15

Czechia	15	Japan	15	Pakistan	15	Trinidad and Tobago	15
Uzbekistan	15	United Kingdom	15	Uganda	15	Tunisia	15
Venezuela	15	United States	15	Ukraine	15	Turkey	15
Vietnam	15	Uruguay	15	United Arab Emirates	15	Turkmenistan	15
Yemen	15			Zambia	15	Total	2,490