Roots Of Deceit: Probing The Underlying Factors Of Corruption

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Abstract

The economic consequences of corruption are undeniable. A fertile ground for corruption is created by institutions riddled with loopholes, inadequate oversight, and a lack of transparency. Concentrated power, coupled with a lack of checks and balances, creates opportunities for abuse and self-enrichment. This unethical deep-rooted evil has several dimensions, however, this study evaluated the Economic dimension by GDP Growth, Investment profile, Trade Openness, and Income Inequality (GINI coefficient), the Political dimension by Government Stability, Law and Order condition, Democratic Accountability, and Bureaucracy Quality, whereas to evaluate the Societal dimension proxy variable of population growth is used. To find the relationship between variables, Dynamic ordinary least square (DOLS) and Canonical Cointegration Regression (CCR) is used. Before applying the method of DOLS and CCR, features of the series were explored by applying the Unit root and [1]Cointegration test. In reference to study results, it is suggested that implementing wage reforms to address the issue of low wages and high-income inequality, working towards improving bureaucratic quality and economic freedom and implementing policies that promote political stability and strengthen institutions are inevitable. Reevaluate policies related to trade openness, especially considering the surprising result showing an increase in corruption with more open economies is required. Implementing initiatives that promote ethical behavior, build trust within society, and reinforce positive cultural values to create an environment less conducive to corrupt practices is also recommended. Establishing a robust system for continuous monitoring and evaluation of anti-corruption policies is a concluding resolution to this malicious.

Keywords: *Corruption, underlying causes, institutions, power dynamics, accountability, culture, greed, economics, inequalities, solutions.*

1.0 Introduction

Corruption is a malignant force that disproportionately affects the impoverished. It exacerbates poverty by diverting resources that are intended for public goods and services, such as education and healthcare, into the pockets of corrupt officials. Poverty hampers all progress made in the country. As highlighted by Gupta et al (2002)., corruption reduces economic growth and increases poverty, which aligns with previous research that highlights the role of

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factors such as the country's legal and institutional framework, quality of governance, and political regime in influencing the impact of corruption on economic growth (Heidenheimer, & Johnston, (2011), Doig, & Theobald (2013).

One of the consequences of corruption is the perpetuation of institutional inequality (Fredriksson, & Svensson, J. (2003). Corrupt practices tend to favor the interests of the powerful and connected, leaving the marginalized and vulnerable populations at a further disadvantage. This is evident in biased tax systems, poor targeting of social programs, and the impact on access to assets, education, and human capital development creating an environment of uncertainty and hinders investment and business development (Shivakumar, (2005); Nye, (1967); Mauro, (1995,1998).

According to Leys (1965) and Bardhan (2017), higher levels of corruption may actually enhance growth in nations with weaker institutions and relatively lower levels of development. However, it is important to note that this result is not consistent across all countries and contexts. Some researchers argue that corruption can have distributional consequences, further widening income inequality. For example, studies (Li, Xu and Zou (2000), Ivanov, (2007), Jain (2001) found that increased corruption resulted in a slower growth rate of GDP and per capita income. Moreover, corruption tends to increase government consumption, benefiting the corrupt officials and exacerbating income inequality. Furthermore, corruption undermines the effectiveness of social welfare programs by diverting resources away from those who need it the most. Overall, corruption has far-reaching implications for a country's economy, institutions, and its citizens.

The consequences of corruption go beyond economic growth and poverty. undermines the provision of public goods, fiscal stability, and macroeconomic stability result in skewed tax systems that benefit the wealthy and burden the poor, leading to increased further income inequality. Additionally, corruption can divert resources away from social spending by creating an unfavorable business environment, discouraging investment, and distorting markets. Institutional inequality plays a crucial role in the relationship between corruption and poverty. Countries with weaker institutions and lower levels of development are more susceptible to corruption and its negative consequences (Damijan, (2015), Clarke, (1983), Campos, Dimova, & Saleh, (2010), Becker & Stigler (1974).

Corruption has not a settled definition or direction that can be confined in nominative statements. It interpolates human rights revilement, setting off a vicious and intensify coiled. As rights and freedoms are eroded, democracy declines and monocracy takes its place, which in turn enables higher levels of corruption. Respecting human rights is essential for controlling corruption because empowered citizens have the space to challenge injustice.

Corruption is deep rooted ethical issue that infiltrates due to several reasons. One of vital reason is ignorance of God commandments and material thinking. **"God promised pious individuals who obey to His commandments, to increase their economic wellbeing, as it is argued in Qur'an and the Prophetic Narration". Corruption is in different forms but its output is always in distorted system of economy and individual's wellbeing.** In economics terminology, when justice and social infrastructure weakens, then the nation starts its own decline. Ibn-e-Khuldun had developed his civilizational development model based on positive premises. Ethics may complement efforts to achieve lower the corruption and economic well-being. There can be a better case made through social infrastructure, including law and order and property rights and other ethical attributes. Indeed, ethical teachings emphasize upon

justice, protection of rights, fairness, excellence in work ethics, transparency and contract enforcement that if inculcate in the society can lessen many evils including corruption too.

After two years being into the devastating COVID-19 pandemic, Corruption Perceptions Index (CPI) revealed that corruption levels have stagnated worldwide. Despite commitments for lowering corruption, 131 countries have made no significant progress against corruption over the last decade and 27 countries are at historic lows in their CPI score. Meanwhile, human rights and democracy across the world are under conflict (Corruption Perception Index,2023 Report). There is an urgent need to accelerate the fight against corruption if we are to halt human rights abuses and democratic decline across the globe. Envisaging the importance of negative corruption effect on the whole humanity and economy the present study is persuaded to capture the factors of corruption that are most important and common based on information that are indexed. We have incorporated variables from three dimensions of corruption determinants: Economic dimension is evaluated by GDP Growth, Investment profile, Trade Openness and Income Inequality (GINI coefficient), Political dimension is evaluated by Government Stability, Law and Order condition, Democratic Accountability, and Bureaucracy Quality, whereas to evaluate the Societal dimension proxy variable of population growth is used. Political dimension is ethical issue of collective society. When whole nation become corrupt these issues arouse. The main focus of this study is evaluating these factors in reference to corruption.

2.0 Materials and Methods
This section comprises sample data, variables & proxies, model and estimation methods. The population for the study includes 34 countries in the OECD database. We sample 23 countries by dropping 6 countries with missing data on poverty head count and another 5 countries with missing data on corruption and other control variables. The remaining sample yields balanced data panel data of 23 country-year observations between 1984 to 2017. Data are collected from different sources, including OECD statistics; World Development Indicators, Worldwide Governance Indicators; Transparency International, Corruption Perception Index and Quality of Government database.

2.1 Construction of variables selected

Corruption – 5 Points
Our main variable is corruption that is taken as **dependent** variable in the study. Corruption has been assigned 5 points according to country situation. The most common form of corruption met directly by business is financial corruption in the form of demands for special payments and bribes connected with import and export licenses, exchange controls, tax assessments, police protection, or loans. Such corruption can make it difficult to conduct business effectively, and in some cases may force the withdrawal or withholding of an investment. Although our measure takes such corruption into account, it is more concerned with actual or potential corruption in the form of excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business. In our view these insidious sorts of corruption are potentially of much greater risk to foreign business in that they can lead to popular discontent, unrealistic and inefficient controls on the state economy, and encourage the development of the black market. Although any of the source do not measure actual corruption, yet it reflects the level of corruption in the country (Treisman, 2000). Transparency International (2020) posits that in the absence of any accurate measurement of actual corruption, perception-based measurement offers a more meaningful assessment of corruption. Control of corruption is one of the six

Worldwide Governance Indicators developed by Kaufmann & Kraay (2018). According to the authors, control of corruption is the perception of the extent to which public power is exercised for private gain in both petty or large corruption. Following the Kaufmann & Kraay (2018) study taken corruption score ranges between −2.5 and+2.5, with higher values indicating low corruption. For simplicity and easy interpretation, we use the reciprocal format, which ranges from 0 to 5, with higher values indicating a high level of corruption. The rescaling is calculated as 2.5 minus the original score of the country.

2.2 Independent Variables

Government Stability (GS)
GS is taken as independent variable in the study to co-relate its movement with the corruption in the country. This is an assessment both of the government's ability to carry out its declared program(s), and its ability to stay in office. More stable is the government, more consistent its policies and effect in country that ultimately control poverty and corruption. To calculate the GS, three subcomponents are created that include Government Cohesion, Legislative Strength and Popular Support each with a maximum score of four points and a minimum score of 0 points. The assigned value is the sum of three subcomponents, A score of 4 points equates to Very high Risk and government instability and a score of 0 points to Very low Risk and government stability. Hence lower is the score lower is government stability and performance leading to high risk of economy vulnerability and corruption.

Investment Profile (INVEST)
Investment Profile is also taken as independent variables as an assessment of factors affecting the economic growth that leads to poverty and corruption later. Risk to investment comprises of three sub components: Contract Viability/Expropriation, Profits Repatriation, Payment Delays. These factors are not covered by other political, economic and financial risk components. The INV is assigned the maximum value of 12 that is sum of three subcomponents each with a maximum score of four points and a minimum score of 0 points. A score of 12 points equates to Very high Risk for investment and a score of 0 points to Very low Risk for investment in the specified country.

Law and Order (L&O)
The third regressor in the model is "Law and Order" that form a single component, but its two elements are assessed separately, with each element being scored from zero to three points. To assess the "Law" element, the strength and impartiality of the legal system are considered, while the "Order" element is an assessment of popular observance of the law. Thus, a country is scored according to the law and order situation separately and later the scores are added. A country can enjoy a high rating of "3" in terms of its judicial system, but a low rating "1" if it suffers from a very high crime rate if the law is routinely ignored without effective Sanction. Hence, final scores depict the higher value for outstanding law and order and vice versa.

Democratic Accountability (DAAS)
Democratic accountability is important in maintaining the economy of any country hence more stable economy leads to less corrupted environment. DAAS is a measure of how responsive government is to its people, on the basis that the less responsive it is, the more likely it is that the government will fall, peacefully in a democratic society, but possibly violently in a non-democratic one. The scores in this component are awarded on the basis of the type of governance enjoyed by the country in question. For this purpose, the following types of governance is defined:

Alternating Democracy (AD)

The essential features of an alternating democracy are: • A government/executive that has not served more than two successive terms, • Free and fair elections for the legislature and executive as determined by constitution or statute, • The active presence of more than one political party and a viable opposition, • Evidence of checks and balances among the three elements of government: executive,• legislative and judicial, Evidence of an independent judiciary, • Evidence of the protection of personal liberties through constitutional or other legal guarantees.

Dominated Democracy

The essential features of a dominated democracy are:

• A government/executive that has served more than two successive terms, • Free and fair elections for the legislature and executive as determined by constitution or statute, • The active presence of more than one political party, • Evidence of checks and balances between the executive, legislature, and judiciary, • Evidence of an independent judiciary, • Evidence of the protection of personal liberties.

De Facto One-Party State

The essential features of a de facto one-party state are:

• A government/executive that has served more than two successive terms, or where the political/electoral system is designed or distorted to ensure the domination of governance • by a particular government/executive, • Holding of regular elections as determined by constitution or statute, Evidence of restrictions on the activity of non-government political parties (disproportionate media access between the governing and non-governing parties, harassment of the leaders and/or supporters of non-government political parties, the creation of impediments and obstacles affecting only the non-government political parties, electoral fraud, etc).

De Jure One-Party State

The identifying feature of a one-party state is:

• A constitutional requirement that there be only one governing party, • Lack of any legally recognized political opposition.

Autarchy

The identifying feature of an autarchy is:

• Leadership of the state by a group or single person, without being subject to any franchise, either through military might or inherited right. In an autarchy, the leadership might indulge in some quasi-democratic processes. In its most developed form this allows competing political parties and regular elections, through popular franchise, to an assembly with restricted legislative powers (approaching the category of a de jure or de facto one-party state). However, the defining feature is whether the leadership, i.e. the head of government, is subject to election in which political opponents are allowed to stand. The scores are assigned according to the type of government in the country the highest scores are assign 6 to Alternating Democracies, while the lowest number is assigned to Autarchies.

Bureaucracy Quality (BQ)

Bureaucratic quality is another important regressor that has indirect relation with corruption. The institutional strength and quality of the bureaucracy is another shock absorber that tends to minimize revisions of policy when governments Change and ultimately to stabilize the economy by keeping control on corruption. Therefore, the maximum high points that are 4

given to countries where the bureaucracy has the strength and expertise to govern without drastic changes in policy or interruptions in government services. In these countries, the bureaucracy tends to be somewhat autonomous from political pressure and to have an established mechanism for recruitment and training. Countries that lack the cushioning effect of a strong bureaucracy receive low points, the minimum is 0 because a change in government tends to be traumatic in terms of policy formulation and day-to-day administrative functions.

2.3 Control variables

The sets of control variables are economic-related factors, which include Economic development and Economic growth. We proxy economic development with GDP per capita and economic growth with the annual GDP growth rate. Following prior studies, we expect economic development and growth can help to reduce corruption as People meet their demands through honest means. Furthermore, higher corruptions lead towards lower economic growth. Inflation is another economics variable that may increase the corruption in country due to lower purchasing power and higher demand derives. GINI COEFFICIENT is used to compare the income inequality relationship with corruption, more is income inequality, more expected the corruption in country that further aggravate the economic problems.

The next set of control variable is the internationalization comprising of trade openness. Trade openness is measured by the sum of total export and import as a percentage of GDP, we expect the relationship between internationalization and corruption to go either way. We also include the level we account for Population and Population growth in the model to control for variations in availability and end-users of resources and to measure the competitions and conflicts that increase the mode of corruption among the countries. There is expected positive relationship between corruption and population growth. Population growth also depicts the culture of an economy. More population growth expected less educated and cultural environment.

3.0 Methodology

To find the relationship between variables, we applied Dynamic ordinary least square (DOLS), Before applying the method of DOLS, features of the series were explored applying the Unit root and Cointegration test. The data was also explored by analyzing it descriptive statistics and graphic analysis.

3.1 Unit Root Test

It is always crucial to look at the series order of integration when we are dealing with time series data. First, standard augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root tests were used in the investigation. The stationarity was examined using the time series unit root tests under the null hypothesis that a series has no unit root. It was crucial to identify the problem of erroneous correlations. An appropriate estimating technique can be chosen for the long-run estimation of parameters in light of this integration.

3.2 Pedroni Cointegration Test

Pedroni (2004) presented different cointegration tests that consider intercept coefficients and heterogeneous trends. Pedroni developed cointegration tests in two steps for both heterogeneous and homogeneous panels to capture the Ho of specific regressors in the relationship of long-run association. Between-dimension and within-dimension test statistics are two categories that make up this test. Panel-v, Panel-rho, Panel-PP, and Panel-ADF test statistics are used for within-dimension test statistics, whereas Group-rho, Group-PP, and Group-ADF test statistics are used for the second group.

3.3 Dynamic Ordinary Least Square Method

The Dynamic Ordinary Least Squares (DOLS) method is typically used to estimate the long-run equilibrium relationships between non-stationary time series variables. The standard OLS regression equation is modified to conduct DOLS by adding leads and lags of the initial differences between the independent variables as additional regressors. DOLS is an extension of the OLS approach of regression. Endogeneity biases and residual autocorrelation are eliminated when DOLS is applied to integrated variables. Even when endogenous regressors are present, DOLS can still generate objective and asymptotically efficient estimates of the long-run coefficients. It is also superior to OLS when applied to small sample sizes. The lead and lag difference factors render DOLS estimators robust against absent variables, autocorrelation, and stochastic trends. DOLS is a popular method for estimating cointegration relationships because it can produce consistent estimates of the long-run equilibrium between integrated variables.

Dynamic Ordinary Least Squares (DOLS) method can handle non-stationary time series data complexities when discussing cointegration. Its primary objective is to describe and quantify correlations between variables that exhibit long-term co-movements while allowing for short-term fluctuations achieved by combining the use of difference transformations and dynamic modelling. DOLS transforms the data into a format suitable for linear regression analysis to capture the dynamic nature of the data-generating process. In addition, the DOLS model includes an error correction mechanism, which is necessary for understanding how variables respond to deviations from the relationships that comprise their long-term equilibrium.

Table 1: Descriptive Statistics

	CORUPT	BQACC	DAAC	GGROWTH	GINI	GINIINSTQ	GOVST	IAND_O	INF	INVEST	POPGROWTH	TROP
Mean	2.347212	1.766910	3.371594	3.353731	43.78286	175.2293	6.991594	2.846405	9.428722	6.676795	1.968541	0.577912
Median	2.148333	2.000000	3.480000	3.550605	43.30000	181.0665	7.000000	3.000000	6.368000	7.000000	2.091296	0.481533
Maximum	5.000000	3.500000	6.000000	26.41732	55.80000	288.0000	12.00000	5.000000	183.3120	11.00000	4.629677	2.825807
Minimum	0.000000	0.000000	0.000000	-20.59877	27.70000	45.38380	1.000000	0.000000	-4.140724	0.000000	-0.444162	0.067826
Std. Dev.	0.916571	0.869058	1.304018	3.986028	5.117712	43.23856	2.338552	1.070832	13.77465	1.877490	0.831450	0.408589
Skewness	0.071844	-0.446263	-0.051001	-0.838970	-0.248942	-0.308636	-0.332372	0.121243	6.590735	-0.578620	-0.210340	1.919285
Kurtosis	3.946580	2.696685	2.289862	10.67272	3.259853	2.687613	2.592133	2.449493	67.07282	3.208998	2.454379	8.225353
Jarque-Bera	29.86783	28.95364	16.77066	2009.940	10.27720	15.59474	19.81853	11.79052	139426.6	45.05897	15.46646	1369.769
Probability	0.000000	0.000001	0.000228	0.000000	0.005866	0.000411	0.000050	0.002752	0.000000	0.000000	0.000438	0.000000
Sum	1835.520	1381.723	2636.587	2622.618	34238.20	137029.3	5467.427	2225.888	7373.260	5221.253	1539.399	451.9275
Sum Sq. Dev.	656.1201	589.8590	1328.061	12408.86	20455.15	1460137.	4271.154	895.5583	148187.6	2753.000	539.9130	130.3838
Observations	782	782	782	782	782	782	782	782	782	782	782	782

Abbreviation used in Table are Corruption (CORUPT), Bureaucracy Quality (BQACC), Democratic Accountability (DAAC), GDP Growth (Growth), GINI Coefficient Value (GINI), Gini and Institution quality index (GINIINSTQ), Government Stability (GOVST), law and Order (l And_O), Inflation (INF), Investment (INVEST), Population Growth (POPGROWTH), Trade openness (TROP)

Table 1 illustrates the data characteristics, where values of all variables depict the data is normally distributed as values of skewness and kurtosis are also in range except inflation and GDP growth which was expected as it is always positive-tailed.

Table 2: Correlation and Covariance Matrix

Covariance	CORUPT	BQACC	DAAC	GGROWTH	GINI	GINIINSTQ	GOVST	IAND_O	INF	INVEST	POPGROWTH	TROP
CORUPT	0.839028											
BQACC	0.235449	0.754295										
DAAC	0.301234	0.289051	1.698287									
GGROWTH	0.311312	0.255409	0.377643	15.86810								
GINI	0.435793	-0.539708	0.702696	-1.071453	26.15748							
GINIINSTQ	16.16979	14.83959	29.86355	35.48445	104.4507	1867.182						
GOVST	0.201334	0.289116	0.274826	1.808326	-0.126457	61.93217	5.461834					
IAND_O	0.290020	0.289054	0.129524	1.015357	-0.002292	21.89369	0.731978	1.145215				
INF	0.161475	-2.207279	-1.114668	-5.057271	16.32720	-73.67982	-7.994541	-2.062266	189.4982			
INVEST	0.141375	0.482469	0.905973	1.769712	0.252795	54.89454	1.811070	0.462809	-4.433690	3.520460		
POPGROWTH	0.044600	-0.106028	-0.056037	-0.069333	0.595816	-3.342132	-0.354530	-0.170442	2.632930	-0.181028	0.690426	
TROP	0.047129	0.072345	0.056698	0.097024	0.178841	5.389753	0.220280	0.053336	-0.338375	0.220416	-0.011294	0.166731

Correlation	CORUPT	BQACC	DAAC	GGROWTH	GINI	GINIINSTQ	GOVST	IAND_O	INF	INVEST	POPGROWTH	TROP
CORUPT	1.000000											
BQACC	0.295963	1.000000										
DAAC	0.252354	0.255387	1.000000									
GGROWTH	0.085319	0.073825	0.072747	1.000000								
GINI	0.093024	-0.121504	0.105430	-0.052591	1.000000							
GINIINSTQ	0.408529	0.395419	0.530325	0.206149	0.472628	1.000000						
GOVST	0.094050	0.142440	0.090237	0.194243	-0.010580	0.613273	1.000000					
IAND_O	0.295867	0.311003	0.092875	0.238184	-0.000419	0.473459	0.292675	1.000000				
INF	0.012806	-0.184622	-0.062135	-0.092226	0.231906	-0.123866	-0.248497	-0.139991	1.000000			
INVEST	0.082260	0.296073	0.370518	0.236777	0.026343	0.677074	0.413015	0.230493	-0.171658	1.000000		
POPGROWTH	0.058598	-0.146924	-0.051750	-0.020947	0.140202	-0.093083	-0.182568	-0.191679	0.230186	-0.116115	1.000000	
TROP	0.126007	0.204001	0.106549	0.059650	0.085637	0.305469	0.230833	0.122059	-0.060199	0.287697	-0.033287	1.000000

t-Statistic	CORUPT	BQACC	DAAC	GGROWTH	GINI	GINIINSTQ	GOVST	IAND_O	INF	INVEST	POPGROWTH	TROP
CORUPT	-----											
BQACC	8.653477	-----										
DAAC	7.283590	7.377195	-----									
GGROWTH	2.391548	2.067461	2.037100	-----								
GINI	2.609329	-3.418751	2.960999	-1.470826	-----							
GINIINSTQ	12.50029	12.02336	17.47026	5.883824	14.97829	-----						
GOVST	2.638379	4.019111	2.530496	5.530239	-0.295493	21.68426	-----					
IAND_O	8.650403	9.139060	2.605123	6.849239	-0.011694	15.01219	8.548277	-----				
INF	0.357683	-5.246406	-1.738700	-2.586743	6.658288	-3.486241	-7.164897	-3.948605	-----			
INVEST	2.305195	8.657005	11.14098	6.806380	0.735984	25.69541	12.66563	6.615460	-4.866368	-----		
POPGROWTH	1.639378	-4.148380	-1.447245	-0.585141	3.954703	-2.611011	-5.186016	-5.454447	6.606131	-3.264991	-----	
TROP	3.547458	5.819819	2.992794	1.668902	2.400531	8.959529	6.625742	3.434595	-1.684312	8.389648	-0.930162	-----

Probability	CORUPT	BQACC	DAAC	GGROWTH	GINI	GINIINSTQ	GOVST	IAND_O	INF	INVEST	POPGROWTH	TROP
CORUPT	-----											
BQACC	0.0000	-----										
DAAC	0.0000	0.0000	-----									
GGROWTH	0.0170	0.0390	0.0420	-----								
GINI	0.0092	0.0007	0.0032	0.1417	-----							
GINIINSTQ	0.0000	0.0000	0.0000	0.0000	0.0000	-----						
GOVST	0.0085	0.0001	0.0116	0.0000	0.7677	0.0000	-----					
IAND_O	0.0000	0.0000	0.0094	0.0000	0.9907	0.0000	0.0000	-----				
INF	0.7207	0.0000	0.0825	0.0099	0.0000	0.0005	0.0000	0.0001	-----			
INVEST	0.0214	0.0000	0.0000	0.0000	0.4620	0.0000	0.0000	0.0000	0.0000	-----		
POPGROWTH	0.1015	0.0000	0.1482	0.5586	0.0001	0.0092	0.0000	0.0000	0.0000	0.0011	-----	
TROP	0.0004	0.0000	0.0029	0.0955	0.0166	0.0000	0.0000	0.0006	0.0925	0.0000	0.3526	-----

Table 2, illustrates Covariance, correlation results in matrix and their T-value with respective probability. Most of the variables are showing significant correlation and covariance with dependent variable.
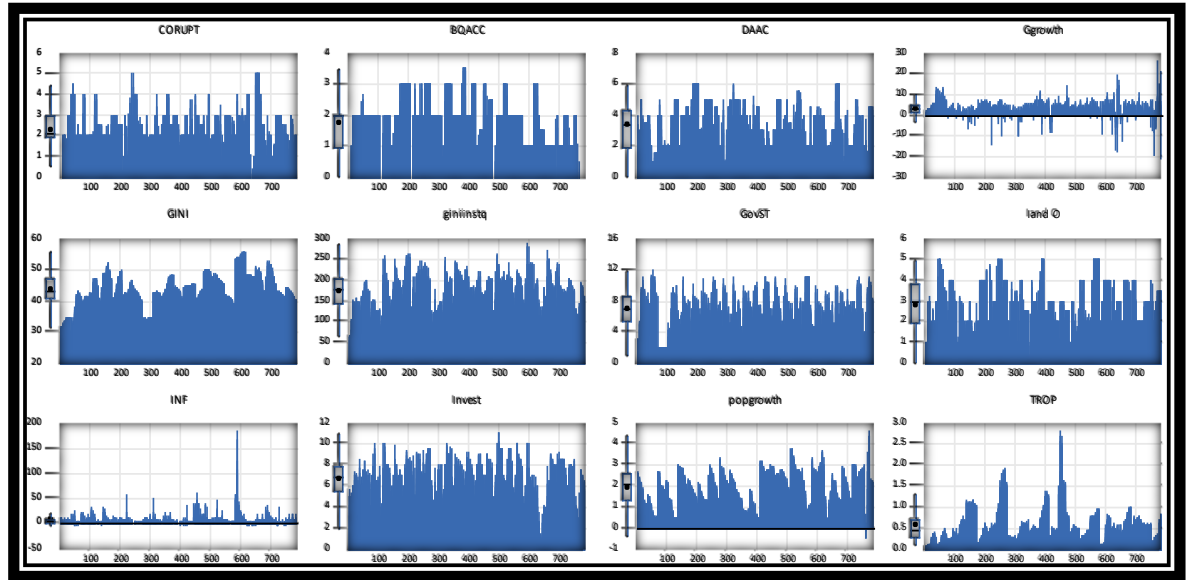
Figure 1: Box Plots

Figure 1, depicts the Box-Plot representation for data. Most the box-plot values are showing there is no skewness and no outlier in the data points.
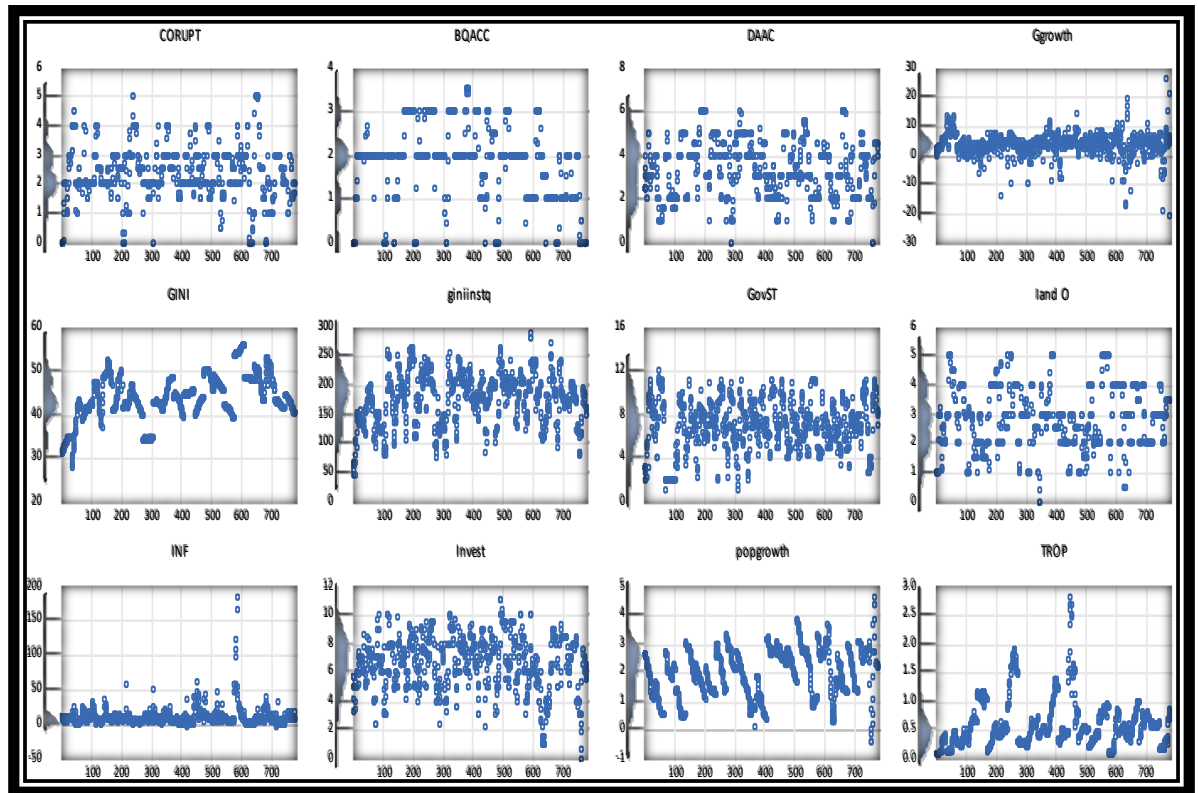

Figure 2: Kernel Density

Figure 2, depicts the density of data that is also showing normality of data. All the results illustrate the data has no issues that can hinder to apply the models to get appropriate results.

Table 3: Cointegration

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
CORRUPTION_C...	-8.308495	0.0000	-115.3486	0.0001
BQ_BEAURATIC_...	-8.041555	0.0000	-118.7301	0.0000
DACC_DEMORAC...	-9.118146	0.0000	-160.5015	0.0000
GDPECOG_GGR...	-11.38157	0.0000	-317.4034	0.0000
GINI_GINI	-9.404602	0.0000	-160.6113	0.0000
GINIINSTQ_GINII...	-9.323850	0.0000	-161.3385	0.0000
GS_GOVERN_ST...	-8.831136	0.0000	-142.8494	0.0000
I_INVESTMENT__...	-9.547303	0.0000	-171.2493	0.0000
INFLATION_INF	-7.120104	0.0023	-108.5986	0.0002
LNO_LAW_ORDE...	-9.190173	0.0000	-160.8209	0.0000
POPGROWTH_P...	-6.016534	0.0717	-72.54329	0.0459
TRADEOPENESS...	-5.062907	0.4167	-50.19540	0.3974

*MacKinnon (1996) p-values.

Intermediate Results:

	CORRUPT...	BQ_BEAU...	DACC_D...	GDPECO...	GINI_GINI	GINIINST...	GS_GOV...	I_INVEST...	INFLATIO...	LNO_LA...	POPGR...	TRADEO...
Rho - 1	-0.147693	-0.134551	-0.176213	-0.518218	-0.180313	-0.179173	-0.161687	-0.192211	-0.191745	-0.170363	-0.072085	-0.064271
Rho S.E.	0.017776	0.016732	0.019326	0.045531	0.019173	0.019217	0.018309	0.020132	0.026930	0.018538	0.011981	0.012694
Residual variance	0.057865	0.046735	0.064753	12.17182	0.318210	4.859179	0.084475	0.080661	67.33357	0.061053	0.065377	0.018191
Long-run residual variance	0.057865	0.059814	0.088298	7.524517	0.414976	6.475997	0.108379	0.105238	35.59250	0.089423	0.108828	0.018191
Number of lags	0	1	1	2	1	1	1	1	2	1	1	0
Number of observations	781	780	780	779	780	780	780	780	779	780	780	781
Number of stochastic trends**	12	12	12	12	12	12	12	12	12	12	12	12

**Number of stochastic trends in asymptotic distribution

The result in above Table 3 shows there is significant long run relationship exist between series of variables.Hence we applied, Canonical Cointegration Regression(CCR) and Dynamic Ordinary Least Square(DOLs) model for estimating the relationship. The results obtained from both methods were similar therefore we focus more on DOLS results.

Table :4 DOLS and CCR Results

Variable	Co-efficient		Std. Error		t-Statistics		Prob.	
	DOLS	CCR	DOLS	CCR	DOLS	CCR	DOLS	CCR
BQACC	-0.5484	-0.5355	0.0682	0.0781	-7.8443	-7.0165	0.0000	0.0000
DAAC	-0.6867	-0.6895	0.0545	0.0634	-12.6387	-10.8160	0.0000	0.0000
GGROWTH	-0.0087	-0.0111	0.0114	0.0145	2.9735	2.5982	0.0306	0.0499
GINI	-0.3643	-0.3624	0.0217	0.0251	-16.6650	-14.4811	0.0000	0.0000
GINIINSTQ	0.0948	0.09516	0.0050	0.0059	18.9518	16.0621	0.0000	0.0000
GOVST	-0.6497	-0.6478	0.0402	0.0466	-16.1060	-13.9387	0.0000	0.0000
IAND_O	-0.6516	-0.6595	0.0592	0.0687	-11.1377	-9.4783	0.0000	0.0000
INF	0.0091	0.0075	0.0030	0.0034	2.5053	2.6365	0.0124	0.0086
INVEST	-0.7506	-0.7538	0.0430	0.0504	-17.5158	-14.8781	0.0000	0.0000
POPGROWTH	-0.0550	-0.0628	0.0475	0.0530	-1.3220	-1.0376	0.1865	0.2998
TROP	0.1447	0.1588	0.0965	0.1026	1.6449	1.4098	0.1004	0.1590
C	16.1757	16.0652	0.9214	1.0677	17.4356	15.1492	0.0000	0.0000
@TREND	0.0001	0.0001	0.0007	0.0008	0.1919	0.2362	0.8478	0.8133
@TREND'2	1.98E-07	2.64E-07	9.73E-07	1.01E-06	0.2711	0.1950	0.7864	0.8454

	DOLS	CCR		DOLS	CCR
R-squared	0.7274	0.7503	Mean dependent var	2.3502	2.3536
Adj R-Squared	0.7228	0.7346	S.D. dependent var	0.9132	0.9105
S.E.	0.4808	0.4690	Sum squared residuals	177.3198	161.0303
Long-run variance	1.0015	1.0150			

Our results are consistent as Aidt(2003) explored the determinants of corruption using an economic perspective and finds that low wages, weak enforcement of anti-corruption laws, and lack of transparency contribute to corruption. We found Similarly that bureaucratic quality, income inequality and law and order play significant role in controlling or lowering corruption. Economic perspective also emphasizes structural and institutional factors influencing corruption. For that Mauro (1995,1998) analyzes the determinants of corruption using an economic framework and finds that factors such as government size, bureaucratic quality, and economic freedom significantly influence the level of corruption in a country. We have the same inferences that Government stability, Accountability, Investment and GDP Growth can play a positive role in lowering the corruption in country. This supports the idea that the economic structure and policies of a country play a crucial role in determining corruption. In addition, Acemoglu & Johnson, (2005) examine the determinants of corruption from a political perspective and find that factors such as political instability, weak institutions, and lack of accountability are key drivers of corruption. Our results are line up with the study that system of democracy and its quality contributes towards corruption state in country. This underlines the significance of political factors in shaping corruption levels, emphasizing the need for strong governance. study's alignment with the notion that the system of democracy and its quality contribute to corruption resonates with existing literature. Democratic institutions, when weak or unstable, can create an environment conducive to corruption. Furthermore, research by Smale, (2001) investigates the determinants of corruption from a societal perspective and emphasizes the importance of social norms, trust, and cultural factors in shaping corruption levels. In similar fashion our study depicts that population growth is significantly affecting the corruption that highlight the societal context and its influence on corrupt practices. Nevertheless, in our study Trade openness results are surprising showing an increase in corruption due to more open economy that are in contrasts with the conventional wisdom suggesting an increased trade openness leads to better governance. It would be interesting to explore this further and understand the mechanisms behind this unexpected relationship, especially considering the potential benefits of transparency and accountability associated with open economies.

In summary, our study provides a comprehensive view by incorporating economic, political, and societal perspectives on corruption. The consistency with existing literature strengthens the credibility of our findings. However, the unexpected result regarding trade openness warrants further investigation to uncover the underlying dynamics. Consider exploring potential mechanisms or contextual factors that may explain this counterintuitive relationship in more detail.

Based on the results of our study and the alignment with existing literature, here are some suggestions and policy recommendations:

- Consider implementing wage reforms to address the issue of low wages and high-income inequality, which is identified as a contributor to corruption. Additionally, focus on strengthening the enforcement of anti-corruption laws to create a deterrent effect and improve overall transparency.
- Work towards improving bureaucratic quality and economic freedom, as these factors have been shown to significantly influence corruption levels. This may involve streamlining government processes, reducing bureaucratic red tape, and fostering an environment that encourages economic freedom and competition.
- Implement policies that promote political stability and strengthen institutions. This includes measures to enhance accountability, transparency, and the rule of law. A stable political environment with strong institutions is crucial for curbing corruption.
- Recognizing the impact of the system of democracy on corruption, focus on improving the quality of democratic institutions. This may involve electoral reforms, strengthening checks and balances, and promoting civic engagement to ensure a robust democratic system.
- Given the significant impact of population growth on corruption, consider implementing policies that address the challenges associated with population growth. This may include investments in education, healthcare, and employment opportunities to mitigate the potential negative effects on corruption.
- Reevaluate policies related to trade openness, especially considering the surprising result showing an increase in corruption with more open economies. Conduct a thorough analysis to understand the specific mechanisms at play and consider adjustments to trade policies or the introduction of safeguards to prevent corruption associated with increased openness.
- Recognize the importance of social norms, trust, and cultural factors in shaping corruption levels. Implement initiatives that promote ethical behavior, build trust within society, and reinforce positive cultural values to create an environment less conducive to corrupt practices.
- Invest in technology and data transparency initiatives to enhance accountability in both public and private sectors. Utilize tools such as open data platforms, electronic governance, and performance monitoring systems to increase transparency and reduce opportunities for corruption.
- Engage in international collaborations and share best practices with other countries that have successfully tackled corruption. Learning from successful anti-corruption measures implemented elsewhere can provide valuable insights for designing effective policies.
- Establish a robust system for continuous monitoring and evaluation of anti-corruption policies. Regularly assess the effectiveness of implemented measures, and be willing to adapt and refine strategies based on ongoing evaluation results.

Concluding whole: Implementing a combination of these suggestions can contribute to a comprehensive and effective strategy for combating corruption in various dimensions – economic, political, and societal.

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