University
of Economics
in Katowice

Tomola M. Obamuyi

Department of Economics
School of Management Technology
Federal University of Technology
Akure, Nigeria
tmobamuyi@futa.edu.ng

Saheed O. Olayiwola

https://orcid.org/0000-0003-2500-0229

Department of Economics
School of Management Technology
Federal University of Technology
Akure, Nigeria
soolayiwola@futa.edu.ng

Corruption and economic growth in India and Nigeria

Abstract

Aim/purpose – Theoretical arguments about the impact of corruption on economic growth have divided economists into two groups. The first one believes that corruption is an obstruction to economic growth and development while the second – that corruption plays a positive role in the development process. Therefore, the arguments on the effects of corruption on economic growth are inconclusive. This study investigates the effects of corruption on economic growth as measured in real Gross Domestic Product (GDP) per capita growth in Nigeria and India due to the pervasive corruption in the two low-income countries.

Design/methodology/approach – The study employed Mo's framework (2001) for investigating corruption and growth mechanism. The data for the study which covered 1980-2015 was extracted from the World Bank data repository. Corruption was measured by the Corruption Perception Index. Other variables are population growth rate, trade openness, education and the output of agriculture, industry and service sectors. Correlation coefficients were used to show a correlation between corruption and GDP growth rate for both countries. Ordinary Least Square (OLS) regression was used to estimate the effects of corruption on economic growth.

Findings – The major findings of the study are: (1) Corruption has a stifling effect on economic growth when the measures of human capital, political instability and capital formation were not included in the estimation for India; (2) Corruption has a positive effect on economic growth when the measures of human capital, political instability and capital formation were included interchangeably and combined together in the estimation for India; (3) Corruption has a stifling effect on economic growth when the measures of human capital, political instability and capital formation were both included and exclud-

ed in the estimation for Nigeria; and (4) The transmission mechanism results show that corruption adversely affects economic growth through investment and human capital in both countries.

Research implications/limitations – The implications of this study are that corruption produces a dampening effect on growth in both countries and the transmission channels were through investment and human capital. The limitation of the study has to do with the data. A better measure of corruption aside corruption perception index may produce different results.

Originality/value/contribution – The unique contribution of the study is the investigation of the channel through which corruption affects economic growth in India and Nigeria.

Keywords: corruption, economic growth, human capital, investment.
JEL Classification: O40, O43, O47.

1. Introduction

Corruption plays an important role in the dynamics of political, economic and social reforms. Corruption could be considered as an abuse of public office for private gains when a public officer takes, solicits or extorts a bribe. It also occurs when private agents actively offer bribes to circumvent public policies and processes for competitive advantage and for personal advantage through patronage and nepotism, the theft of state assets, or the diversion of state revenues. The root of corruption lies in the bureaucratic and political institutions and its effect on development varies with country conditions. While some authors (e.g. Azariadis & Lahiri, 2002; Bardhan, 1997; Ehrlich, 1999; Mauro, 1995; Shleifer & Vishny, 1993) argued that corruption is damaging in every aspect and bad for development, others (e.g. Huntington, 1968; Leff, 1964) have argued that systemic corruption may co-exist with strong economic performance. A noticeable fact about public corruption is that irrespective of the index of its measurement, corruption is higher in poor and low-income countries. For example, Bai, Jayachandran, Malesky, & Olken (2013) submitted that the ten least corrupt countries in the 2009 Transparency International Corruption Perceptions Index such as New Zealand, the Netherlands and Canada had an average real GDP per capita of $36,700 while the ten most corrupt countries such as Haiti, Turkmenistan and Afghanistan had an average real GDP per capita of $5,100.

In Nigeria, corruption is an undisputable greater challenge and it is found in every sector of the nation's economy. In fact, a persistent accolade conferred on Nigeria is that it is one of the most corrupt countries in the world (Salisu, 2000). Nigeria was ranked high in corruption by Transparency International and other

notable organisations that monitor corrupt practices around the world. In the 2000, 2001, 2002, 2003 and 2004 Transparency International survey on the level of corruption in some countries of the world including Kenya, Cameroon, Angola, Nigeria, Côte-d'Ivoire, Zimbabwe, Ethiopia, Ghana, Senegal, Zambia, India, Venezuela, Moldova, and others, Nigeria was the most corrupt, the second-most corrupt and the third most corrupt country in a survey of 90, 91, 102, 101 and 146 countries respectively. More so, the 2016 report shows that Nigeria ranked 38th most corrupt country out of 176 countries. Corruption had adversely affected and stunted India's economic development. Endemic corruption is a major factor for most social and political ills and it has caused maximum suffering to people in India. It is a serious threat not only to sustainable economic growth but also to the socio-political fabric of India (Rajak, 2013). Rajak (2013, p. 20) observed that in ancient Indian history, the great Indian philosopher, Kautilya, says "Just as it is not possible not to taste honey or poison put on the surface of the tongue, so it is not possible for the government official dealing with money not to taste it in however small a quantity". Several major scandals involving high-level public officials in Indian public services in the past decades, suggest that corruption is a prevalent aspect of the Indian political and bureaucratic system (Rajak, 2013). In some studies conducted by Transparency International, about 62% of Indians had paid a bribe to get a job done in a public office and about 40% of Indians have had the first-hand experience of paying bribes. Furthermore, the 2016 Corruption Perceptions Index ranks India 79th place out of 176 countries of the world.

Theoretical arguments about the impact of corruption on economic growth have divided economists into two groups; the most common of which is the idea that corruption is an obstruction to economic growth and development (Murphy, Shleifer, & Vishny, 1993; Mauro, 1995). The first is the apostle of the strand of the theoretical proposition that corruption plays a positive role in the development process. This thinking relies on the static efficiency arguments which view bribe as a type of Coasean bargaining process (Leite & Weidmann, 1999). Leff (1964) and Huntington (1968) suggest in this context that corruption may allow investors to work around bureaucratic procedures, negating some of the harmful effects of red tape. Lui (1985), Beck & Maher (1986) and Lien (1986) further argued that corruption may bring about efficient allocation of time and ensure that projects are awarded to the most efficient firms who stand to gain most from payment of bribes. One of the implications of this is that economic growth could be positively affected if individuals could avoid any bureaucratic delays (Hun-

tington, 1968; Leff, 1964). They submitted that corruption could 'grease' the wheel of commerce and contribute to steady growth. This group is therefore referred to as 'greasers' (Cabaravdic & Nilsson, 2017). The second group follows the brand of theoretical literature that argued that corruption reduces both investment and growth. For example, Murphy et al. (1993) suggest that the prevalence of increasing returns to rent-seeking may crowd out productive investment and Romer (1994) argued that by imposing a tax on ex-post profits, corruption may reduce the flow of new goods and technology. On the direct effects of corruption on economic growth, Shleifer & Vishny (1993) noted that the illegality associated with corruption necessitates efforts to avoid detection and punishment, causing corruption to be more distortionary than taxation (Shleifer & Vishny, 1993). The economists supporting this notion are referred to as 'sanders'.

Therefore, the arguments in the literature on the effects of corruption on economic growth seem inconclusive. This study examines the effects of corruption on economic growth as measured in the real Gross Domestic Product (GDP) per capita growth for both Nigeria and India. This is aimed at providing a leeway for examining issues and challenges that may hinder the benefit (if any) from growth in the midst of corruption to trickle down to the poor and the possible opportunities that may propel the gains to the development and further assist the economic reform agenda of both countries.

The rest of the paper is divided into five sections. Section 2 provides a theoretical background which comprises an overview of corruption in India and Nigeria, a review of the literature on corruption and growth and theoretical framework. Section 3 contains the research methodology. Section 4 encompasses research findings; section 5 contains a discussion of results, while section 6 concludes the study.

2. Theoretical background

2.1. Corruption in India and Nigeria: An overview[1]

Corruption has adversely affected India's economy and the credibility of Indian government (Singh, 2010). Widespread corruption has stunted India's development and held the economy back from reaching new heights. A study con-

---

[1] India and Nigeria are considered in the study due to the endemic and the complexity of corrupt activities. More so, the two countries have large scale poverty in the midst of plenty human and natural resources.

ducted by Transparency International in 2005 shows that more than 62% of Indians had at some point or another paid a bribe to get a job done in a public office. Transparency International (2008) reported that about 40% of Indians had first-hand experience of paying bribes or using contacts to get services performed by public officers. The 2016 Corruption Perceptions Index of Transparency International ranks India 79th out of 176 countries of the world. The largest contributors to corruption in India are entitlement programmes and social spending schemes enacted by the Indian government which includes the Mahatma Gandhi National Rural Employment Guarantee Act and the National Rural Health Mission. Other areas of corruption include India's trucking industry which is forced to pay billions of rupees in bribes annually to numerous regulatory and police stops on interstate highways. The media has widely published allegations of corrupt Indian citizens stashing millions of rupees in Swiss banks. Also, the Indian media is controlled by corrupt politicians and industrialists who play a major role by misleading the public with incorrect information (Singh, 2010).

The causes of corruption in India include excessive regulations, complicated tax and licensing systems, numerous government departments with impervious bureaucracy and discretionary powers, the monopoly of government-controlled institutions on certain goods and services delivery and the lack of transparent laws and processes (Debroy & Bhandari, 2011). Corruption in India has serious implications on protecting the rule of law and ensuring access to justice. As at December, 2009, 120 of India's 524 parliament members were accused of various crimes under India's First Information Report procedure. Many of the biggest scandals since 2010 involved high level government officials, including Cabinet Ministers and Chief Ministers such as the 2G spectrum scam, the 2010 Commonwealth Games scam, the Adarsh Housing Society scam, the Coal Mining Scam, the Mining Scandal in Karnataka and the Cash for Vote scam (Debroy & Bhandari, 2011).

Debroy & Bhandari (2011) argued that public officials in India may be cornering as much as 1.26 per cent of the GDP through corruption. They further claimed that most bribery is in government delivered services and the transport and real estate industries. Ernst & Young (2013) reported that the industries perceived to be the most vulnerable to corruption are infrastructure and real estate, metals and mining, aerospace and defence and power and utilities. Among the factors that make a sector more prone to bribery and corruption risks than others were identified as high use of middlemen, large value contracts and li-

aison activities, etc. KPMG (2011) study reported India's real estate, telecommu-
nications and government-run social development projects as the three top sectors
plagued by corruption. The study further found India's defence, the information
technology industry and energy sectors to be the most competitive and least
corruption-prone sectors (KPMG, 2011). Table 1 compares the perceived anti-
corruption effort across some of the major states in India. A rising index implies
higher anti-corruption effort and falling corruption. According to the table, the
states of Bihar and Gujarat have experienced significant improvements in anti-
corruption efforts while conditions have worsened in the states of Assam and
West Bengal.

Table 1. Index trends in major states by respective anti-corruption effort in India

State	1990-1995	1996-2000	2001-2005	2006-2010
Bihar	0.41	0.30	0.43	0.88
Gujarat	0.48	0.57	0.64	0.69
Andhra Pradesh	0.53	0.73	0.55	0.61
Punjab	0.32	0.46	0.46	0.60
Jammu & Kashmir	0.13	0.32	0.17	0.40
Haryana	0.33	0.60	0.31	0.37
Himachal Pradesh	0.26	0.14	0.23	0.35
Tamil Nadu	0.19	0.20	0.24	0.29
Madhya Pradesh	0.23	0.22	0.31	0.29
Karnataka	0.24	0.19	0.20	0.29
Rajasthan	0.27	0.23	0.26	0.27
Kerala	0.16	0.20	0.22	0.27
Maharashtra	0.45	0.29	0.27	0.26
Uttar Pradesh	0.11	0.11	0.16	0.21
Odisha	0.22	0.16	0.15	0.19
Assam	0.21	0.02	0.14	0.17
West Bengal	0.11	0.08	0.03	0.01

Source: Debroy & Bhandari (2011).

Public servants have wide discretionary powers which provide the oppor-
tunity to extort undue payments from companies and ordinary citizens. Award-
ing public contracts is extremely corrupt, especially at the state level. Scandals
involving high-level politicians have highlighted the payment of kickbacks in
the healthcare, IT and military sectors. The deterioration of the overall efficiency
of the government, protection of property rights, ethics and corruption as well as
undue influence on government and judicial decisions have resulted in a more
difficult business environment. Tanzi (1994) suggests that in India, like other
countries of the world, corruption is caused by excessive regulations and author-
isation requirements, complicated taxes and licensing systems, mandated spend-
ing programmes, monopoly of goods and services provided by the government,

bureaucracy, lack of penalties for corrupt public officials and lack of transparent laws and processes.

Nigeria[2] is the most populous country in Africa. During the oil boom period of the seventies, Nigeria made headlines with her oil wealth, as a country richly endowed with oil and natural gas resources and capable of financing important projects to meet basic development needs. With a per capita income of around $1,100 during the late 1970s, Nigeria was regarded as the fastest growing country in sub-Saharan Africa. Since then, Nigeria was rarely off the world press mostly due to unpleasant reputation. A common compliment given to Nigeria is that Nigeria is one of the most corrupt countries in the world. The sequence of dictatorial military regimes, disrespect for fundamental human rights, political instability and poor economic mismanagement have contributed to placing Nigeria in a bad light worldwide. These factors have also served to undermine Nigeria's economic development potential. With a per capita income of less than $500, Nigeria now ranks amongst the least developed countries in the world.

The Nigerian higher education system, once regarded as the best in sub--Saharan Africa, is in deep crisis. Health services are woefully inadequate. Graduate unemployment and the crime rate are rising. This sad state of affairs occurs despite the oil wealth. As the old cliché goes, oil has been a blessing and a curse to Nigeria. It is a blessing because the oil wealth provided Nigeria an easy entry into international capital markets and allowed the country to embark on large--scale public and private sector projects. However, the oil windfall has also presented opportunities for rent-seeking activities and corruption in both the private and public sectors of the economy. These, in turn, have changed Nigerian politics and intensified ethnic rivalry as access to and manipulation of the government-spending process has become the gateway to fortune. The forces which deter corruption are often weak as most of the law enforcement agencies are corrupt. In addition to all these, traditional rulers, politicians and civil servants are highly corrupt. Wealthy people who are known to be corrupt are regularly courted and honoured by communities, religious bodies, social clubs and other private organisations. This implies that people who benefit from the bounty of these corrupt people rarely ask questions. Such a liberal attitude suggests that corruption is endemic in Nigeria (Salisu, 2000). Table 2 provides a summary of the various determinants of corruption which fit Nigerian situation.

---

[2]   This section benefited heavily from Salisu (2000).

Table 2. Factors influencing corruption

1. Wage considerations:	a) inadequate pay b) fringe benefits and other financial incentives
2. Inefficient internal control:	a) inadequate supervision and control systems b) lack of explicit standard of performance for employees and organisations c) poor recruitment and selection procedures for personnel d) too few or too many (non-transparent) rules and procedures (red tape)
3. Insufficient external control:	a) law and order tradition, checks and balances b) lack of information made available to the public and freedom of the press c) mechanisms for citizens' participation and complaints d) difficulty of proving cases in court e) high social acceptance of corruption
4. Statutory penalty rate:	a) amount of fine, prison sentence b) administrative sanctions c) prohibition of being ever re-employed in the public sector d) penalties for relatives
5. Amount of distortions or opportunities in the economy:	a) pervasive government regulations b) high statutory tax rates, non-transparent tax regulations c) provision of government services short of demand (government monopolies)
6. Other factors:	a) cultural factors b) culture of bureaucratic elitism and education of civil servants c) leadership d) ethnic diversity

Source: Salisu (2000).

2.2. Literature review on corruption and growth

There has been a long debate on the impacts of corruption on growth, but the absence of quantitative data, most especially due to its illegal nature, has complicated the corruption-related debates (Levy, 2007). But, the relationship between corruption and economic performance has been subjected to numerous studies (Barro, 2003; Huntington, 1968; Leff, 1964; Levy, 2007; Mauro, 2002). The studies have divided economists into two opposing theorists. The most common of which is the idea that corruption is an obstruction to economic growth and development (Murphy et. al., 1993; Mauro 1995). Other theorists held that corruption could 'grease' the wheel of commerce and contribute to growth (Huntington, 1968; Leff, 1964). This review examines studies in the two camps to draw the apt one for India and Nigeria.

De Soto (1990) performed an experiment in Peru on a theory that too much of Peru's wealth and economic transactions were performed outside the official economy. To find a reason, he requested fellow scholars to legitimately set up a factory including two sewing machines. The process took 300 days, working

6 hours a day to acquire all the legal documents to set up the business. He real-
ised that it was not a question as to why entrepreneurs try to enter the market
with the help of a bribe to speed up the process or simply stay outside the infor-
mal market. Djankov, Porta, Lopez-de-Silanes, & Shleifer (2002) in an empirical
study on the regulation of entry to start-up firm in 85 countries to test De Soto's
(1990) theory established that countries with heavy regulations for starting-up
firms were infected with high-perceived corruption and a higher illegal econom-
ic sector. Mauro (2002) concluded that one of the reasons why corruption is
difficult to fight is that corruption is too widespread in some countries for indi-
viduals to fight. Mauro (1995) was the first comprehensive econometric research
to assess the impact of corruption on economic growth, using a cross-country
data. The study found a significant negative relationship between corruption
index, built using information collected from the correspondents of Business
International in 70 countries in the 1980s and the rate of growth. He concluded
that a country that improves its standing on the corruption index, say, 6 to 8
(0 being the most corrupt and 10 the least), would experience a 4% increase in
its investment rate and a 0.5% increase in its annual GDP growth rate (Mauro,
1995 after: Cabaravdic & Nilsson, 2017). Poirson (1998) and Rama (1993) also
provided econometric evidence of a statistically significant direct effect of cor-
ruption on growth. Poirson (1998) observed that corruption significantly reduces
economic growth rates while Rama (1993) using a reduced endogenous growth
model and regressing long-run growth rates on sectoral and aggregate invest-
ment rates found that lagged values of restrictive regulations decrease growth at
the aggregate level.

Capasso & Santoro (2018) argued that corruption is a complex and compli-
cated phenomenon. In their examination of the inner nature of corruption and the
emergence of the bribery contract between a public official and a private agent
seeking an illicit favour; they argued that corruption is a contract between a pub-
lic official and a private agent and the features of this contract depend on the
allocation of bargaining power between the parties. They observed that active
and passive corruption cases undergo asymmetric variations suggesting that
what the literature has advanced as the main determinant of corruption affects
active and passive corruption differently. Their results further suggest that the
magnitude of the effects of factors influencing corruption differ for active and
passive corruption cases. Active corruption is more related to government ex-
penditures on goods and services in sectors such as welfare and education and by

distorting public expenditure in welfare and healthcare, corruption may threaten socio-economic stability and reduce growth potential.

Mauro (1997) also examined how the conditional growth rate; i.e. the growth rate giving the country's starting point and population size is affected by corruption and it is observed that corruption reduces domestic investment and reduces foreign investment and hence, it reduces economic growth rate. Also, in examining a data set of bilateral foreign direct investment in the early 1990s from fourteen major source countries to forty-one host countries, Wei (1997) noted that corruption in host countries discourages foreign investment with the coefficients on corruption and host country marginal tax rate as −0.09 and −1.92 respectively. Tolu & Ogunro (2012), argued that corruption harms society by damaging economic development and reforms and hinders the growth of democratic institutions. It impedes the ability to develop countries to attract foreign investors and distorts capital allocation as well as impedes international trade. These suggest that corruption reduces domestic and foreign investments. Haque & Kneller (2015), in an endogenous growth model with information asymmetry between the government and the bureaucracy, noted that the bureaucrats could falsely report high-quality high-cost procurement while providing the low--quality low-cost product. This reduces the quality of public services and inflates the public spending, which in effect reduces growth. In the three-stage least squares estimation for a system of four equations on growth, public investment, corruption and private investment, the results show that corruption increases public investment, reduces returns to public investment and makes it ineffective in raising economic growth.

d'Agostino, Dunne, & Pieroni (2016a), argued that a major concern in the development of African economies is the impact of corruption on economic growth and while there is a general agreement on detrimental effects of corruption, there is considerable debate over its nature and importance. According to them, there is a little work on the interaction between corruption, government expenditures and how this influences economic growth in countries in the region. Their results confirm the negative effect of corruption on military spending and show that corruption increases its negative effect through its interaction with the military burden and complementary effects. Gupta, Davoodi, & Alonso--Terme (1998) using a cross-country regression over the period 1980-1997, show that high and rising corruption, as measured by the ICRG index, increases income inequality and poverty. Several channels through which corruption worsens the relative and sometimes absolute poverty were identified. Their results

show that corruption lowers economic growth, biases the tax system to favour the rich and well-connected, reduces the effectiveness of targeting social programmes, biases government policies towards favouring inequality in asset ownership, lowers social spending, reduces access to education by the poor and increases the risk of investment by the poor. Tanzi & Davoodi (1997) also carried out a systematic study on the effect of corruption on the government's public finance. Their findings suggest that corruption tends to increase the size of public investment (at the expense of private investment among other things) because many items in public expenditure lend themselves to manipulations by high-level officials to get bribes and that corruption skews the composition of public expenditure away from needed operation and maintenance towards expenditure on new equipment. They also observed that corruption skews the composition of public expenditure away from the needed health and education funds because rents are not easy to extract from these expenditures relative to other public projects.

Oghin (2013) opined that the collapse of public facilities in Nigeria has occasioned serious hardship on the people due to the fact that the money meant for repairs of the country's refineries, electric power generation installation, hospitals, roads and schools have been diverted to private ends by public officials through direct misappropriation and the award of phony contracts to their cronies. The problem of allocated resources not fully employed in some establishments as budgeted, due to corruption, retards productivity and resources utilisation, thereby tying Nigerians in the vicious cycle of poverty. Enofe, Oriaifoh, Akolo, & Oriaifoh (2016) further argued that corruption gives room for diversion of the limited public funds, undermines economic progress and impedes policy changes required for development and structural transformation in Nigeria. Rajak (2013) argued that although the Indian economy has become the 4th largest in the world, the growth has been uneven across social and economic groups and poverty is still an issue as a result of endemic and deep-rooted corruption. He maintained that corruption is a serious threat to sustainable economic growth and socio-political fabric of India. It reduces public revenue and increases public spending and contributes to fiscal deficits. He argued that corruption has increased income inequality in India because it allows well powerful individuals to take advantage of the government activity at the cost of the rest of the population and distorts markets allocation of resources.

On the effects of the growth process on the extent of corruption, Bardhan (1997) submitted that although the requisite time-series evidence in terms of

hard data is absent, circumstantial evidence suggests that corruption has generally declined with economic growth in most rich countries (and in some developing countries, like Singapore, it is reported to have declined quite fast) in the past decades. According to him, while the historical relationship between economic growth and corruption is likely to be negative in general, it is possible to predict some non-linearity in this relationship. For example, corruption may get worse for some time in some countries with the process of modernisation and growth before getting better. Because as the economy expands and becomes more complex, public officials see more opportunities for making money from their duties which may include maintaining law and order and collecting land revenue. And as the markets in many new products are 'thin' for quite some time, it creates scope for the officials to milk the process of granting monopoly rights and franchises. Bardhan (1997) argued that in the process of transition from controlled to a market economy in Eastern Europe, China, and Vietnam it was observed that there are some special factors that increase corruption even as income grows. For a significant period of time, the transition economy was on a dual-track system in which a part of the output is still under obligatory delivery at controlled prices, while the rest is allowed to be sold at market prices. This creates new opportunities for corruption. Also, the process of privatisation of state-owned enterprises in many countries gave rise to opportunities for public officials to get kickbacks from 'crony capitalist' buyers of those enterprises and contractors. Therefore, it is correct to say that the process of economic growth generates enough forces to reduce corruption.

The 'greasers' are the economists who believe that corruption contributed efficiently to economic growth and in fact could 'grease the wheels of commerce'. Leff (1964) showed that under certain circumstances corruption could have a positive effect on economic growth. His central argument was that a country might not make beneficial trades unless corruption was part of the equation. To clarify his theory, he gave Chilean and Brazilian price control regulation in the 1960s as an example of how corruption could contribute positively to growth. According to him, officials in the Brazilian and Chilean governments enforced the bureaucracy to make price regulations on food (freezing the prices) to keep the stagnated inflation under control during this period. The public acted loyally towards the regulation in Chile and prices stayed relatively stagnated. Inflation started to rise but at the cost of a decrease in food production. In Brazil, the bureaucracy could not hinder sabotage from the public on the existing price regulations and an increase in prices. The production of food increased and sta-

bilised the course of inflation. This opinion was described as the success of entrepreneurs and corrupt officials producing a more effective policy than the government.

Another example of corruption acting as grease to the wheel of commerce is 'the Asian paradox'. Asian countries have been known to have a rapid growth even though they ranked high on the perceived corruptions index. Rock & Bonnett (2004) described the Asian paradox as the combination of high corruption and high growth (in terms of stable and beneficial exchanges of government promotional privilege for bribes and kickbacks). In their analysis of five large Asian developing countries, testing for any impact corruption might have on investment and growth; their results confirmed the Asian paradox theory. But there is no explanation as to why this phenomenon exists. Economists have tried to explain the phenomenon by combining characteristics of corruption from earlier empirical investigations (Rock & Bonnett, 2004; Ugur & Dasgupta, 2011). Organisation for Economic Cooperation and Development [OECD] (2013)[3] on corruption and economic growth, observed that there have been many arguments as to the causes of the paradox, but any robust and direct explanation is yet to be found.

Cabaravdic & Nilsson (2017) also support the idea of corruption as a greaser for economic growth. In their study of the effect of corruption on economic growth in Southern Europe, using a linear panel data regression model with robust standard errors with fixed effects; they observed that corruption has a positive effect on real Gross Domestic Product per capita of 14 countries in the Southern European and the Balkan region. The implication of their results is that in the short-run, corruption might have a positive effect on economic growth in Southern Europe. The study provides evidence on the hypothesis that corruption can grease the wheels of an economy by avoiding inefficient bureaucracy. Whether these findings are subject to the level of development of the country in question is another issue that may be considered.

Osborne's (1997) documents the differences in attitude towards corruption and bribery in different countries and times and concluded that many of these differences may not be essentially cultural. He submitted that different people may have different views with respect to bribes versus gifts or group loyalty versus self-interest. Tanzi (1994) also argued that firms in some countries are culturally less inclined to have arms-length economic relationships, which in

---

[3] An investigation by OECD presented to the G20 leaders at the St. Petersburg summit in September 2013 with the objective of increasing efforts against corruption.

turn may lead to more entrenched corruption. Aidt, Dutta, & Sena (2008) studied the role of political accountability as a determinant of corruption and economic growth by identifying two governance regimes defined by the quality of political institutions and using a threshold model to estimate the impact of corruption on growth where corruption is treated as an endogenous variable. The results show that the relationship between corruption and growth is regime specific. In the regime with high-quality political institutions, corruption has a large negative impact on growth and in the regime with low-quality institutions; corruption has no impact on growth.

The review shows that there appears strong evidence in favour of corruption as a sander of economic growth and development. And the little evidence available in favour of corruption being a greaser of economic growth applied more to developed countries, regime specific, a modernised economy and economy that strictly uphold the rule of law. As a result, the theoretical proposition that corruption 'grease the wheels of commerce' may be inapplicable to developing countries like Indian and Nigerian where the dualistic economy still prevails with weak functioning institutions and legal system.

2.3. Theoretical framework

Leff (1964) gave the first theoretical framework on the effect of corruption on growth. He submitted that under certain circumstances, corruption can positively affect economic growth and investments and argued that through corruption, a country could make beneficial trades that might not have happened unless corruption was part of the equation. These sets of economists are referred to as the 'greasers' of growth. The other theorist on the effect of corruption on economic growth was described as 'sanders' of growth. These groups are the economists who did studies with the 'sand in the wheels' of growth hypothesis. This study adopts the theoretical framework of the corruption as 'sanders' of growth. This is because corruption in India and Nigeria is widespread, difficult to control and appears to be a major obstacle in the wheel of economic growth and reform in both countries. According to Mo (2001) corruption hurt innovative activities and reduces private investment and, hence, the stock of producible inputs in the long run. In addition to dwindling opportunities due to productivity obstruction, inequality in opportunities will also lead to socio-political instability. Hence, the tendency and speed of growth will be thwarted.

3. Research methodology

The framework for investigating the corruption and growth mechanism is based on the work of Mo (2001). According to Mo (2001) model, the input-output relationship is characterised by a general production function of the form:

$$Y = Tf(k, l) \tag{1}$$

Where Y is the total output level, T is total factor productivity, and K and L are the capital stock and labour. The total differentiation of Y gives:

$$dY = f dT + T(f_k dK + f_L dL) \tag{2}$$

Dividing (1) by Y yields decomposition according to Mo (2001) similar to that of Solow (1957):

$$\frac{dY}{Y} = \frac{dT}{T} + Tf_K \frac{dK}{Y} + \frac{f_L L}{f} \frac{dL}{L} \tag{3}$$

Mo (2001) submitted that equation (3) could be interpreted according to Schumpeter's theory of economic development (Schumpeter, 1912, 1939) in which two classes of influence on the evolution of an economy are distinguished. The effect of changes in factor availability (the growth component), which is related to the growth rates of capital and labour in the production function and the effect of social and technological changes, (the development component), which is related to the forces driving total factor productivity growth in the production function (Schumpeter, 1912). These components are characterised as:

$$GR = F(g, IY, dLL) \tag{4}$$

Where GR and γ are the growth rates of real GDP and total factor productivity, IY is the investment-output ratio, and dLL is the growth rate of labour. In this expression, $F\gamma$ equals 1, F_{IY} is the marginal product of capital, and F_{dLL} is the elasticity of output to labour. Four robust variables that determine growth are the share of investment in GDP, the rate of population growth, the initial level of real GDP per capita, and human capital (Levine & Renelt, 1992). The first two variables belong to the growth component and the last two belong to the development component. Thus, the rate of productivity growth is determined by:

$$g = g(Corrupt, y^0, Human) \tag{5}$$

Where γ is the dependent variable, we chose the annual growth of real gross domestic product per capita in percentage. This variable is mostly used as an indicator of economic growth in some countries (Barro, 1991). Corrupt is an index for the level of corruption where we chose Corruption Perception Index (in which any year India and Nigeria are classified as the most corrupt country received 1 and 0 otherwise), y^0 is the initial GDP per capita and Human is an index for human capital stock. The expected sign of the initial per capita output is assumed negative because of the convergence tendency due to the knowledge gap between countries in the literature of endogenous growth. The larger the knowledge gap, the easier it is for a country to raise its productivity by learning, imitating, and adapting technology from the leading economies (Barro & Sala--I-Martin, 1995). The initial per capita output is commonly used to capture this effect. According to Benhabib & Spiegel (1994), the human capital stock has a positive effect on the growth rate of total factor productivity because an educated labour force is better at creating, and implementing new technologies, which generates a higher rate of productivity growth. Since we use corruption as a sander of growth theory, the a priori expectation of the coefficient of corruption is expected to be negative.

On the transmission channels, the theoretical literature identified investment channel, human capital channel and political stability channel as the various channels by which corruption affects economic growth. On investment channel, the literature suggests that corruption is strongly negatively associated with the share of private investment; hence, it lowers the rate of economic growth (Mauro, 1995). Mo (2001) further argued that if the rate of GDP growth depends on the share of investment, which in turn depends on the level of corruption, the effect of corruption on the growth rate can be decomposed as:

$$\frac{dGR}{dCORRUPT} = \frac{dGR}{dCORRUPT} + (\frac{dGR}{dIY}\frac{dIY}{dCORRUPT}) \qquad (6)$$

This relationship also applies to the human capital channel, political stability channel and other probable transmission channels. For comparison purposes, we estimated the role of each channel individually for each country and then analyse their effects when all are included in the regression.

For the decomposition of the transmission channels, Mo (2001) observed that if the human capital level, political instability, and the share of investment are not independent, analysing their contributions in the above manner will give biased results. Hence, the suitable manner would be to analyse all possible chan-

nels simultaneously. Based on the estimations of the various transmission channels; the role of the stock of human capital, political instability, and investment ratio was calculated from the decomposition of the total effect as:

$$\frac{dGR}{dCORRUPT} = \frac{dGR}{dCORRUPT} + \sum_{TV} (\frac{dGR}{dTV} \frac{dTV}{dCORRUPT}) \qquad (7)$$

Where TV equals human, political stability and investment channels.

To study the determinants of the growth rates of total factor productivity and the capital stock, Mo (2001) argued that a relatively long observation period is required. Hence, the period from 1980 to 2015 is chosen for the study. As independent variables, we select the Corruption Perception Index (where any year India and Nigeria are classified as the most corrupt country received 1 and 0 otherwise), population growth, trade openness as a percentage of gross domestic product, gross capital formation as a percentage of gross domestic product, foreign direct investment net inflow as a percentage of gross domestic product and GDP per capita growth. All the variables are calculated and gathered on an annual basis starting from 1980 to 2015. The growth rate of the population is used as a proxy for the growth rate of labour. Although the two variables may not have identical effects on the growth of GDP, population growth is commonly used as a proxy for labour growth because the quality of the data on population is better. Also, the estimated coefficient of the population growth rate can disclose its effect on the change in per capita GDP. The literacy rate over age 15+ is used as the proxy for the level of the human capital stock. The political instability (INSTAB) was measured using the battle-related deaths (number of people).

As in Mo (2001) ordinary least squares method (OLS) and the White Heteroscedasticity-adjusted *t*-statistics are used for the estimation method. The data are from World Bank (2017) world development indicators except the measure of an institutional characteristic which comes from the political index.

4. Research findings

The index of corruption was captured using the Corruption Perception Index (in which a dummy variable of 1 was given to any year Nigeria rank high in the Corruption Perception Index and 0 otherwise). Only 1983-1985 receive zero while other years receive 1. Other variables are population growth rate (Pop growth), trade openness (Trade open), education measured by the primary school

completion rate (Human), the output of agriculture, industry and service sectors (Cap Form), foreign direct investment net inflow as a percentage of gross domestic product (foreign), logarithm of aggregate income (In INC) and GDP per capita growth. The political instability (INSTAB) was measured using the battle-related deaths (number of people). All the variables are calculated and gathered on an annual basis starting from 1980 to 2015. Estimation was separately done for each country.

Tables 3 and 4 show correlation coefficients and descriptive statistics for India and Nigeria, and a weak positive correlation between corruption and GDP growth rate for both countries. While we can predict the absence of multicollinearity with these results, the positive correlation coefficient appears surprising.

Table 3. Correlation coefficients and descriptive statistics: India

Specification	Cap form	Trade open	Pop growth	Foreign	GDP growth	INSTAB	Corrupt	Human	In INC
Cap Form	1.0000								
Trade open	0.9224	1.0000							
Pop growth	−0.8722	−0.9468	1.0000						
Foreign	0.8359	0.8813	−0.8265	1.0000					
GDP Growth	0.5357	0.3965	−0.3879	0.2994	1.0000				
INSTAB	−0.3450	−0.4546	0.4180	−0.4116	−0.3658	1.0000			
Corrupt	−0.2376	−0.4774	0.5959	−0.3215	0.0793	0.2344	1.0000		
Human	0.3603	0.3696	−0.4514	0.3862	0.2758	−0.3691	−0.3575	1.0000	
InINC	0.8192	0.9320	−0.9677	0.8115	0.3870	−0.5079	0.6037	0.4671	1.0000
Mean	29.61	28.96	1.81	0.85	6.33	1318.48	0.75	59.045	40461.9
(SD)	(6.71)	(14.99)	(0.36)	(0.91)	(2.15)	(668.37)	(0.44)	(4.62)	(19622.)
Number of Observation	36	36	36	36	36	36	36	36	36

Table 4. Correlation coefficients and descriptive statistics: Nigeria

Specification	Cap form	Trade open	Pop growth	Foreign	GDP growth	INSTAB	Corrupt	Human	In INC
Cap Form	1								
Trade open	−0.4517	1							
Pop growth	0.5050	0.3713	1						
Foreign	−0.3660	0.4118	−0.3832	1					
GDP Growth	−0.4506	0.2035	−0.0394	0.0685	1				
INSTAB	0.1070	−0.3116	0.0356	−0.1734	−0.2496	1			
Corrupt	−0.1334	0.4790	0.1612	0.2581	0.1318	0.0000	1		
Human	0.1475	−0.3350	−0.0072	−0.1780	−0.0712	0.4674	0.4674	1	
In INC	0.2106	−0.2871	0.7359	−0.3076	0.2650	0.1574	0.1256	0.1233	1.0000
Mean	12.587	51.05	2.59	2.89	3.69	1620.6	0.92	55.21	248861.1
(SD)	(6.12)	(16.36)	(0.08)	(2.34)	(7.56)	(730.98)	(0.28)	(1.02)	(69385.7)
No. of Obs.	35	36	36	36	36	36	36	36	36

Tables 5 and 6 present the results of the effects of corruption on economic growth. In the case of India, the results show that corruption has a dwindling effect on economic growth when the measures of human capital, political insta-

bility and capital formation were not included in the regression. But when all these measures were interchangeably included and also combined together in the regression, corruption appears to have a positive effect on growth. One may, therefore, conclude that human capital formation, political instability, and capital formation can lessen the negative effect of corruption on growth to the extent that corruption aid growth positively. This result can be viewed in the light of the greasers who believe that corruption contributed to economic growth and the Asian paradox that combined high corruption with high growth. Trade openness negatively impacted on economic growth in the result for India. This may be due to the extent of openness of India's economy. A trade openness that involves more import and less export will contribute less to economic growth and may adversely affect growth trajectory. Therefore, a high degree of trade openness may explain why trade openness obstructed economic growth in India.

Table 5. The effects of corruption on growth rate: India

Specification	I GDP growth	II GDP growth	III GDP growth	IV GDP growth	VI GDP growth
Corruption	−1.09 (1.18)[a]	1.33 (1.16)	0.88 (1.13)	1.09 (1.13)	0.99 (1.16)
In INC	0.37 (0.17)**	0.34 (0.166)***	0.41 (0.16)*	0.34 (0.15)**	0.39 (0 .16)**
Trade open	−0.11 (0.09)	−0.08 (0.09)	−0.13 (0.09)	−0.09 (0.10)	−0.11 (0.10)
Pop growth	2.41 (4.53)	2.23 (4.61)	0.46 (4.11)	−2.15 (3.17)	0.49 (4.28)
Foreign	−0.98 (0.59)	−1.10 (0.57)***	−1.01 (0.58)***	−1.09 (0.62)***	−1.07 (0.58)***
INSTAB	−	−	−0.01 (0.02)	−0.001 (0.0006)***	−0.0009 (0.0006)
Human	−	0.06 (0.12)	−	0.04 (0.09)	0.03 (0.09)
Cap Form	−	0.01 (0.01)***	0.06 (0.05)		0.06 (0.05)
Cons	−10.43 (12.35)	−13.17 (14.54)	−3.84 (10.81)	1.76 (10.28)	−5.53 (12.49)
R^2 No. of Obs.	0.45 36	0.46 36	0.51 36	0.50 36	0.50 36

Note: Robust Standard Error, *, **, *** Significant at 1%, 5% and 10% level.

Table 6. The effects of corruption on growth rate: Nigeria

Specification	I GDP growth	II GDP growth	III GDP growth	IV GDP growth	VI GDP growth
1	*2*	*3*	*4*	*5*	*6*
Corrupt	−0.54 (5.19)[a]	−1.05 (5.58)	−2.51 (5.22)	−1.18 (5.92)	−2.12 (5.49)
In INC	15.42 (6.68)**	15.80 (6.92)	0.06 (0.02)**	−0.73 (0.25)	0.06 (0.02)**
Trade open	0.04 (0.09)	0.02 (0.10)	−0.02 (0.09)	−0.06 (0.18)	−0.09 (0.02)
Pop growth	−21.09 (30.35)	−24.28 (32.93)	−2.99 (0.68)	2.32 (2.97)	−0.22 (2.63)

Table 6 cont.

1	2	3	4	5	6
Foreign	−0.15	−0.17	−0.29	−0.32	−0.27
	(0.59)	(0.61)	(0.58)	(0.64)	(0.59)
INSTAB	−	−	−0.03	−0.03	−0.03
			(0.02)***	(0.02)	(0.02)***
Human	−	−0.39	−	0.93	0.39
		(1.34)		(1.44)	(1.35)
Cap Form	−	−0.55	−0.53		−0.54
		(0.24)**	(0.24)**		(0.24)**
Cons	−2.91	−1.15	4.67	−6.79	5.30
	(4.06)***	(1.59)	(4.55)	(3.45)	(2.27)
R^2	0.65	0.68	0.56	0.45	0.56
No. of Obs.	35	35	35	35	35

Note: Robust Standard Error, *, **, *** Significant at 1%, 5% and 10% level.

In the case of Nigeria, Table 6 shows that corruption has a stifling effect on economic growth when the measures of human capital, political instability and capital formation were both included and excluded in the regression. Therefore, the analyses indicate that corruption is a hindrance to economic growth in Nigeria. This result supports the position of Murphy et al. (1993), Mauro (1995), Oghin (2013), and Enofe et al. (2016) that corruption undermines economic progress and impedes policy changes required for development and structural transformation. Trade openness impacted negatively on economic growth when the measures of human capital, political instability, and capital formation are included in the regression. Both India and Nigeria shared a common reason for this situation. Both countries imports are high compared to their exports and also exports non-value added goods. Population growth has a positive effect on growth only when the index of capital formation is removed from the regression. But, only income and human capital impacted positively on the growth of GDP when all the variables are included in the regression.

The transmission mechanism results in Table 7 show that corruption adversely affects economic growth through investment and human capital. But in term of political instability, corruption does not appear to have a negative effect on economic growth in both countries. Therefore, the level of investment and the growth of human capital suffered setback due to corrupt practices in Nigeria and India and which have a negative externality on economic growth.

Table 7. Transmission mechanism

Specification	I		II		III	
	Investment Channel		Human Capital		Instability	
	India	Nigeria	India	Nigeria	India	Nigeria
Corrupt	−0.02	−0.04	−3.28	1.24	3.72	3.61
	(0.02)[a]	(0.15)	(2.53)	(0.75)	(5.21)	(4.79)
GDP growth	0.01	0.01	0.51	0.05	−0.5505	−2.52
	(0.01)**	(0.04)**	(0.45)	(0.02)	(0.23)	(1.56)
Foreign	0.04	−0.02	1.15	0.02	−1.84	−1.43
	(0.01)*	(0.06)	(1.33)	(0.04)	(6.79)	(2.00)
Pop growth	−1.15	2.86	0.16	−4.99	−2.38	−1.85
	(0.04)*	(0.55)	(6.53)**	(3.26)	(7.92)	(2.10)
Cons	12.52	5.05	5.00	6.51	1.09	1.896
	(0.08)*	(1.40)	(1.49)*	(8.20)	(6.93)	(2.616)
R^2	0.99	0.75	0.26	0.65	0.26	0.55
No. of Obs.	36	35	35	35	36	35

Note: Robust Standard Error, *, **, *** Significant at 1%, 5% and 10% level.

5. Discussion

This study investigates the effects of corruption on economic growth for both Nigeria and India; two countries with similar economic characteristics and plagued with endemic corruption. The results show that corruption has a dampening effect on growth in both countries and the transmission channels for this was through investment and human capital. These indicate that the theoretical foundation of corruption as sanders of growth applied more to India and Nigeria. This may also be the case with other Sub-Saharan African countries because most of these countries have weak institutional setting and low-level adherence to the rule of law. For corruption to impact positively on growth, the institutional set-up must be strong with strong adherence to the rule of law. These requirements are clearly absent in the two countries and most Sub-Saharan African countries. Therefore, efforts to block the avenues through which corruption affect investment and human capital development need to work more on increasing the adherence to the rule of law and making all institutions more responsible. In fact, a critical step in curtailing corrupt practices is to improve the performance of the institutions of law, public utilities, and other government institutions. The level of investment and the growth of human capital suffered a setback as a result of corrupt practices in both countries which impacts negatively on economic growth and development. There is a need to reduce or eradicate corrupt practices in both countries for a successful economic reform programme and in the making of a new India and Nigeria. Corruption is more a sander of growth in both countries where the transmission mechanisms show corruption having negative effects on economic growth.

6. Conclusions

6.1. Research contribution

This study investigates the effects of corruption on economic growth in India and Nigeria within the context of theoretical arguments of corruption as greaser of growth and corruption as sander of growth. The results show that corruption is a sander on growth in both India and Nigeria and it adversely affects growth through investment on human capital. The study adds to the existing literature by investigating the issue in two different countries with similar economic characteristics in Sub-Saharan Africa and Asia. The study corroborates the arguments of the scholars on corruption as sander on growth that corruption can only improve growth in the development process if there is a strong institution of law, public utilities and other government institutions. Hence, the study agreed more with the position that corruption impedes growth.

6.2. Research implication

The implication of this study is that the idea of corruption as greaser of growth might not be applicable to countries with weak government institutions. Therefore, growth trajectory may be impeded by corrupt practices in many low--income countries because most of these countries are without strong government institutions. Hence, efforts at eradicating corruption should concentrate more on establishing strong and efficient government institutions. This would provide a necessary positive external effect on the growth of investment and human capital which would improve economic growth and development.

6.3. Research limitation

The limitation of this study is that the study makes use of an aggregate index of corruption perception index. Using index of corruption for different government institutions might show government institution that has greater effect on growth process. Therefore, future researches might examine the effects of corruption on growth by using a disaggregated corruption index, especially for different government institutions.

References

Aidt, T., Dutta, J., & Sena, V. (2008). Governance regimes, corruption, and growth: Theory and evidence. *Journal of Comparative Economics, 36*(2), 195-220. doi: 10.1016/j.jce.2007.11.004

Azariadis C., & Lahiri, A. (2002). Do rich countries choose better governments? *Contributions in Macroeconomics, 2*(1), 1-39. doi: 10.2202/1534-6005.1051

Bai, J., Jayachandran, S., Malesky, E. J., & Benjamin A. O. (2013). *Does economic growth reduce corruption? Theory and evidence from Vietnam* (Working Paper 19483). Cambridge, MA: NBER. doi: 10.3386/w19483

Bardhan, P. (1997, September). Corruption and development: A review of issues. *Journal of Economic Literature, 35*(3), 1320-1346. Retrieved from http://www.jstor.org/stable/2729979

Barro, R. (1991). Economic growth in a cross section of countries. *The Quarterly Journal of Economics, 106*(2), 407-443. Retrieved from http://www.jstor.org/stable/2937943. doi: 10.2307/2937943

Barro, R. J. (2003). Determinants of economic growth in a panel of countries. *Annals of Economics and Finance, 4*, 231-274. Retrevied from http://down.aefweb.net/WorkingPapers/w505.pdf

Barro, R. J., & Sala-i-Martin, X. (1995). *Economic growth*. New York: McGraw-Hill.

Beck, P. J., & Maher, M. W. (1986) A comparison of bribery and bidding in thin markets. *Economics Letters, 20*, 1-5. Retrieved from https://deepblue.lib.umich.edu/bitstream/handle/2027.42/26307/0000392.pdf?sequence=1

Benhabib, J., & Spiegel, M. M. (1994). The role of human capital in economic development: Evidence from aggregate cross-country data. *Journal of Monetary Economics, 34*(2), 143-173. doi: 10.1016/0304-3932(94)90047-7

Cabaravdic, A., & Nilsson, M. (2017). *The effect of corruption on economic growth. Does corruption show a significant effect on the growth of an economy?* (Bachelor thesis in economics). Retrieved from http://www.diva-portal.se/smash/get/diva2:1107921/FULLTEXT01.pdf

Capasso, S., & Santoro, L. (2018). Active and passive corruption: Theory and evidence. *European Journal of Political Economy, 52*, 103-119. Retrieved from https://ideas.repec.org/a/eee/poleco/v52y2018icp103-119.html. doi 10.1016/j.ejpoleco.2017.05.004

d'Agostino, G., Dunne, J., & Pieroni, L. (2016a). Corruption and growth in Africa. *European Journal of Political Economy, 43*, 71-88. https://ideas.repec.org/a/eee/poleco/v43y2016icp71-88.html. doi: 10.1016/j.ejpoleco.2016.03.002

Debroy P., & Bhandari F. (2011). Corruption in India. *The World Finance Review, March 3*. Retrieved from http://www.worldfinancialreview.com/?p=2346

De Soto, H. (1990). *The other path: The invisible revolution in the third world*. Harper: New York.

Djankov, S., La Porta, R., Lopez-de-Silanes, F., & Shleifer, A. (2002). The regulation of entry. *The Quarterly Journal of Economics, 117*(1), 1-37. Retrieved from https://academic.oup.com/qje/article/117/1/1/1851750

Ernst & Young. (2013). *Bribery and corruption: Ground reality in India*. Retrieved from https://www.ey.com/in/en/services/assurance/fraud-investigation---dispute-services/bribery-and-corruption-ground-reality-in-india

Ehrlich, I. (1999). Bureaucratic corruption and endogenous economic growth. *Journal of Political Economy, 107*(S6), S270-S293.

Enofe, A. O., Oriaifoh, A., Akolo, I., & Oriaifoh, C. L. (2016). Corruption and Nigeria economic growth. *International Journal of Advanced Academic Research Social & Management Sciences, 2*(4), 26-35. Retrieved from http://www.ijaar.org/articles/volume2-number4/Social%20And%20Management%20Sciences/ijaar-mgmt-v2n4-a16-p6.pdf

Gupta, S., Davoodi, H., & Alonso-Terme, R. (2002). Does corruption affect income inequality and poverty? *Economics of Governance, 3*(1), 23-45. Retrieved from https://EconPapers.repec.org/RePEc:spr:ecogov:v:3:y:2002:i:1:p:23-45

Haque, M. E., & Kneller, R. (2015). Why does public investment fail to raise economic growth? The role of corruption. *Manchester School, 83*(6), 623-651. https://ideas.repec.org/a/bla/manchs/v83y2015i6p623-651.html

Huntington, S. P. (1968). *Political order in changing societies*. New Haven, CT: Yale University Press.

KPMG. (2011). *Impact on economy and business environment. Survey on bribery and corruption – impact on economy and business environment*. Retrieved from https://www.scribd.com/document/56792383/KPMG-Bribery-Survey-Report-Mar-2011

Leff, N. (1964). Economic development through bureaucratic corruption. *American Behavioral Scientist, 8*(3), 8-14. doi: 10.1177/000276426400800303

Leite, C., & Weidmann, J. (1999). Does mother Nature corrupt? Natural resources, corruption, and economic growth (Working Paper WP/99/85). Washington, DC: IMF. Retrieved from https://www.imf.org/external/pubs/ft/wp/1999/wp9985.pdf

Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *American Economic Review, 82*(4), 942-963. Retrieved from https://www.jstor.org/stable/2117352?seq=1#page_scan_tab_contents

Levy, D. (2007). Price adjustment under the table: Evidence on efficiency-enhancing corruption. *European Journal of Political Economy, 23*(2), 423-447. doi: 10.1016/j.ejpoleco.2007.01.001

Lien, D. H. D. (1986). A note on competitive bribery games. *Economics Letters, 22*, 337-41. doi: 10.1016/0165-1765(86)90093-5

Lui, F. T. (1985). An equilibrium queuing model of bribery. *Journal of Political Economy, 93*(4), 760-781. doi: 10.1086/261329

Mauro, P. (1995). Corruption and growth. *The Quarterly Journal of Economics, 110*(3), 681-712. http://www.jstor.org/stable/2946696

Mauro, P. (1997). The effects of corruption on growth, investment and government expenditure: A cross country analysis in corruption and the global economy. In K. A. Elliott (Ed.), *Corruption and the global economy* (Chapter 4). Washington, DC: Washington Institute for International Economics.

Mauro, P. (2002). *The persistence of corruption and slow economic growth* (Working Paper No. 02/213). Washington, DC: IMF. Retrieved from https://www.imf.org/external/pubs/ft/wp/2002/wp02213.pdf

Mo, P.-H. (2001). Corruption and economic growth. *Journal of Comparative Economics, 29*(1), 66-79. doi: 10.1006/jcec.2000.1703

Murphy, K. M., Shleifer, A., & Vishny, R. W. (1993). Why is rent-seeking so costly to growth? *The American Economic Review, 83*(2), 409-414. Retrieved from https://scholar.harvard.edu/files/shleifer/files/rent_seeking.pdf

OECD. (2013). *The rationale for fighting corruption*. Retrieved from http://www.oecd.org/cleangovbiz/49693613.pdf

Oghin, F. E. (2013). Corruption in the matrix of development in Nigeria. *European Scientific Journal, 9*(7), 78-87. doi: 10.19044/esj.2013.v9n7p%p

Osborne, D. (1997). Corruption as counter-culture: Attitudes to bribery in local and global society. In B. Rider (Ed.), *Corruption: The enemy within* (pp. 9-34). Hague: Kluwer Law International.

Poirson, H. (1998). *Economic security, private investment, and growth in developing countries* (Working Paper No. 98/4). Washington, DC: IMF. Retrieved from https://www.imf.org/external/pubs/ft/wp/wp9804.pdf

Rajak, J. S. (2013). Corruption in India: Nature, causes, consequences and cure. *IOSR Journal of Humanities and Social Science, 18*(5), 20-24. Retrieved from http://www.iosrjournals.org/iosr-jhss/papers/Vol18-issue5/C01852024.pdf

Rama, M. (1993, October). Rent-seeking and economic growth: Alternative model and some empirical evidence. *Journal of Development Economics, 42*, 35-50. https://ideas.repec.org/a/eee/deveco/v42y1993i1p35-50.html

Rock, M., & Heidi, B. (2004). The comparative politics of corruption: Accounting for the East Asian paradox in empirical studies of corruption, growth and investment. *World Development, 32*(6), 999-1107.

Romer, P. (1994). New goods, old theory, and the welfare costs of trade restrictions. *Journal Development Economics, 43*(1), 5-38. doi: 10.1016/03043878(94)90021-3

Salisu, M. (2000). *Corruption in Nigeria* (Working Paper No. 006). Lancaster: The Department of Economics, Lancaster University Management School. Retrieved from eprints.lancs.ac.uk/48533/1/Document.pdf

Schumpeter, J. A. (1912). *The theory of economic development* (trans. R. Opie). Cambridge, MA: Harvard University Press.

Shleifer, A., & Vishny, R. W. (1993). Corruption. *The Quarterly Journal of Economics, 108*(3), 599-617. https://projects.iq.harvard.edu/gov2126/files/shleifer_and_vishy.pdf

Singh, N. (2010, December). The trillion-dollar question. *The Financial Express*. Retrieved from http://www.financialexpress.com/archive/the-trillion-dollar-question/726482/

Solow, R. (1957). A contribution to the theory of economic growth. *Quarterly Journal of Economics, 70*(1), 65-94. doi: 10.2307/1884513

Tanzi, V. (1994). *Corruption, governmental activities and markets* (Working Paper No. 94/99). Washington, DC: IMF. Retrieved from https://www.imf.org/en/Publications/WP/Issues/2016/12/30/Corruption-Governmental-Activities-and-Markets-1912

Tanzi, V., & Davoodi, H. (1997). Corruption, public investment and growth (Working Paper No. 139). Washington, DC: IMF. Retrieved from https://www.imf.org/external/pubs/ft/wp/wp97139.pdf

Tolu, L., & Ogunro, K. V (2012). Combating corruption in Nigeria. *International Journal of Academic Research in Economics and Management Sciences, 1*(4), 2226- 3624.

Transparency International. (2008). *India corruption study*. Retrieved from http://www.transparencyindia.org/resource/survey_study/India%20Corruptino%20Study%202008.pdf

Transparency International. (2016). The global coalition against corruption. Retrieved fromhttps://www.transparency.org/news/feature/corruption_perceptions_index_2016 https://

Ugur, M., & Dasgupta, N. (2011). *Corruption and economic growth: A meta-analysis of the evidence on low income countries and beyond* (MPRA Paper No, 31226). Retrieved from https://mpra.ub.uni-muenchen.de/31226/1/MPRA_paper_31226.pdf

Wei, S.-J. (1997, November). *How taxing is corruption on international investors?* (Working Paper No. 6255). Cambridge, MA: NBER. doi: 10.3386/w6030

World Bank. (2017). *World development indicators*. Retrieved from wdi.worldbank.org