

## **CORRUPTION AND STATE CAPACITY IN SUB-SAHARAN AFRICA: A CROSS COUNTRY ANALYSIS**

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### **Abstract**

*Corruption has been a major hindrance to the development of most African States. Corruption in governance can distort policymaking and therefore affect state capacity. The capacity of the state is divided into the extractive (fiscal capacity) and productive capacity (legal capacity). This study focused on the extractive capacity and did a cross-country regression analysis using panel data across Sub-Saharan Africa region to explore the fixed and random effect specification of the variables. The result obtained indicated that corruption has a negative influence on the fiscal capacity (measured as tax revenue) of countries in Sub-Saharan Africa. The paper also showed that corruption alone might have no significant effect on tax revenue if governance is not included. This implies that good governance is a very important determinant of state capacity and it is highly correlated with corruption. The result suggests that good governance which includes its key requirements; accountability, transparency, political stability and rule of law will improve the fiscal capacity of a state, as this will make corruption difficult to take root.*

*Keywords: Corruption, state capacity, economic growth, fiscal capacity*

### **INTRODUCTION**

Corruption has been a major problem hindering growth in most Sub-Saharan African countries. According to Transparency International, six out of the ten most corrupt countries are in sub-Saharan Africa and it is typically political corruption, which impedes the capacity of a state to grow. The scale of corruption in this region ranges from high political corruption involving embezzlement of millions to low-level bribery in day-to-day activities. According to Transparent

International (2015), 75 million people in Sub-Saharan Africa were estimated to have paid a bribe in 2014. African Union report, (2002), also reiterated that Africa lost about \$150 billion yearly to corruption. These funds could be translated into economic growth if they were properly channelled to finance growth-inducing programmes.

The state is seen as an indispensable instrument for economic development and it can only function if growth policies are effectively and efficiently implemented without being hindered by corruption. According to Chang, (2004), the most deleterious effect of corruption is when policy-making is seriously distorted. This is where corruption can be associated with the effectiveness of a state as corruption weakens public service delivery, misdirects public resources, and holds back the growth that is necessary to pull people out of poverty (World Bank, 2000). There is also a mounting realisation that unsuitable policies do not always result from a lack of knowledge about what the best policies should be. Rather, they may result just as much from decision-makers distorting economic policies for their own interest (Coolidge & Rose-Ackerman 1997, Grossman and Helpman 1994, Krueger 1993a and 1993b) as cited in Jain (2001).

There are two broad types of capability that allows the state to take action; one is concern with the extractive role of the state i.e. *fiscal capacity* - the ability to raise revenue that can be spent on income support or services to its citizens (Besley and Persson 2011). The other has to do with the productive role of the state i.e. *legal capacity* – protection of property rights or the enforcement of contracts. The inability of a state to carry out these extractive and productive roles due to political corruption or corruption in policy making is a serious issue as this might go a long way in distorting economic activities and thus affect development.

The objective of this study is to examine the effect of corruption on the extractive role (fiscal capacity) in the Sub-Saharan Africa. The study also examines the relationship that exists between corruption, governance and economic growth.

## LITERATURE REVIEW

Corruption is a problem that mainly arises in the interaction between government and the market economy where the government itself must be considered endogenous. Therefore it is complex to handle from a theoretical point of view (Andvig et al. 2000). Establishing a link between corruption and state capacity just like other research on corruption is not a straight forward task because corruption is difficult to measure by its nature as it is usually carried out in secrecy and away from public eye and record (Jain 2001). It is therefore very difficult to gather data and the various indices use to quantify it may not capture the actual effect in real life. There are several literatures on the effect of corruption and various economic indicators. The aim of

this section is to review different literature on corruption in line with the objectives of this study. The section reviewed past literature on corruption and growth, fiscal and legal capacity.

### **Determinants of Corruption**

It is very difficult to give a clear answer as regards to the causes of corruption due to its nature. Corruption and various dimensions of governance, such as the rule of law, voice, accountability, stability, and regulatory effectiveness, are so closely intertwined that separating cause from effect is very difficult (Donnell 2006). However several studies have tried to give some logical explanations on some factors that can enable the trivial of corruption. According to Jain (2001), corruption requires three elements to co-exist. The first is the presence of discretionary powers. There must be someone with discretionary powers over the allocation of resources. This power would include authority to design regulation as well as administer them. The term discretionary power like corruption is difficult to measure. Regulation locates powers with those implementing it, therefore there would be more corruption in a regulated and controlled economies due to large discretionary powers as opposed to market economies. As the regulated economy becomes more liberalised, the level of corruption is expected to decline but does not because the relationship is very complex and it appears that liberation is accompanied by more corruption. The process of transferring large volume of assets from public to private hands can create opportunity for corruption. Also the imperfection of the reform process itself could lead to opportunistic behaviour (Johnston & Hao, 1995) as cited in Jain (2001). The second determinant is the presence of economic rents associated with the discretionary power. The higher the rents, the greater the incentive for property owner to attempt to evade regulations and the higher the value of the side payments they could offer the agents who hold the discretionary powers. An indirect test for the proposition that excess rents may be related to the level of corruption is provided by a study that shows that as markets become more global, the success of commercial banks and other financial institutions come to depend more on their competitive strategies and less on protective regulations. The third determinant for corruption is that those engaged in corruption must believe that the utility of income from corruption is worth the inconveniences caused by the penalties associated with such acts, in other words, the legal/judicial system must offer sufficiently low probability of detection and or/ penalty for the wrongdoing. Studies by Seldadyoandde Haan (2006) identified four determinants of corruption namely economic and economic institutions, political, judicial and bureaucratic, and religious and geo-cultural factors. Economic factors linked to the determinant of corruption include level of country's development, imports share of GDP and size of government. Political factors linked to corruption include higher degree of female participation in public life, larger electoral districts, and non-federal

systems civil liberty, political freedom, political rights, length of democratic regime. Democracy appears to influence corruption only over the long-term. Bureaucratic factors associated with corruption includes rule of law, government wages and quality of bureaucracy. A religious and geo-cultural factor includes population with particular religion affiliation, colonial heritage and ethno linguistic homogeneity (Seldadyo& de Haan 2006)

### **Corruption and Economic Growth**

In general cross-section studies across many several countries have found that the incidence of corruption is negatively related to gross domestic product per capita, openness to external trade, the quality of the bureaucracy, and the quality of the legal systems (Lambdorf 1999). It is very essential to review past literature on corruption and growth because the ultimate goal of any economy is to achieve a reasonable level of growth. This is why most research on economic development aims at explaining different factors that may hinder or boost economic growth. Moreover there is no way to explaining the effect of corruption on state capacity without making any reference to economic growth – if capacity is hindered then economic growth would be affected. Mauro (1995) was one of the most influential studies as it brought corruption into the renewed field of economic growth studies among economists (Advig et.al 2000). Using a cross-country data of 68 countries to analyse the effect of corruption on investment and growth, the study found a significant negative relationship between corruption index and the rate of growth, however this impact disappeared when the ratio of investment was included as an explanatory variable. In Mauro (1996), endogeneity bias was corrected by using instrumental variable and there was a significant negative relationship between corruption index and the investment rate and rate of growth. There is a strong correlation between GDP per capita and a country's ranking on corruption indexes. However, no causality between GDP and corruption can be derived from this (Lambsdorff, 1999).

Although it is very difficult to determine the direction of causality between corruption and GDP, there are many channels through which higher corruption may reduce economic growth. An example is the quality of investment, which is very important in the productivity of capital and GDP. Corruption affects investment levels and patterns directly, in three ways, and indirectly, by affecting collection and hence the volume of funds available to the government for allocation (Tanzi&Davoodi 1997). It affects government expenditures directly because some activities lend themselves to corruption more than others. Hence, funds will be allocated where the corruption is highest (Mauro 1997, Tanzi&Davoodi 1997). Corruption could also affect investments by altering the incentives for entrepreneurs in that they can expect to receive less for their efforts and face greater uncertainty (Murphy, et. al., 1991). Some studies also tried to provide evident

that bureaucratic corruption could aid economic growth. An example is Mironov (2005), the study showed that different types of corruption affects development in different ways and it is only corruption that is associated with poor institution that has a negative effects on growth. The part that is uncorrelated with government institution is regarded as “good corruption” and it has a positive effect on growth.

### **Corruption and Fiscal Capacity**

Fiscal capacity is an important aspect of state capacity. A reduction in efficiency in this branch of the government is likely to mean that fewer returns are processed and when individuals' living standards are squeezed; their incentive to accept bribes in lieu of collecting taxes is increased (Besley&Mclaren 1993). Besley&Mclaren (1993) developed a simple model to evaluate alternative payment schemes for tax inspectors in the presence of corruption. The result suggested that an evenly distribution of tax burden and strong monitoring of tax inspectors is needed for wage strategy to be efficient in reducing bureaucratic corruption when raising revenue.

Empirical studies on corruption and fiscal capacity majorly tries to explain the relationship between corruption and tax revenue. Gupta (2007) for instance, explains that corruption has a significantly negative effect on revenue performance. Based on empirical findings, corruption in tax administration and political instability is more prominent in developing countries thereby affecting revenue generation. TanziandDvoodi (1997) have provided evidence that countries with high level of corruption tend to have lower collection of tax revenues in relation to GDP. La Porta et al. (1999) as cited in (Lambsdorff, 1999) showed that less corrupt countries have fewer bureaucratic delays and higher tax compliance. Johnson, et.al. (1997) econometric study on unofficial economy for the 25 transitional economies finds that low tax distortions and regulations, high government revenues and sufficient provision of public goods in the official sector largely undermine the unofficial activity. Ajazand Ahmed (2010) analysed the effect of corruption and governance on tax revenue in 25 developing countries and the result showed corruption has a significant effect on taxes. Abdulmumin (2012) develops a simple empirical framework for understanding the relationship between fiscal capacity and corruption in a multiple-equilibria setting considering the initial and recent conditions of a country. The empirical evidence suggests that there is a strong association between the fiscal capacity and the level of perceived corruption across countries.

## Corruption and Legal Capacity

Explaining how corruption may affect state capacity in terms of revenue collection alone is not enough. Legal capacity is also an important aspect of a state's role. According to Besley and Persson (2011) fiscal and legal capacities tend to be complements. Investment in one aspect tends to reinforce the motives to invest in the other. If future fiscal capacity is higher, additional fiscal benefits makes it more advantageous to invest in legal capacity to expand market income and prospective tax base. Also a higher future legal capacity makes market incomes and tax base higher which in turn raise the motive to invest in fiscal capacity. In other words corruption hinders the fiscal capacity of a state it will also affect the legal capacity. A high level of corruption in contract and property protection will lead to market inefficiency and thus the revenue capacity of the government. The protection of property rights is commonly viewed as one of the most important roles of the state by political philosophers as diverse as David Hume, Karl Marx and Robert Nozick (Acemoglu & Verdier 1998). Corruption can be as a result of private coerciveness because the rule of law is poorly established as a result resources are misallocated and the corrupt behaviour basically work as a tax on production which leads to production inefficiency (Besley & Persson 2011). This inefficiency can be reduced or curbed if necessary economic institution is put in place to strengthen the rule of law and the protection of private property. An efficient business climate is necessary for economic development. Djankov, McLeish and Shleifer (2007) as cited in Besley and Persson (2011) find that legal origins are important determinant of both creditor rights and information-sharing institutions, which in turn affects supply of credit. There are only few empirical studies that tried to explain the relationship between corruption and legal capacity. Herzfeld and Weiss (2003) found a significant inter-relationship between legal effectiveness and various measures of corruption. The inter-relationship suggested that corruption is a persistent phenomenon and that strong forces tend to perpetuate corruption at fairly constant levels. Acemoglu and Verdier (1998) examined how the employees of the state (bureaucrats) misused their power to enforce property rights. This occurred because contracts are incomplete without the help of the government. For the state to have a role in enforcing property rights, some contractual problems must exist between private parties. It is difficult for outsiders to judge what the exact terms of the contract are, and a public sector employee assigned to enforce a contract can also abuse his powers, siding unfairly with one of the parties. If this type of corruption is widespread, contracts once again fail to accomplish their allocational role, and agents do not invest. Therefore, property rights (contract) enforcement, which is crucial for the creation of wealth, requires the prevention of corruption by these government employees. From literature, it can be deduced that if corruption hinders the extractive role of a state it will also affect its productive role. However, This has not really been

explored empirically due to limited data availability. The data available are usually not available to the public. Therefore this study was not able to explore the relationship between corruption and legal capacity.

### **Theories of Corruption**

There are various theories that tries to explain how corruption affect growth, however this study focused on three major theories; the principal-agent theory, multiple equilibrium models of corruption and the general equilibrium model of corruption.

The principal-agent theory explains the problem that arises between the principal and the agent. The agent action is based on self-interest, which is against the interest of the principal. The principal-agent theory has been used in the field of political science and economics to explain concerns and difficulties in motivating the agent to act on behalf of the principal. The agency model was first used to question the motives of legislators. This relationship is also important in the construction of many of the micro-economic explanations of corruption, as well as in designing institutional reforms to curb corruption (Andvig et al. 2000). Corruption is generally analysed as a social phenomenon but it is from the decisions of individuals that corruption stems (Groenendijk 1997). Principal-agent theory can be used to explain the problem of asymmetric information between the government and the masses, in which the government act as the agent, while those who elect them are principal. In this situation a corrupt agent diverting public funds would be acting against the interest of the principal.

Multiple equilibrium models explain how corruption in an economy depends on how much corruption is taking place around. In other words the expected profitability of engaging in a fraudulent transaction compared to not engaging in it depends upon the number of other people doing it. If there are many people corrupt then there is a higher chance that one would also be corrupt because it will be easier to get an alliance and there is a lower chance of being detected. This therefore leads to different level of corruption equilibria. This equilibria can be modelled in a way that one represent a low level of corruption and another high level in the same economy. Each level of equilibra would be associated with different growth level for the economy. If corruption distort policy and hinders growth, a low level of equilibra would translate to high growth and vice-versa

General equilibrium theory of corruption seeks to explain corruption together with several or many other interacting factors or variables and also explaining the feedback of corruption to those variables. A very good example of the general equilibrium model is Acemoglu&Verdier

(1998). The paper used a simple model to highlight the trade-off between property right enforcement and allocation of talent.

## METHODOLOGY

### Data Description

In line with other studies such as Mauro (1995) and Lambsdorf (1999), this research is also a cross-country regression analysis on the effect of corruption on fiscal capacity. The study uses a panel dataset that covers 47 countries for the period of 1998 to 2015. The choice of countries and years was based on consistency and availability of data. The data used were the corruption perception index (CPI), tax revenue as a percentage of GDP, import and export percentage of GDP, governance indicator and GDP per capita.

Corruption perception index was gotten from *Transparency international*. The CPI assesses the degree to which public officials and politicians are believed to accept bribes, take illicit payment in public procurement, embezzle public funds, and commit similar offences. It compares every year the levels of corruption among public officials and politicians in a wide range of countries around the world. The index ranks countries on a scale from 10 to zero, according to the perceived level of corruption. A score of 10 represents a reputedly totally honest country, while a zero indicates that the country is perceived as completely corrupt.

The *Worldwide Governance Indicators (WGI)* is formed by the World Bank Research Institute. There consist of six aggregate indicators of governance covering 200 countries, with cross country data from 30 organizations. These aggregate indicators combine the views of a large number of enterprise, citizen and expert survey respondents in industrial and developing countries.

The data on governance were constructed by using six variables which includes voice and external accountability, political stability and lack of violence, government effectiveness, lack of regulatory burden, rule of law and control of corruption. Good governance brings about good tax system; revenue generation depends on how efficient the governance is, therefore quality macroeconomic policy, good tax administration, low level of bureaucratic corruption combined with good governance improves the tax system in the economy.

Tax revenue as a percentage of GDP, import percentage of GDP and per capita GDP were taken from *World Development Indicators (WDI)*. Per capita income is known as a good indicator for the overall development of the economy and it is expected to be positively correlated with tax shares. The literature on tax revenue system reveals a positive relationship of total tax revenue and income tax as a percentage of GDP with per capita income. A higher per capita income leads to a higher level of development, which ultimately generates a higher



capacity to pay taxes as well as a greater capacity to levy and to collect them (Ajaz& Ahmed 2010).

The degree of international trade measured by the share of exports and imports is also very important for revenue performance. Imports and exports are amenable to tax as they take place at specified locations (Gupta, 2007). Gupta (2007) also explains that there is a strong positive correlation between trade openness and the size of the government, as societies demand an expanded role for the government in providing social insurance in more open economies subject to external risks.

### Model Specification

In light of the above discussion we now propose the following econometric model describing the tax-GDP ratio as a function of a number of variables. The model used the fixed effect, which assumes that certain country-specific characteristics are not captured by the explanatory variables, and that these are uncorrelated with the error term. Taxrev represent the dependent variable while the others are independent. The fixed effect specification is as follows;

$$taxrev = \alpha + \beta_1 cpi + \beta_2 cc - \beta_3 ge - \beta_4 ps - \beta_5 rl - \beta_6 rq + \beta_7 va + \beta_8 lngdp + \beta_9 import + \beta_{10} export \quad (1)$$

Where,  $taxrev_{it}$  which is the ratio of government revenue to GDP in country  $i$  in period  $t$ ,  $\alpha_i$  captures the country fixed effect,  $cpi_{it}$  is the corruption perception index,  $cc_{it}$  (control of corruption)  $ge_{it}$  (government effectiveness),  $rl$  (rule of law)  $rq_{it}$  (regulatory quality) and  $va_{it}$  (lack of violence) captures the governance indicators,  $lngdp_{it}$  represent log of GDP,  $import_{it}$  and  $export_{it}$  represent import and export as a percentage of GDP respectively and  $\varepsilon_{it}$  is the error term. The random effect specification is as follows;

$$tax/gdp_{it} = \alpha + \beta_1 cpi_{it} + \beta_2 cc_{it} + \beta_3 ge_{it} + \beta_4 ps_{it} + \beta_5 rl_{it} + \beta_6 rq_{it} + \beta_7 va_{it} + \beta_8 lngdp_{it} + \beta_9 import + \beta_{10} export + u_i + \varepsilon_{it} \quad (2)$$

Where,  $u_i$  is the random effect.

### ANALYSIS AND DISCUSSION OF RESULTS

The fixed and random effect specifications are summarized in Tables 2 and 3. The coefficient of control of corruption indicates a significant positive impact on tax revenue in both the fixed and random effect regression. This implies that the ability to minimize or manage corruption will lead to a marginal increase in the tax revenue, which is the fiscal capacity of the government. This suggests that countries with better measures of controlling corruption have higher tax revenue, this is in line with the result of Ajaz and Ahmad (2010) and Abdulmumin (2012). However the

coefficient for corruption perception index shows a positive impact, which does not conform to the a priori expectation of a negative relationship.

Out of the six governance indicators, only the coefficient of voice and external accountability conform with the a-priori expectation of a positive impact on both the fixed and random effect specification. Voice and external accountability also showed a strong significant impact on the random effect regression with a p-value of 0.07 compare to 0.18 in the fixed effect regression.

Import is highly significant to tax revenue in both specifications and export was significant in the random effect specification indicating that openness improves tax revenue. Coefficient of GDP shows negative impact on tax revenue but it is not significant. The negative relationship may be as a result of poor tax administration in most of the countries in sub-Saharan Africa.

Table 1: Result of Fix Effect Regression of Corruption on Tax Revenue in sub-Saharan Africa

TAXREV	Coefficients	Standard error	t-Stat
CONSTANT	12.49	3.03	3.30
CPI	0.051	0.03	1.84
CC	2.37	1.43	1.66
GE	- 5.20	1.85	-2.81
PS	-0.57	0.66	-0.86
RL	-2.39	1.86	-1.29
RQ	-0.34	1.49	-0.23
VA	1.9	1.41	1.35
LNGDP	-0.68	0.53	2.31
IMPORT	0.062	0.03	-1.29
EXPORT	0.09	0.04	2.53

Table 2: Result of Random Effect Regression of Corruption on Tax Revenue in sub-Saharan Africa

TAXREV	Coefficients	Standard error	z-stat
CONSTANT	11.79	3.96	2.98
CPI	0.04	0.03	1.50
CC	3.12	1.43	2.19
GE	- 2.08	1.77	-1.17
PS	-1.07	0.66	-1.61
RL	-0.57	1.85	-0.31
RQ	-0.51	1.50	-0.34
VA	2.43	1.34	1.81
LNGDP	-0.37	0.51	-0.75
IMPORT	0.11	0.03	4.24
EXPORT	0.07	0.03	1.96

## CONCLUSION AND RECOMMENDATIONS

This study examined the effect corruption has on fiscal capacity of sub-Saharan African countries. The study found that control of corruption and voice and accountability in governance are a major determinant of tax revenue and also suggest that Political stability and lack of violence is an important determinant of fiscal capacity and it is highly correlated with corruption.

Corruption itself is a problem that mainly arises in the interaction between government and the market and it can reach and affect many levels and aspects of governance. It comes in different forms and very widespread and, because of its diverse forms, it is extremely difficult to measure. Countries that are not peaceful and plagued with conflict and unrest are the ones with very low rank on the corruption index. This affects the performance and also the fiscal capacity of the state.

The study concludes that countries that have better control of corruption have higher taxes. Tax revenue collection is an important aspect of state capacity as this the extractive role of the state. This role also aids the productivity of the state. In other words, effective tax administration is very important for fiscal capacity. The result also suggests that voice and accountability in governance is an important factor influencing tax revenue. The ability of people to participate and have a voice in governance will go a long way in influencing government's economic policies. Good governance is a very important factor as well, as this will make corruption difficult to take root. Good Governance with good macroeconomic policies is the basis for the productivity of the economy. The examination of the effect of corruption on both the legal and fiscal capacity of a state would be an area worthy of further research.

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**APPENDIX****List of Countries Included**

Angola	Malawi
Benin	Mali
Botswana	Mauritania
Burkina Faso	Mauritius
Burundi	Mozambique
Cape Verde	Namibia
Cameroon	Niger
Central African Republic	Nigeria
Chad	Rwanda
Comoros	Sao Tome and Principe
Dem. Rep.congo	Senegal
Congo, Rep.	Seychelles
Cote d'Ivoire	Sierra Leone
Equatorial Guinea	Somalia
Eritrea	South Africa
Ethiopia	Sudan
Gabon	Swaziland
Gambia, The	Tanzania
Ghana	Togo
Guinea	Uganda
Guinea-Bissau	Zambia
Kenya	Zimbabwe
Lesotho	
Liberia	
Madagascar	