#### UNIVERSITY OF CAPE COAST

# FINANCIAL MARKET DEVELOPMENT AND FOREIGN DIRECT INVESTMENT IN SUB – SAHARAN AFRICA: THE ROLE OF COUNTRY LEVEL GOVERNANCE

BY

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Thesis submitted to the Department of Finance of School of Business, College of Humanities and Legal Studies, University of Cape Coast in partial fulfilment of the requirements for the award of Master of Commerce degree in Finance.

AUGUST, 2018

**DECLARATION** 

**Candidate's Declaration** 

I hereby declare that this thesis is the result of my own original work and that

no part of it has been presented for another degree in this university or

elsewhere.

Candidate's Signature: Date: Date:

Name: Victoria Abena Nutassey

**Supervisors' Declaration** 

We hereby declare that the preparation and presentation of the thesis were

supervised in accordance with the guidelines on supervision of thesis laid

down by the University of Cape Coast.

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#### **ABSTRACT**

Studies have established mixed results on the relationship between financial market development and foreign direct investment. However, governance has been identified in literature to influence both financial market development and foreign direct investment, yet no study has considered the interacting of financial market development, governance and foreign direct investment. Thus, this study is of the view that governance could probably influence the relationship between financial market development and foreign direct investment in Sub- Saharan Africa. The study purported to examine the interacting role of governance in the relationship between financial market development and foreign direct investment in Sub-Saharan Africa from 1997 to 2016. The study was backed by Eclectic theory and new institutional economic theory. The study adopted Generalized Method of Moment (GMM) technique. The study first found positive relationship between financial market development and foreign direct investment in Sub- Saharan Africa. Secondly, it found positive relationship between financial market development and foreign direct investment in Sub- Saharan Africa. Finally, it found that governance plays an interaction role in the relationship between financial market development and foreign direct investment in Sub-Saharan Africa. Hence, this study suggests that Sub-Saharan economies should enhance both their financial market and governance (specifically, control of corruption, regulatory quality, political stability and voice and accountability) in order to maximize inflows of foreign direct investment.

# **KEY WORDS**

Foreign direct investment

Financial market development

Governance

Sub – Saharan Africa

#### **ACKNOWLEDGEMENTS**

My sincere gratitude goes to my Principal Supervisor, Dr. Siaw Frimpong and Co-supervisor, Dr. Samuel Kwaku Agyei for their tremendous tutelage, constructive criticisms, suggestions and corrections that helped shape this work. I am also indebted to Dr. Otuo Serebour Agyemang for his encouragement, time and effort spent in shaping the study through the proposal to the completion. Special thanks to all those who helped in editing this work.

# **DEDICATION**

To my husband and daughter.

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#### CHAPTER ONE

#### INTRODUCTION

There have been mixed results in literature on previous studies that established relationships between financial market development and foreign direct investment. Thus, this study was conducted with the intention of rectifying the mixed results in literature by introducing governance as an interacting variable because of its dual impact on foreign direct investment and financial market development.

#### **Background to the Study**

Foreign direct investment (FDI) and financial market as well as governance are vital elements in achieving sustained growth in any economy, including Sub-Saharan African economies (Adam, 2009; Coy & Cormican, 2014; Asiedu, 2006).

Foreign direct investment (FDI) is essentially an international investment where the investor gains significant influence in the management of a firm outside the investor's home country (Solomom, 2011). FDI has become an important force in the internationalisation of investment activities in the global economies. For instance, the inflows of FDI globally were \$ 1,114 billion in 2009 (United Nation Conference on Trade and Development (UNCTAD), 2011).

Foreign direct investment (FDI) remains one of the most important forms of cross-border capital flow in Sub-Saharan Africa (World Bank, 2014). It has been established that, foreign direct investment plays a significant role in the economy of Sub-Saharan Africa (Adam, 2009; Jugurnath, Chuckun & Fauzel, 2016). That is, FDI is seen as a source of economic development,

modernisation, income growth and employment (Organisation for economic co-operation and development, 2002). Despite the importance of FDI in promoting economic growth and development agenda, Sub-Saharan African countries continually attract low level of FDI over the years as compared with other regions (Cantah, Wiafe & Adams, 2013). This is confirmed by data from world bank, which depicts continuous fall of FDI in Sub-Saharan Africa:

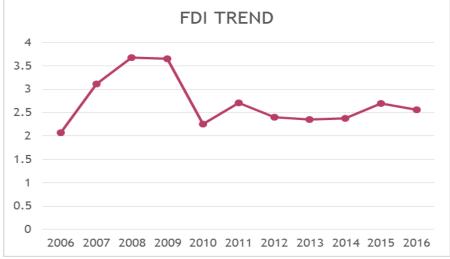


Figure 1: trend of foreign direct investment Source: Field Survey, Nutassey (2018).

This has necessitated the continuous interest of Sub-Saharan Africa researchers in FDI.

Among the determinants of foreign direct investment is financial market development (Soumaré &Tchana, 2015). Due to massive evidence in literature about the significant role of financial market development in an economy's growth (Arestis, Demetriades & Luintel, 2001; Demirgüç-Kunt &Levine, 2004) the study intend addressing the limitations in literature examining relationship between financial market development and foreign direct investment.

Huang (2006) described financial market development (FMD) as the process of improving efficient allocation of financial resources by strengthening healthy competition, leading to increase in the overall relevance of the financial system. The Global Competitiveness Report (2016 – 2017), expatiated on FMD by stating that a well-organized financial system allocates the resources saved by citizens of a nation as well as those of foreigners to entrepreneurs with the highest expected rates of return. Investing in business is very crucial to productivity. Therefore, economies require financial markets with certain activities that can benefit the private-sector such as credit, sound banking and well regulated financial sector. In order to perform these activities, the banking sector needs to be reliable and transparent, and it has been made so clear recently that financial markets need befitting regulation to protect investors in the economy.

Financial market development (FMD) is one of the variables that has been use as an independent variable to foreign direct investment in literature, however, works on financial market development and foreign direct investment have given mixed results. For instance Otchere, Soumaré and Yourougou (2016) and Desbordes and Wei (2017) found positive association between financial market development and foreign direct investment while Wang & Liu (2017) found negative relationship between them. In addition, Soumaré and Tchana (2011) found the relationship between financial market development and FDI to be ambiguous and inconclusive because some of the indicators of financial market development used in their studies had significant relationship with FDI while others did not.

Hence, this study sought to clear this inconclusiveness by considering the absorptive capacity of financial market development on governance in its relationship with foreign direct investment. That is, the link between financial market and foreign direct investment is dependent on the nature of governance which have been classified over the years to be weak in the economies of Sub-Saharan Africa (America Security project, 2014; Kandiero and Chitiga, 2006). This is because governance structure serve as an important factor that boosts foreign direct investment (Agyemang, Fantini & Ansong, 2016; Mengistu & Adhikary, 2011), as well as financial market development (Law & Azman-Saini, 2012).

Therefore, even if the level of financial market development in these economies is in line with our expectation, its contribution to the level of foreign direct investment cannot be fully realized if governance structures such as control of corruption, government effectiveness, political stability and absence of violence, rule of law, regulatory quality and voice and accountability are weak in economies of Sub – Saharan Africa.

#### **Statement of the Problem**

Studies have established the relationship between FMD and FDI, nevertheless, the results have been mixed and inconclusive. While Otchere, Soumaré and Yourougou (2016) and Desbordes and Wei (2017) established that financial market development has a positive relation with FDI, Wang and Liu (2017) found negative correlation between FDI and financial market development in eastern and central region of China. Moreso, according to Soumaré and Tchana (2011), the relationship between financial market development and FDI is ambiguous and inconclusive because some of the

indicators of financial market development used in their studies had significant relation with FDI while others do not.

Though inconclusive, some studies have established that FMD have significant relationship with FDI (Otchere, Soumaré & Yourougou, 2016; Desbordes & Wei, 2017). Meaning, FMD has a substantial influence on the inflow of FDI. This has necessitated Sub – Saharan Africa countries making significant effort to improve their financial market, (Gabriele, Boratav, & Parikh, 2000) in an attempt to increase inflows of FDI. In spite of this, data from World Bank on FDI indicates otherwise, the inflow of FDI is continuously falling. For instance foreign direct investment inflow as a percentage of gross domestic product was 2.70%, then it fell in 2012 to 2.40%, it fell further in 2013 to 2.36%, it increased just a little in 2014 and 2015 to 2.38% and 2.69% respectively and reduced by 2016 to 2.56% (World Development Indicator, 2018).

This trend could be attributed to the weak governance structure in the economies of Sub- Saharan Africa, which (that is, governance structure) has been argued to play an important role in improving both foreign direct investment (Mengistu & Adhikary, 2011; Agyemang, Fantini & Ansong, 2016) and financial market development (Law & Azman-Saini, 2012).

Also, these mixed or inconclusive results in literature could be explained by weak governance structure in the countries of Sub-Saharan Africa. Therefore, this study intends to address the limitations of previous studies which examined both the relationship between FMD and FDI (Mengistu & Adhikary, 2011; Agyemang, Fantini & Ansong, 2016) and FMD

and governance in isolation (Law & Azman-Saini, 2012) by interacting FMD, governance and FDI in this study.

It is against this background, this study sought to examine the role of governance structure in the FMD-FDI nexus in Sub- Saharan Africa countries.

#### **Purpose of the Study**

The purpose of the study is to examine the role of governance structure in the FMD-FDI nexus in Sub- Saharan Africa countries. Specifically, the study seeks to:

- 1. examine the relationship between FMD and FDI in Sub- Saharan Africa.
- analyse the relationship between governance and FDI in Sub-Saharan Africa.
- assess the interactive effect of governance on the relationship between FMD and FDI in Sub- Saharan Africa.

#### **Hypotheses of the Study**

In relation to objective one, two and three the following hypotheses was tested

- Ho: there is no significant relationship between financial markets development and foreign direct investment in Sub- Saharan Africa.
- 2. H1: there is a positive direct relationship between governance and foreign direct investment in Sub- Saharan Africa.
- 3. H2: there is interactive effect of governance on the relationship between financial market development and foreign direct investment in Sub- Saharan Africa.

#### **Significance of the Study**

Foreign direct investment has experienced consistent fall in recent times (UNCTAD, 2015). This may affect the macroeconomic objective of countries to achieve high stable economic growth. Hence, this study seeks to employ governance as a moderating variable in the relationship between financial market development and foreign direct investment in Sub- Saharan Africa. This, in the view of the researcher could be useful for the policy makers of Sub- Saharan Africa countries to provide appropriate policies that will help enhance FDI inflow. In addition, this study would solve the mixed results gap that already exist in the literature. And finally, it will also serve as a point of departure for further research as well as to provide information to future researchers who may be interested in studying these variables in Sub-Saharan Africa.

#### **Delimitation of the Study**

This study examines the moderating effect of governance on the relationship between financial market development and FDI for the period 1996 to 2016. The study utilizes graphical representations and analysis for objective one and Generalised Method of Moment (GMM) technique for objective two and three due to the problem of endogeneity that may arise due to countries' specific differences. The main variables employed by this study are: FDI, financial market development, governance, trade openness, gross domestic product per capita, electricity production and inflation.

#### **Organization of the Study**

This study is organized into five chapters. Chapter one, which is the introductory chapter, presents a background to the study, statement of the problem, purpose of the study, the hypotheses, significance, and scope of the study as well as organization of the study. Chapter two contains the review of relevant literature; both theoretical and empirical literature that underpins FDI. Chapter three presents the methodological framework and techniques employed in conducting the study. Chapter four examines and discusses the results and main findings with reference to the literature. The final chapter presents the summary, conclusions and recommendations of the study.

#### CHAPTER TWO

#### LITERATURE REVIEW

#### Introduction

The general objective of this chapter is to present the review of relevant literature on the role of governance structure in the FMD-FDI nexus in Sub- Saharan Africa countries. The review of related literature is aimed at getting supporting theories and empirical evidence for the study. This chapter is structured into two main sections. The first section presents and discusses theoretical literature on foreign direct investment and its linkage to financial market development as well as theories explaining the role governance plays in the linkage between FMD and FDI. The second section in this chapter presents a review of empirical literature on the relationship between financial market development and foreign direct investment as well as empirical reviews on the interacting effect of governance on the relationship between FMD and FDI.

#### Theoretical review

This portion indicates the theoretical underpinnings of the study based on objectives one, two and three. Specifically, the study reviews the Eclectic theory developed by Dunning (1977) which explains how FMD and governance relate to FDI in the host country and new institutional theory because of the introduction of governance.

#### **Eclectic theory**

The eclectic paradigm is one of the theories attempting to clarify why companies decide to invest in foreign countries (Abbas & El Mosallamy, 2016). Dunning (1977) developed eclectic theory also known as OLI paradigm

where the "OLI" stands for Ownership, Location and Internalization; three possible reason that would make a firm decide to be a multinational. Ownership advantages indicate why particular organizations go abroad yet others do not, it explains that a successful multinational company has some firm-specific advantages which allow it to become successful in foreign economies. Location advantages focus on which location (country) to choose. Lastly, internalization advantages affect the way a company chooses to operate in another country.

#### The New Institutional Economics (NIE) theory

Ronald Coase Institute (2003) explained the new institutional economics theory to incorporation of governances such control of corruption, government effectiveness, political stability, absence of violence, rule of law, regulatory quality and voice and accountability, customs, and norms into economics. It extended the neoclassical theory which was built on fundamental assumption of scarcity and hence competition. According to Gatsi and Kyeraa (2016), the new direction of economics on institutional theory deliberated that the cost of transaction is determined by institutions and institutional arrangements are keys to economic performance. It further argued that the institutions of a country such as its political, legal, and social systems determine its economic performance.

It was introduced as a movement in the social sciences that unites theoretical and empirical research in analyzing the role of governance in economic growth. It consists of studies on transaction costs, political science, property rights, law, organization as well as public choice (Ronald Coase Institute, 2003).

#### Relevance of the theories to this study

### **Eclectic theory**

Specifically, this study would be explained by the firm specific location advantages aspect of this theory. The host country is chosen when the firm can combine its ownership advantages with certain factors in the host country such as financial conditions, governance and natural resources (Dohse, Hassink & Klaerding, 2012).

Financial conditions: Giannetti and Ongena (2009) and Fafchamps and Schündeln (2013) agree to financial conditions being a major factor that influence the choice of a firm's location. This is because their studies concluded that financial market development strongly influences the performance of a firm. According to the Global Competitiveness Report (2016 – 2017), a developed financial market is one that can make capital available for private-sector investment from such sources as loans from a sound banking sector, well-regulated securities exchanges and other financial products. This implies that a firm's choice of a host country depends on whether the financial market of that country provides easy access to loan and sounding banking system among others.

Governance: According to Stoian and Filippaios (2008), Dunning's OLI eclectic paradigm has been expanded to incorporate institutional theory. In 2006 Dunning proposed institution (governance) in the choice of the locational advantages needed for a country to receive an FDI. These governance determinants could be both firm as well as country specific (Dunning, 2006). This was supported by Meyer (2001), who said bad governance lead to increase in search, negotiation and enforcement of costs,

which in turn limits establishment of new business. In this study country specific governance advantage was considered.

Based on this theory, this study argues that, all other things being held constant, economies requires both financial system and governance to enable foreign investors to choose them as a host country for their businesses. This brings the study to the new institutional economics theory.

#### The New Institutional Economics (NIE) theory

From the explanation of the Gatsi and Kyeraa (2016) and Ronald Coase Institute, (2003), the new institutional economics theory is an extension of economic theory to include institution (governance). Since, governance is considered as an interacting variable in this study, it would be appropriate to employ NIE to underpin this study. Governance is considered the interacting variable due to its dual role of influencing both FDI and FMD. That is, apart from governance influencing FDI (Agyemang, Fantini & Ansong, 2016), it also influences financial market development (Law & Azman-Saini, 2012).

#### **Empirical review**

Also, on the empirical side, studies were reviewed in relation to hypotheses tested based on objective one, two and three. This led to various studies reviewed under hypotheses one, two and three.

Ho: there is no significant relationship between financial markets development and foreign direct investment in Sub-Saharan Africa.

Relationship between financial market development and foreign direct investment is anticipated because investors would like to choose a country which can help them to partly finance their project by providing credit facilities. Also, when operation of a multinational company start in the host

country, the company would be dealing with the banks in the host country thus, the investor will be expecting sound banking system in the chosen country (Global competitive index, 2016 - 2017). Below are prior studies that have established relationship between financial market development and foreign direct investment.

Desbordes and Wei (2017), conducted a study on the various effects that source and destination countries' financial development have on foreign direct investment. The study results indicated that both source and destination countries' financial market have positive effect on foreign direct investment. This implies that host country's financial market development influences foreign investment positively.

Also, Donaubauer, Neumayer and Nunnenkamp (2016), explored whether financial market development in host and source countries has an effect on bilateral stocks of foreign direct investment (FDI). This is mainly appropriate for host countries that have remained on the sidelines in the global competition for FDI, such as many developing countries which also typically have under-developed financial markets. The study investigated the effects of financial market development in the source and host countries on FDI in the global world. The study sampled 43 source and 137 host countries over the period 2001 to 2012. It further addressed endogeneity by performing instrumental variable estimations using financial market development in countries that are geographically contiguous to host countries as an instrument. Moreso, the study addressed potential reverse causality further by restricting the sample to observations where reverse causality became less

relevant. The findings were (1) bilateral FDI rises with well-developed financial markets in both the host and the source country.

Furthermore, Otchere, Soumaré and Yourougou (2016) analyzed a study on foreign direct investment and financial market development in Africa. After examining the main objective, it went further to test causality between foreign direct investment and financial market development and concluded that there is bidirectional causality between FDI and FMD. This implies that financial market development influence foreign direct investment in Africa.

In addition, Soumaré and Tchana (2011) analyzed a causal association between foreign direct investment and financial market development using panel data from emerging markets. The result showed bidirectional causality between FDI and stock market development indicators. The results for the banking sector development indicators; the relationship was ambiguous and inconclusive.

Finally, Ang (2009) conducted a study with the topic financial development and the FDI-growth nexus: the Malaysian experience. The study examined financial development and the FDI-growth nexus: the Malaysian experience. The work examined the FDI-growth nexus in the small open economy of Malaysia by controlling for the level of financial development. Financial development was proxied by a composite index, which is a summary measure of four financial development indicators. Using time-series data from 1965 to 2004. One the results showed financial market development influences foreign direct investment.

The studies reviewed under this hypothesis gave mixed results. The mixed results could be because the relationship between financial market development and foreign direct investment was examined isolating governance structure. Hence, this study would introduce governance as an interacting variable, with intention of unearthing the difference that governance would bring.

# H1: there is direct positive relationship between governance and foreign direct investment in Sub-Saharan Africa.

Intuitively, every investor would consider the nature of governance in a country before investing there. If a country is politically unstable, then there is a threat of war outbreak which would lead to the close down of the company; if corruption is high there is high chance of employing corrupt worker in addition to incurring high cost; if legal systems are weak, then contract will not be enforced. Extant literature have provided evidence for the above, below are some of them:

Kurul and Yalta (2017) examined the relationship between governance factors and foreign direct investment (FDI) inflows in developing countries. It employed a dynamic panel method, which enabled the study to deal with the persistency of FDI flows and endogeneity issues. It contributed to literature by identifying the measures of institutions that affect FDI in the developing nations. It used 113 developing countries with data spanning from the period of 2002 to 2012. Its results showed that some institutional factors matter more than others in attracting more FDI flows.

Again, Kurul (2017) assessed the unequal linkages between governance and foreign direct investment (FDI) inflow. It contributed to

literature in the following ways: first, by employing a dynamic panel threshold method to analyze whether a certain level of governance quality should be attained to attract more FDI. Secondly, it used a composite governance quality index, which includes various measures of governance quality to identify the overall impact of governance on FDI inflows. Finally, it considered the effects of the factors such as global liquidity and global risk measure, which gained importance in recent years. It selected 126 countries over the period of 2002 to 2012. The result revealed that governance quality affects FDI positively only after the measure exceeds a certain threshold value.

Garoni (2016) conducted a study on the governance determinants of outward foreign direct investment in Latin America. The study argued that governance does not only affect the host countries but also it affects home countries. It specifically seeks to analyses the governance determinants of outward FDI, with the question, how do governance factors influence outward foreign direct investment decisions in Latin American countries? This study addressed quantitatively, examining the potential correlation between outward FDI and governance variable such as government efficiency. Furthermore, a comparison was made between investment flows destined to the entire world and investment flows destined only to the region. The results indicated mixed effects for different countries, depending on their resource endowments, size and industry background, governance seems to influence outward FDI differently. Astonishingly, some variables indicate a negative correlation between outward FDI and governance variables.

Furthermore, Ajide and Raheem (2016) established causal linkage between governance and FDI in ECOWAS countries. The results showed the existence of rampant weak governance structure among the ECOWAS countries. Furthermore, the result was robust to the decomposition of the governance indicator into the six sub-indices, namely: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. The sample size was to split the countries into poor governance and good governance and it was found that countries with good governance were able to attract FDI more than countries with poor governance. Thus, governance structure offers a leeway towards attraction of more FDI into the sub-region.

In this study too, Coffman (2015) examined governance differences between countries and the effect that these differences have on FDI flows using data from 193 countries and ten governance indicators from the Index of economic freedom. The study found a statistically significant result for five governance variables. The results supported existing literature that claims that strong governance increased FDI inflows. It also found that strong governance was negatively associated with FDI inflows to low income countries, with the exception of trade and natural resources. This suggests that firms are investing in low income countries for natural resources and cheap production that can be exported efficiently. For middle income and high income countries, strong institutions were positively associated with FDI; however, for middle income countries, governance and regulation were relevant and for high income countries financial markets and capital mobility were more important. It again

found that institutions were important determinants of FDI for countries in Europe, Latin America, and Sub-Saharan Africa.

Finally, Bellos and Subasat (2012) investigated the association between governance and foreign direct investment in 14 countries by employing a panel gravity model approach in two alternative ways. First, the level of governance in the target country was studied. Second, the absolute difference in the governance level between the source and target country was investigated. In both situations the results suggested that the lack of good governance does not deter foreign direct investment.

These presupposes that governance is also relevant in determining foreign direct investment.

H2: there is interactive effect of governance on the relationship between financial market development and foreign direct investment in Sub-Saharan Africa.

Financial market development has been regarded to be relevant for foreign direct investment inflows. Particularly, reserve requirement, credit availability and interest rate of banking sectors by government influence the level of foreign direct investment that flows into a country (Donaubauer, Neumayer & Nunnenkamp, 2016; Soumaré &Tchana, 2011; Ang, 2009). Similarly, a good number of studies have provided evidence that governance is very important for the attraction of foreign direct investment (Kurul & Yalta, 2017; Kurul, 2017; Garoni, 2016). In addition, works have highlighted that governance is needed for the financial market of a country to develop (Boadi & Amegbe, 2017; Asongu, 2012; Huang, 2010; Beck & Levine, 2005; Chinn & Ito, 2006).

Thus, poor governance does not only restrict foreign direct investment inflow but also restrict the development of financial markets. Therefore, governance structures may have an interacting influence on the link between financial markets development and foreign direct investment. This hunch is based on works that point out that even though foreign direct investment regards both financial markets and governance (Saidi, Ochi & Ghadri, 2013), governance is valued more than financial markets development since governance influences both financial market development and foreign direct investment. This implies governance does not only attract foreign direct investment but also enhances the financial sector. This suggest that while countries with good governance tend to have ac1tive financial markets, such countries are also likely to attract high foreign direct investment. Therefore, the attraction of foreign direct investment (FDI) is due to both governance and finance market and not financial markets in isolation.

#### For the individual indicators of governance:

Donaubauer, Neumayer & Nunnenkamp (2016) found positive relationship between financial market developemt and FDI. Gani and Ngassam(2008) established negative effect of government effectiveness on FMD, in contrast Law and Azman-Saini (n.d) found positive relationship between government effectiveness and financial market development. This means that government effectiveness is necessary for financial market development. Kurul and Yalta (2017) and Gani (2007) found significant positive correlation between government effectiveness and FDI. Meaning, the level of development of countries' financial sector and quality of government effectiveness are required together to determine the level of foreign direct

investment it will attract. Since, government effectiveness play a dual role of enhancing both financial market development and foreign direct investment. Government effectiveness might be of paramount important to financial market development in attracting FDI.

Ang (2010) found positive relationship between financial market development and FDI. Ayaydın and Baltacı, (2013) and Abdul-Qadir and Yaroson (2013) established negative and positive relationship between corruption and FMD respectively. Asiedu (2006) too concluded that control of corruption promote FDI. This implies that control of corruption affect financial market development as well as foreign direct investment. Thus, for an economy to attract more foreign direct investment, it requires both financial market development and governance. Corruption might even be more of FDI determinant than financial market development because apart from its influence on FDI, it also enhance financial market development. This study reduced the limitation in literature by interacting financial market development, financial market development and foreign direct investment.

Soumaré and Tchana (2011), found positive relationship between financial market development and foreign direct investment. Law and Azman-Saini (n.d) revealed positive relationship between political stability and financial development. However, Bailey, Heck and Wilkens (2005) contradicted the earlier results by giving a negative relationship between political stability and FMD. Agyemang et. al (2016) and Aseidu (2006) found that political stability is positively and significantly related with foreign ownership. Thus, foreign ownership is prevalent in African countries that are

politically stable. This presupposed that foreign investor like investing in a country that is both politically stable and financially developed.

Ang (2009), found positive relationship between financial market development and foreign direct investment. Also, rule of law plays a vital role in influencing FMD (Law & Azman-Saini, n.d; Zhang, 2016). Alexander (2014) found that rule of law is relevant for attracting FDI. Therefore, rule of law affect financial market development as well as foreign direct investment. Thus, for an economy to attract a higher foreign direct investment, it requires both financial market development and rule of law. Rule of law might even be more of FDI determinant than financial market development because apart from it influencing on FDI, it also enhances financial market development. This study reduced the limitation in literature by interacting financial market development, financial market development and foreign direct investment.

Donaubauer, Neumayer and Nunnenkamp (2016) revealed a positive association between FMD and FDI. Agyemang et. al. (2016) and Eita (2015) had positive link of regulatory quality on financial market development in selected Sub-Saharan economies. Another study attested that regulatory quality is positively related with FDI (Gani, 2007). That is, foreign investors are motivated by the level of development of a country financial sector as well as regulatory quality to invest.

Ang (2010) found positive relationship between financial market development and FDI. The effect of voice and accountability on financial market performance was positive for all the countries selected from Sub-Saharan economies (Eita, 2015). Hence, the presence of voice and accountability promote the inflows of financial market development.

Agyemang et. al (2016) found negative relationship between voice and accountability and foreign ownership prevalence. Thus, countries with high voice and accountability structures are associated with low foreign ownership prevalence.

Yet, studies have looked at governance and financial market development in isolation, governance and FDI also in isolation as well as financial market development and foreign direct investment in isolation. It would be prudent to consider the three variables together, hence, this study intends bridging the gap in literature by interacting financial market development, governance and foreign direct investment.

#### **Conceptual Framework**

Following Donaubauer, Neumayer and Nunnenkamp (2016), this framework exhibited the interacting effect of governance in the relationship between financial market development and FDI. That is, financial market development influences foreign direct investment, yet, the mixed result in literature led to a third variable namely governance being introduced as an interacting variable.

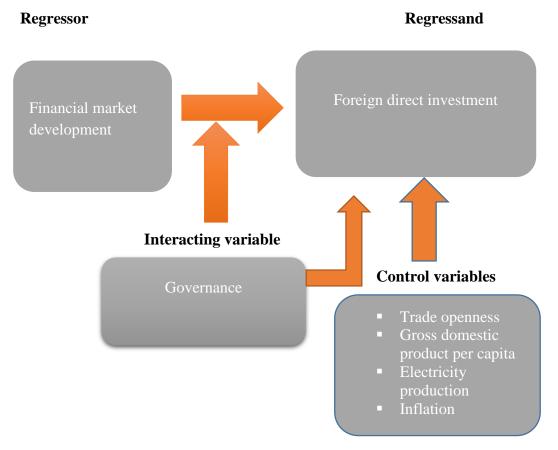


Figure 2: Conceptual framework

Source: Author's Construct, Nutassey (2018)

From the above conceptual framework, it can be seen that the interacting variable, governance is viewed by this study as an influencer of the relationship between FMD and FDI. Also, governance has a relationship with FDI. In addition, other variables namely, trade openness, gross domestic product per capita, electricity production and inflation were displayed as influencers of foreign direct investment inflow.

#### **Chapter summary**

From the above, theories were reviewed to support the study, specifically, the theories reviewed were eclectic theory and new institutional theory. The study also realized that few studies have conducted the relationship between financial market development and foreign direct

investment (Soumaré & Tchana, 2011; Gebrahiwot, Esfahani & Sayim, 2016) and have provided contradictory (mixed) result. In the light of this, this study attempts to correct the mixed results by introducing governance as an interacting variable in the relationship between financial market development and foreign direct investment in Sub – Saharan Africa. With the expectation that governance would strengthen (reduce) the relationship between FMD and FDI. Other studies reviewed were on the relationship between governance and financial market development (Law & Azman-Saini, 2012) and relationship between governance and foreign direct investment (Mengistu & Adhikary, 2011; Agyemang, Fantini & Ansong, 2016). Conceptual framework was added in order to have a pictorial view of what the study was about.

#### **CHAPTER THREE**

#### RESEARCH METHODS

#### Introduction

This chapter presents the research methods employed in this study. Specifically, research paradigm, research design, research approach, specification of the model, definition and measurement of variables in the model, sources of the data in the study, estimation techniques, tools for data analysis and chapter summary.

#### **Research Paradigm**

Research paradigm was originally explained by Kuhn (1962) as a conceptual framework shared by a group of researchers which provided them with a convenient model for analysing problems and finding a solution in a study. Simply, it could be described as research culture with a set of beliefs, values, and assumptions that a group of researchers have in common regarding the nature and conduct of a study (Thomas, 2010; Kuhn, 1962). Positivism and interpretivism are the two main worldwide accepted methods under research paradigm. Positivists assume that the reality is objectively given and is measurable using properties which are independent of the researcher and his or her instruments; in other words, knowledge is objective and quantifiable (Thomas, 2010). On the other hand, interpretivists assume that the reality is subjectively given base on individual researchers subjective experiences of the external world; thus, interpretism is socially constructed (Thomas, 2010). These two research paradigm are well used in business research, however, in finance, positivism is normally deployed (Saunders, Lewis & Thornhill, 2009). Advocates of this approach assume that knowledge is shaped deductively from a theoretical or hypothetical point of view; therefore, theories are tested hypothetically with the perception to either reject or fail to reject a theory. According to Dudovskiy (2016), deductive approach helps when using positivism paradigm in developing mathematical model which tests the validity of assumptions (hypothesis) based on a theory.

This study adopted positivism because it has developed a number of hypothesis based on the employed theories, it is objective, quantifiable and independent of the researcher.

#### **Research Design**

This study employed explanatory research design. The explanatory research is used since the study looks at how one variable predicts the other. That is, how regressor(s) (one or more variables) predict the regressand (another variable) in a model developed. Explanatory research design is deployed in this study because of objective one which sought to examine the relationship between FMD and FDI in Sub- Saharan Africa, objective two which analyses the link between governance and FDI and objective three which also sought to assess the interactive effect of governance on the relationship between FMD and FDI in Sub- Saharan Africa. Since, objective one necessitated the test of null hypothesis which reads, there is no significant relationship between financial markets development and foreign direct investment in Sub- Saharan Africa, objective two required a directional hypothesis which states there is direct positive relationship between governance and foreign direct investment in Sub- Saharan Africa and objective three also obligated the test of directional hypothesis that reads there

is interactive effect of governance on the relationship between financial markets development and foreign direct investment in Sub- Saharan Africa.

Therefore, FMD is predicting FDI in Sub- Saharan Africa in objective one, governance is also predicting FDI in Sub- Saharan Africa in objective two as well as governance is predicting a change in the relationship between FMD and FDI in objective three.

## **Research Approach**

There are two main method in research; quantitative and qualitative. In some cases mixed method is added. Quantitative methods lends itself to objective and numeric analysis as well as generalization of finding (Crowther & Lancaster, 2008). Qualitative research has to do with studies that concentrate on events that occur naturally and in natural settings. The mixed method has to do with combination of both the quantitative and qualitative research methods (Creswell & Creswell, 2017).

Therefore, quantitative method is appropriate for this study since it would develop a mathematical model and ensure objective analysis. Implementing a quantitative method provides results that could be reduced to statistics; countenancing statistical comparison between entities; results are precise, definitive and standardize (Sukamolson, 2005). Quantitative study favours deductive approach which confirms, validates and test hypotheses about a theory (in this case electic, institutional and absorptive capacity theory) (Leedy & Ormorod, 2010).

## **Model Specification**

There are two widely used models, namely, time series and panel model. These models are developed based on the properties of the data collected (time series and cross sectional). This study selected Sub – Saharan African countries over a period of time, thus, panel model would be developed. According to Adam and Owusu (2017), panel data combine the features of cross - sectional data and time series data. In other words, when a set of data used for a study considers more than one unit over a period of time, then panel study is deemed appropriate for that study. This study reflects multiple units (Sub - Saharan Africa countries) and time series data from 1996 to 2016 of each unit, thus, panel model was employed.

Following Desbordes and Wei (2017), the function of the equation relating to FDI and other explanatory variables, specifically, GMM is stated as:

$$FDI = f(FMD, GOV, FMD*GOV, TO, GDPC, EP, INFLA)$$
 (1)

Where *FDI* is foreign direct investment, *FMD* is financial market development, GOV is governance, *TO* is trade openness, GDPC is gross domestic product per capita, EP is electricity production, and *INFLA* is inflation rate.

According to Chinn and Ito (2006) and Baltagi (2009), past foreign direct investment have relationship with current foreign direct investment which presupposes that lag values of the dependent variable must be included in the explanatory variables to avoid specification error. Therefore, the dynamic GMM panel model of equation (4) is modelled as:

$$FDI_{it} = \alpha_{it} + \delta FDI_{it-1} + \beta X_{it} + u_i + \varepsilon_{it}$$
(4)

Where i refers to the country (i = 1, 2, 3, ..., 49); t refers to time period from (1996 to 2016) (t = 1, 2, 3, ..., 21); FDI is the regressand,  $FDI_{it-1}$  is first lag of foreign direct investment; X refers to the set of explanatory variables (regressors, interacting, and control variable), u unobserved country–specific effect and  $\varepsilon$  is the error term assumed to be serially uncorrelated.

More specifically equation (2) can be specified as:

$$FDI_{it} = \alpha_{it} + \delta FDI_{it-1} + B_1 FMD_{it} + B_2 GOV_{it} + B_3 FMD_{it} \times GOV_{it} + B_4 TO_{it}$$
$$+B_5 GDPC_{it} + B_6 INFLA_{it} + B_7 EP_{it} + u_i + \varepsilon_{it}$$
(2)

# **Definition, Justification and Measurement of Variables**

For the purpose of this study, the following measurement and operational definitions were used for the variables being examined. These variables were considered based on literature and theories.

Table 1-Description of variables and source of data

Variable	Measure	Explanation	Data source
Foreign direct investment inflows	Foreign direct investment as a percentage of GDP	Foreign direct investment inflows to African economies as a percentage of gross domestic product	World Bank Development Indicators 1996 to 2016
Financial market development	Domestic credit to private sector	Domestic credit to private sector denoted as financial resources given to the private sector by financial organizations, this includes credit, purchases of bond, and credit buying and others, which requires repayment	World Bank Development Indicators 1996 to 2016
Composite index of country-level governance	Governance indicators	The average for the six country-level governance indicators	World Bank Development Indicators 1996 to 2016
Trade Openness	Trade as a percentage of GDP	Trade as a percentage of gross domestic product which is explained by World Bank (2018) as the sum of exports and imports of goods and services measured as a share of gross domestic product	World Bank Development Indicators 1996 to 2016
Gross domestic product per capita	Log of gross domestic product per capita	GDP per capita is gross domestic product divided by midyear population	World Bank Development Indicators 1996 to 2016
Inflation	Consumer price index	Consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly	World Bank Development Indicators 1996 to 2016

power plants

Table 1 continues

Electricity Production Electric power consumption

Electric power consumption is explained as the production of power plants and combined heat and power plants less transmission, distribution, and transformation losses and own use by heat and

World Bank Development Indicators 1996 to 2016

Source: Developed from literature, Nutassey (2018).

#### **Sources of Data**

This study considered secondary data because of the variables of interest: foreign direct investment, financial market development, governance indicators and the control variables. These variables are labeled secondary because they are already in existence. Foreign direct investment is the regressand while financial market development is the regressor. The interacting variable is the composite of governance indicators as well as control variables (including trade openness, gross domestic product per capita growth, and inflation and electricity production). All the variables used in the model were based on the existing literature reviewed on the topic, economic theory, and whether they fit well in the model in statistical terms. The study used annual series data from 1996 to 2016. The choice of this period is informed by the date availability and the current situation prevailing in the economy. Data for the study were mainly obtained from secondary sources. Foreign direct investment, financial market development, governance indicators as well as the control variables were obtained from World Bank's Development indicators (WDI), (2018).

## **Estimation Technique**

The study seeks to examine the interacting effect of governance on the relationship between financial market development and foreign direct investment with data spanning from 1996 to 2016. This study therefore requires the estimation of a panel data model. One of the estimation techniques under panel data regressions that are mostly used are pooled least squares (PLS); fixed effect (FE) and random effect (RE) models. In as much as the PLS model is broadly employed as a benchmark in estimating panel data regressions, the fixed effect and random techniques are mostly used based on the standard Hausman test. Fixed effect was not used because it does not take care of the endogeneity issues associated with the lag of the regressand influencing the regressand. The random effect was not appropriate for this study because the data employed was unbalanced.

Thus, the main estimation technique this study employed was dynamic Generalised Method of Moment (GMM) technique. Dynamic GMM was chosen over static GMM because the study needed to deal with simultaneity bias and country-specific effect. The dynamic general method of Moments (GMM) estimator was popularized by Arellano and Bond (1991) and Blundell and Bond (1998) and is the most efficient for two main reasons. First, the dynamic Generalized Method of Moment method exercise direct control of endogeneity problems caused by the regressors. Second, it is efficient due to the feature of the data that is the time series period is shorter than cross section unit (Roodman, 2009). The time period considered in this study is just 21 years (1996 to 2016) which is shorter than the 49 countries that have been included. To be more specific the study engaged two - step system

Generalized Method of Moment estimator coupled with corrected standard error over the one-step estimators because, theoretically; it is more efficient than one-step estimator.

# **Post Estimation Tests**

Two test were proposed after the GMM estimation (Arellona & Bond, 1991): The first, is the J- Statistics that come along with result, it measures whether there is overriding identity among the instruments employed in the study. The result need to be insignificant to demonstrate no overriding identity to confirm that those instrument are efficient.

The second one is the Arellano and Bond test of autocorrelation (ARtest) (Roodman, 2009). The study applied the Arellano and Bond test of second order serial correlation with the disturbance term in order to ensure the estimations are consistent (Arellona & Bond, 1991). The AR-test reports the test statistics for the first and second difference autocorrelation in default mode but the lag levels can be adjusted. It has a null hypothesis of no autocorrelation in the first and second difference error which requires that, the study fails to reject the null hypothesis.

#### **Tools for Data Analysis**

All estimations were carried out using Eview version 9.0 statistical packages.

## **Chapter Summary**

This chapter presents the research methods engaged in conducting this study. This study deployed positivism research paradigm and was purely quantitative in it approach. It also embraced the explanatory research design because the regressor predicted the regressand. More so, the study sampled all the forty – nine (49) Sub - Saharan African countries due to the availability of

data. Furthermore, the study developed three models. The first model sought to examine a relationship between financial market development and foreign direct investment, the second model sought to analyze the relationship between governance and foreign direct investment while the third model assessed the interacting effect of governance on the relationship between financial market development and foreign direct investment inflows in Sub-Saharan Africa. Furthermore, the study employed the dynamic Generalized Method of Moment estimation techniques to achieve the objectives of the study. The tool used to run the analysis was Eview version 9.0.

#### CHAPTER FOUR

#### RESULTS AND DISCUSSION

#### Introduction

This chapter presents the results of the study as well as the discussion of the results. The results are presented in figures and tables. This chapter outlines the results in line with the researcher's questions and the hypotheses to be tested. Specifically, it started with trend analysis of financial market development, governance and foreign direct investment inflows in Sub-Saharan African economies for the period of 1996 to 2016. The trend analysis was presented both at the national level and the sub-regional level. The trend analysis, descriptive statistics as well as the correlation analysis for the study, are in line with the hypotheses that were tested.

## **Descriptive Statistics**

The descriptive statistics of the core variables involved in this study are presented in Table 2. This descriptive captures forty- nine (49) countries with a time period of twenty (21) years. It presents the mean, median, standard deviation, minimum and maximum values as well as the observation for the variables of the study. The mean measures the average values of a group of values while standard deviation measure the dispersion or how the values are spread around the mean. The minimum and maximum values capture the range of variables. The total number of observation is 640. It can be seen from Table 1 that all the variables have positive average values for both mean and median.

The regressand FDI has a standard deviation of 10.65 which is higher than the central tendencies, mean and median of 5.16 and 2.77 respectively

which means there is high inconsistency around the mean between a range of -8.59 to 161.8. Also, the regressor FMD has a standard deviation of 24.21 which is higher than the central tendencies, mean and median of 19.58 and 12.70 respectively. This means there is high fluctuation around the mean between a range of 0.49 to 160.1. These confirms the trend presentation of FDI and FMD in figure 3 and 5 above that there is haphazard movement in the inflow of FDI as well as the development in FMD. Meaning both FDI and FMD in Sub-Saharan Africa are not predictable.

However, the standard deviation of the interacting variable, governance (C.GOV) is 19.20 which is lower than the mean (31.64) and median (30.16) indicating a less variability around the mean between a range of 1.52 to77.03. The individual governance, namely, control of corruption (CC), government effectiveness (GE), rule of law (RL), regulatory quality (RQ), political stability (PS) and voice and accountability (VA) have their standard deviation 22.74, 21.08, 21.23, 21.23, 23.26 and 20.18 respectively that are lower than their related mean of 31.96, 28.29, 30.36, 30.89, 35.64 and 32.73. Hence, less variability around their mean.

Additionally, the control variables trade openness (TO), gross domestic product per capita (GDPC) and electricity production (EP) have their standard deviations to be 48.67, 1.14 and 75.07 respectively. These are lower than their associated means of 80.05, 6.80 and 153.5. Thus, less variability around their means. Accordingly, the range of the control variables are 19.46 – 531.7, 4.85 – 10.03 and 50.13 – 312.5. Whereas inflation (INFLA) has a standard deviation of 946.8 which is more than it mean of 283.1, thus, high fluctuation around the mean between a range of 7.28 to 4145.

Table 2- Descriptive Statistics of the Regresand, regressor, interacting and control variables

Var	FDI		C.GOV		GE	RL	RQ	PS PS	VA	TO	GDPC	EP	INFLA
Mean	5.16	19.58	31.64	31.96	28.29	30.36	30.89	35.64	32.73	80.05	6.80	153.5	283.1
Med.	2.77	23.70	30.16	27.40	24.16	29.15	30.22	35.07	30.81	68.79	6.53	143.9	13.73
Max.	161.8	160.1	77.03	84.85	83.06	83.66	83.65	93.75	77.61	531.7	10.03	312.5	4145
Min.	-8.59	0.49	1.52	0.00	0.48	0.48	0.59	0.00	0.00	19.46	4.85	50.13	7.28
SD.	10.65	24.21	19.20	22.74	21.08	21.23	21.23	23.26	20.18	48.67	1.14	75.07	946.8
Obs.	640	640	640	640	640	640	640	640	640	640	640	640	640

Note: SD=Standard Deviation, Min=Minimum, Max=Maximum, Obs. =Number of Observations

Source: Field Survey, Nutassey (2018)

## **Correlation Analysis**

The pair-wise correlation among the variables used in this study is presented in Table 3. Correlation analysis was examined to know whether there is multi-collinearity among the variables based on the cross section data of the panel data. The correlation coefficient between FDI (regressand) and FMD (regressor) is negative and significant (-0.058). This means that these two variables are related and are good for this analysis. Also, the correlation matrix shows a significant negative association between foreign direct investment inflows into Sub- Saharan African economies and the interacting variable (C.Gov) with coefficient of -0.050 as well as negative but significant relationship between foreign direct investment and economic growth (GDPC) with coefficient of -0.020.

Meanwhile, the correlation between trade openness (TO), electricity production (EP), inflation (INFLA) and the foreign direct investment were all positive and significant with coefficients 0.544, 0.038 and 0.008 respectively. Further, it is very relevant to take note of the correlation between governance and financial market development because it is one of the two major reasons governance qualified as interacting variable affecting the relationship between financial market development and foreign direct investment inflow. The correction between governance and financial market development is positive and significant with a coefficient of 0.549.

It must be noted that except for the governance indicators the results from Table 3 below shows that FDI, FMD and the control variable employed in this study were not correlated, because the correlation values among them were low with none of them above 0.60.

However, the results from Table 3 show that, governance indicators are highly correlated. This necessitated the deployment of governance composite (dividing the sum of six indicators by six) in this study. It further informed employing the governance indicators individually in a model. That is, this study avoids putting the governance indicators together in a model.

**Table 3- Correlation Analysis** 

Tubic 5	Correta	non mia	iy bib										
Var	FDI	FMD	C.GOV	CC	GE	RL	RQ	PS	VA	TO	GDPC	EP	INFLA
FDI	1.000												
FMD	-0.058	1.000											
C.GOV	-0.050	0.549	1.000										
CC	-0.037	0.514	0.905	1.000									
GE	-0.069	0.587	0.940	0.850	1.000								
RL	-0.060	0.509	0.970	0.873	0.880	1.000							
RQ	-0.113	0.549	0.899	0.758	0.888	0.871	1.000						
PS	0.033	0.309	0.832	0.696	0.679	0.785	0.627	1.000					
VA	-0.039	0.533	0.881	0.721	0.793	0.834	0.769	0.686	1.000				
TO	0.544	0.037	0.104	0.112	0.068	0.086	-0.030	0.260	0.037	1.000			
<b>GDPC</b>	-0.020	0.447	0.438	0.347	0.427	0.404	0.372	0.511	0.299	0.377	1.000		
EP	0.037	0.130	0.011	-0.009	-0.032	0.043	0.022	0.007	0.035	0.016	0.328	1.000	
INFLA	0.008	-0.057	0.002	0.019	0.031	-0.017	-3.888	-0.010	-0.012	-0.005	-0.137	-0.380	1.000

Note: This Table presents correlation analysis for the sample used in the analysis. This sample includes 49 Sub – Saharan countries for the period 1996-2016. These countries are Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Democratic Republic, Cote D'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

Source: Field survey, Nutassey (2018).

## **Regression result**

This section presents a discussion of the regression results for models of the study based on objective two and three. The objective two reads, to examine the relationship between FMD and FDI in Sub- Saharan Africa while objective three reads, to examine the relationship between FMD and FDI in Sub- Saharan Africa. This necessitated two panel model where under this section namely model 1 and model 2. For model 1, foreign direct investment is the regressand and the regressors are both financial market development and governance. Related studies were reviewed in chapter 2 base on the first and second hypothesis in line with the first, second and third objectives, respectively. In view of that, Table 4 depicts foreign direct investment inflow as the regressand and both financial market development and governance are the regressors, other variables serve as the control variables namely, trade openness (TO), economic growth (GDPC), electricity production (EP) and inflation (INFLA) to ensure the avoidance of omission of relevant variables (Adam & Owusu, 2017). Also, the lag of foreign direct investment FDI (-1) was represented in the model as an instrument in order to prevent endogeneity problems.

Table 4: Results of the GMM Models Regressand: Foreign Direct Investment

Variables		Model 1
FDI(-1)	С	0.0374***
	S.E	0.0002
FMD	C	0.1273***
	S.E	0.0005
C.GOV	C	0.2698***
	S.E	0.0016
ТО	C	0.0158***
	S.E	0.0002
GDPC	C	-9.1157***
	S.E	0.0305
EP	C	0.0272***
	S.E	0.0004
INFLA	C	-0.0112***
	S.E	7.70E-05
J-Statistics		40.0553
Prob(J-Statistics)		0.3790
AR(2)		0.2502
Obs.		556

Note: The J-statistics and Prob(J-statistics) values have also been presented. Values in bracket are the probability values; values other than those in bracket represent the coefficient values; \*\*\*significant at 1% (p < 0.01).

Source: Field Survey, Nutassey (2018).

Ho: there is no significant relationship between financial markets development and foreign direct investment in Sub-Saharan Africa.

The results in Model 1 depict that at a significant level of 1%, the variable of interest, financial market development, has a significant and positive relationship with foreign direct investment inflows into Sub- Saharan African economies over the period from 1996 to 2016. This means, the results failed to reject the hypothesis, there was positive direct link between financial markets development and foreign direct investment. This implies that, a percentage increase in financial market causes 12.73% increase in foreign direct investment into Sub – Saharan Africa. Hence, the result supports hypothesis one which reads there is a positive direct link between financial markets development and foreign direct investment. Desbordes and Wei (2017), agreed to these result because they also found a positive relationship between FMD and FDI. In addition, Donaubauer, Neumayer and Nunnenkamp (2016), explained that vibrant financial market development in the host countries attracts more FDI to the countries. Reason being that foreign companies often finance part of their investments in the host country. Thus, require easy access to credit and health competition among financail institution. They further stated that local financing aids as a hedging device against exchange rate fluctuations. Well-functioning financial markets in the host countries do not only reduce the costs of external finance for firms, they may also enable interactivities between foreign and local firms and in a way to help foreign investors reduce the effect of informational asymmetries by sharing local knowledge on risks and market opportunities. Eclectic theory by Dunning (1977), also stated that one of the location specific advantage of country that determines FDI is its financial system. Therefore, the results of this study couplied with other literature implies that Sub – Saharan African economies must ensure that their financial markets are active so that foreign investors will be willing to invest in these countries.

# H1: there is direct positive relationship between governance and foreign direct investment.

The outcome in Model 1, at a significant level of 1%, the variable of interest, governance has a significant positive link with foreign direct investment inflows into Sub-Saharan African economies over the period from 1996 to 2016. This implies that the outcome failed to reject the hypothesis, there were a positive direct link between governance and foreign direct investment. It further indicated that a percentage increase in governance leads to 26.98 % rise in foreign direct investment into Sub - Saharan Africa. Therefore, the result accepts the hypothesis, there is significant positive relationship between governance and foreign direct investment. The result of Kurul and Yalta (2017) backed these results because it showed that governance matter more in attracting more FDI inflows. Also, Ajide and Raheem (2016) emphasis that countries with better governance were able to attract FDI more than countries with poorer governance. Thus, instituting sustainable governance structure offers a leeway towards attraction of more FDI into the sub-region. Agyemang et al. (2016) also support the finding that governance increases that chance of attracting FDI. In contrast, Bellos and Subasat, (2012) suggested that the lack of good governance did not deter foreign direct investment. Dunning (2006), included governance as one of the location specific advantage of country that determines FDI. Therefore, the results of this study couplied with other literature as well as the theory backing this study, Eclectic theory (2006).

The results in model 1 again showed that the lag of foreign direct investment have positive significant relationship with the current FDI at 99% confidence level. This means that 1% increase in previous foreign direct investment leads to 3.75% increase in current FDI. This implies that there existed endogeneity problem and introduction of the lag of FDI was needed avoid misspecified result. The results obtain from Dellis, Sondermann and Vansteenkiste (2017), contradict this result because lag of FDI in their study was not significant.

Also, the results found positive and significant link between trade openness and foreign direct investment in Sub- Saharan Africa from the period of 1996 to 2016 at 1% significant level. This indicates that 1% increase in trade openness lead to 1.58% increase in FDI. This suggests that when a country reduces its restrictions or barriers of doing business in country, it will causes an increase in FDI. The finding of this study was in line with Shah and Khan (2016), who also established positive relationship between trade openness and FDI inflows.

Furthermore, the results gave a significant but negative relationship between gross domestic product per capita and foreign direct investment over the period 1996 to 2016 in Sub- Saharan Africa. It demonstrated that 1% increase in GDPC reduced the inflows of FDI by 911.57%. This contradicted most findings in literature such as Demirhan and Masca (2008), which found significant positive relation between GDP per capita and FDI and Mottaleb

and Kalirajan (2010) stated in their study that countries with higher GDP growth rate attract more FDI.

Moreso, the results revealed significant positive relationship between electricity production and foreign direct investment. Precisely, 1% growth in electricity production result in 2.72% foreign direct investment. A confirmation of the result can be drawn for Ibrahiem (2015) who also found positive relationship between electricity and FDI. This implies that, one of the way government can draw in FDI inflow is by improving electricity production. This is not surprising because almost all the foreign companies consumes electricity, thus, its quality is needed to influence the decisions of foreign investors to invest in a country.

Finally, another result was present by Table one indicating significant negative link between inflation and foreign direct investment in Sub – Saharan Africa countries. 1% increase in inflation lead to 1.12% reduction in foreign direct investment. It is very normal in literature to find negative relationships between inflation and FDI (Wani, Haq & Rehman, 2017; Demirhan & Masca, 2008). This is because high inflation rate presupposes more increase in price, thus, high cost of production for the foreign investor.

H2: there is interactive effect of governance on the relationship between financial market development and foreign direct investment in Sub-Saharan Africa.

This sub- section presents the interactive role of governance in the relationship between financial market development and foreign direct investment. This is because this study argues that, development of financial market alone in an economy does not spontaneously lead to growth in FDI

inflows in that the existence of governance indicators might play a vital role the relationship between FMD and FDI. The link between financial market development (FMD) and foreign direct investment was interacted first with the composite of the six governance indicators (C.GOV), and then further interacted with the individual indicator with the intention of identifying which of the six governance indicated in the study influence the relationship between FMD and FDI.

**Table 5: Results of the interacted GMM Model Regressand: Foreign Direct Investment** 

/ariables	Model 2	Model 2a	Model 2b	Model 2c	Model 2d	Model 2e	Model 2f
FDI(-1)	0.0351***	0.0407***	0.0358***	0.0402***	0.0249***	0.0391***	0.0398***
	0.0005	0.0004	0.0005	0.0003	0.0003	0.0002	0.0002
FMD	0.0984***	0.0775***	0.1482***	0.1340***	0.1109***	0.1367***	0.0718***
	0.0211	0.0099	0.0212	0.0113	0.006	0.0085	0.0118
C.GOV	0.2482***						
	0.0102						
FMD*C.GOV	0.0013*** 0.0003						
CC	0.0002	0.0680***					
T		0.0032					
FMD*CC		0.0020***					
<b>35</b>		0.0003	0.1500444				
GE			0.1592***				
EMD*CE			0.0146				
FMD*GE			0.00008 0.0004				
RL			0.0004	0.0733***			
XL.				0.0032			
FMD*RL				0.0032			
WID KL				0.0004			
				0.0003			
RQ					0.2274****		
					0.0053		
FMD*RQ					0.0004**		
					0.0002		

Table 5 continues

PS FMD*PS						0.1004*** 0.0018 0.00005*** 0.0002	
VA FMD*VA						0.0002	-0.0034*** 0.00 0.0020*** 0.0002
ТО	0.0152***	0.0159***	0.0194***	0.0189***	0.0198***	0.0192***	0.0188***
	0.0002	0.0004	0.0004	0.0003	0.0002	0.0005	0.0002
GDPC	-9.1583***	-9.0037***	-8.5115***	-8.6320***	-8.6572***	-9.2768***	-8.8140***
	0.1203	0.0611	0.0695	0.0822	0.0626	0.1010	0.0441
EP	0.0260***	0.0263***	0.0251***	0.0239***	0.0229***	0.0283***	0.0245***
	0.0012	0.0005	0.0014	0.0005	0.0006	0.0006	0.0003
INFLA	-0.011***	-0.0117***	-0.0115***	-0.0109***	-0.0126***	-0.0103***	-0.0114***
	0.0001	0.0001	0.0002	0.0002	0.0002	0.0001	7.56E-05
J-Stat	37.4718	36.5991	36.5380	34.92	35.4650	36.5884	41.1867
Prob	0.4015	0.4409	0.4437	0.5184	0.4939	0.4413	0.2924
AR(2)	0.5765	0.7060	NA	0.4611	0.1933	0.8374	NA
Obs.	556	556	556	556	556	556	556

Note: The J-statistics and Prob(J-statistics) values have also been presented. Values in bracket are the probability values; values other than those in bracket represent the coefficient values; \*\*\*significant at 1% (p < 0.01) and \*\*significant at 5% (p < 0.05).

Source: Field Survey, Nutassey (2018).

Model 2 in Table 5 displays the link between the interacted variable and foreign direct investment inflows into Sub- Saharan African economies. The model shows that the interacted variable (FMD\*C.GOV) has a significant and positive relationship with foreign direct investment inflows in Sub – Saharan Africa at 1% significant level. Particularly, 1% increase in interacted variables (FMD\*C.GOV) will lead to 0.13% increase in FDI inflows in Sub – Saharan Africa countries. Meaning the study failed to reject the hypothesis there is interactive effect of governance on the relationship between financial market development and foreign direct investment in Sub- Saharan Africa. The result means that, financial market development only does not attract enough foreign direct investment inflows into Sub- Saharan African economies, because foreign businesses work better in well governed economies. Simply, governance matter in attracting FDI even if financial market development is available (Wernick, Haar & Singh, 2009).

This was consistent with Dunning (1977), Eclectic theory which stated that some of the locational advantage required to attract higher foreign direct investment are financial system and governance structure. This proposes that the nature of governance induces foreign investor's decision in choosing a country to invest. Thus, governance provides the good support for financial market development to positively influence the level of foreign direct investment inflows into African economies. In other words, governance helps to offset some deficiencies in financial market development. This result is in line with Garoni (2016), who argued that governance affect the ability of the host countries to attract FDI. That is, governance structure offers a flexibility towards attraction of more FDI (Ajide & Raheem, 2016).

Even though the study failed to reject the hypothesis, there is interactive effect of governance on the relationship between financial market development and foreign direct investment in Sub- Saharan Africa. Take note that when the relationship between financial market development and foreign direct investment inflow was examined in isolation (Model 1, table 3), the coefficient of the positively related finding was 0.1273% indicating that 1% increase in financial market development leads to 12.73% increase in FDI while that of governance was 0.2698 indicating that 1% increase in governance cause 12.98% increase in FDI. Contrary to expectation, after interacting with governance the coefficient dropped drastically to 0.0013 for FMD\*C.GOV. This could be attributed to financial market development because it magnitude of attracting FDI (12.73%) was lower than the magnitude governance in attracting FDI (26.98%) (see model 1, table 4). Thus, even though the presence of both financial market development and governance is needed in an economy to fully attract FDI (Eclectic theory), in Sub- Saharan Africa financial market development weaken the ability of both financial market and governance to attract FDI from the period of 1996 to 2016. It is therefore, very prudent for the leaders of Sub- Saharan countries to work on their financial market.

After Model 2, the study conducted further assessment, the interacted role of the individual governance (control of corruption, regulatory quality, political stability, rule of law, voice and accountability and government effectiveness) in models 2a, 2b, 2c, 2d, 2e and 2f and results are as follows:

Model 2a presents the relationship between the interacted variable (FMD\*CC) and foreign direct investment inflows in Sub –Saharan Africa. It

analysis whether control of corruption (CC) matter in the relationship between financial market development and foreign direct investment inflows in Sub -Saharan Countries. The model demonstrated that financial market together with control of corruption attract FDI at 99% confidence level (1% increase in FMD\*CC cause FDI to increase by 0.20%), indicating that the CC and FMD work together in attract foreign direct investment inflows in Sub- Saharan Africa. This denotes that financial market development is not enough to attract maximized foreign direct investment. This is not surprising because Belgibayeva and Plekhanov (2016) support that CC has a significant positive relationship with foreign direct investment inflows. This is because high level of corruption increses the cost of doing business and thus gives the foreign investor extra cost which in turn discourages them (Daude & Stein, 2007). However, Agyemang et al. (2016) had a contradicting result. Agyemang et al. (2016) result, was defended by Castro and Nune (2013) when they explained that African economies (including Sub- Saharan Africa) were characterized with corruption and yet it had not gotten to a point which can dampen the spirit of foreign investors from investing in their economies.

Model 2d also presents the role of regulatory quality in the relationship between financial market development and foreign direct investment inflows in Sub- Saharan African economies. It showed the relationship between the interacted variables (FMD\*RQ) and foreign direct investment inflows in Sub – Saharan African economies is significant positively at 5% significant level. The result indicated that 1% increase in the interacted variable (FMD\*RQ) will lead to 0.04% in FDI. This implies that the regulatory quality and FMD are both required to attract foreign direct investment inflows. The result

suggests that foreign investors are not only concerned about the development level of financial market in an economy but give preference to regulatory qualities too. This in line with Mengistu and Adhikary (2011) who found regulatory quality to be positively linked to foreign direct investment inflows. This is because sound regulatory atmosphere enhances the confidence of foreign investors (Agyemang *et al.*, 2016). On the other hand, The result of Chaib and Siham (2014), oppose this result, arguing that, there is negative association between regulatory quality and foreign direct investment inflows. Zhang, Parker and Kirkpatrick (2005) elaborated further that the more regulated a country is, the more ready foreign investors may want to make major commitment to large scale infrastructural projects in developing countries. This is because regulations are made to portray a policy atmosphere that can sustain investor's confidence and based on that, investors are encouraged to invest in an economy.

Model 2e also presents the results of the interacting role played by political stability and absence of violence in the relationship between financial market development and foreign direct investment inflows. It gave significant positive relationship between the interacting variables (FMD\*PS) and foreign direct investment inflows in Sub – Saharan African economies at 99% confidence level. That is, 1% rise in the interaction (FMD\*PS) lead to 0.005% increase in FMD. This indicates that foreign investors may give preference to an economy which does not only developed it financial system but is also politically stable. This is not shocking because empirical evidence shows political stability is positively and significantly related with foreign ownership foreign ownership is prevalent in African countries that are politically stable

(Agyemang et. al, 2016; Aseidu, 2006). This suggests that, foreign investors are attracted to politically stable economies because political stability enhances investor confidence. Even though some studies (Gangi & Abdulrazak, 2012; Gani, 2007) have established that political stability has no effect on foreign direct investment inflows. This study stand to differ, by concluding political stability influence FDI.

In addition, Model 2f presents the relationship between the interacting variable (FMD\*VA) and foreign direct investment inflows in Sub -Saharan Africa. It analyzed whether voice and accountability was relevant in the relationship between financial market development and foreign direct investment inflows in Sub – Saharan Countries. The model demonstrated that, financial market in collaboration with voice and accountability attract FDI at 1% significant level (1% increase in FMD\*VA cause FDI to increase by .20%), signifying that the VA and FMD work together to attract foreign direct investment inflows in Sub- Saharan Africa. This denotes that financial market development is not enough to attract enough foreign direct investment; thus, the government in Sub – Saharan countries should improve on their voice and accountability so as to attract more foreign direct investment inflows. According to Zeshan and Talat (2014), voice and accountability has a significant positive relationship with foreign direct investment inflows. This result confirms the finding for this study but Agyemang et al. (2016) revealed a negative association between VA and FDI.

However, from Models 2b, the study found insignificant relationship between the interacting variables (FMD\*GE) and foreign direct investment after testing the role government effectiveness (GE) plays in the relationships

between financial market development and foreign direct investment in Sub-Saharan Africa. The result in the study indicated that the government effectiveness does not play a role in the relationship between FMD and FDI in Sub – Saharan Africa. In other words, the government effectiveness does not support the relationship FMD and FDI in Sub-Saharan Africa. The results implied that, the interacting variable (GE) does not give the needed support to enhance or reduce the relationships FMD and foreign direct investment inflows in Sub-Saharan Africa. This result contradicted most finding of most works like Kurul and Yalta (2017) who examined the relationship between institutional factors and FDI flows in developing countries and found significant positive relationship between government effectiveness and FDI and Gani (2007) confirmed that there is positive correlation between government effectiveness and FDI.

Also, Model 2c presents the results of the interactive role played by rule of law in the relationship between financial market development and foreign direct investment inflows. It gave a positive but not significant relationship between the interacting variables (FMD\*RL) and foreign direct investment inflows in Sub – Saharan African economies. That is, rule of law does not affect the relationships between FMD and FDI. This indicates that foreign investors do not care about rule of law when choosing a country to invest in. Therefore, the study reject the hypothesis the higher (lower) the quality of rule of law, the more (less) positive is the relationship between financial market development and foreign direct investment. The result is inconsistent with Alexandar (2014).

From the result, the individual governance indicators were presented. It started with composite of governance, then the breakdown: control of corruption, government effectiveness, rule of law, regulatory quality, political stability and voice and accountability. They were all positive and significant at 99% confidence level. It specifically indicated that 1% increase in the C.Gov, CC, GE, RL, RQ, PS and VA will lead to 24.82%, 6.80%, 15.92%, 7.33%, 22.74%, 10.04% and - 0.34% increase in foreign direct investment, respectively.

To add, the result of the control variables (trade openness and electricity production) were positively significant at 1% significant value while gross domestic product per capita and inflation were significant and negative at 99% confidence level. This presupposes that the variables chosen to control the model was appropriate and significant. Except for gross domestic product per capita which gave strange result (the study expected positive relationship), the three TO, EP and INFLA gave the expected result. Hence, governments of the Sub- Saharan economies should take note that improving on their trade openness and electricity production will also increase FDI and reducing their inflation rate will increase the interest of foreign investors.

## **Agglomeration Effect**

Agglomeration effect argues that, previous years, foreign direct investment inflows (FDI (-1)) can possibly influence the present year foreign direct investment inflows in the Sub- Saharan Africa. Model 1 showed that the lag of foreign direct investment has positive significant relationship with the

current FDI at 99% confidence level. This means that 1% increase in previous foreign direct investment leads to 3.74% increase in current FDI.

Also, the lag of FDI in model 2, 2a, 2b, 2c, 2d, 2e and 2f was significant at 1% indicating Agglomeration effect which implies that, previous years, foreign direct investment inflows (FDI (-1)) affect the current year foreign direct investment inflows in the Sub- Saharan Africa. This implies that, there existed endogeneity problem and introduction of the lag of FDI was needed to avoid misspecified of result.

# Post estimation diagnoses

Two major post estimation diagnoses were conducted for the models. They were J- Statistics and Arellano – Bond Serial Correlation Test. J-Statistics measured the overriding identity of the instrument used and how efficient they were while Arellano – Bond Serial correlation measured the autocorrelation in the model. The probability value for J- Statistics need to insignificant and that of AR (2) also has to fail to reject that there is no serial correlation.

From table 4 which presented result on the first and second hypothesis, there is no significant positive relationship between financial markets development and foreign direct investment in Sub- Saharan Africa and there is direct positive relationship between governance and foreign direct investment. The probability value (P- value) of their J- Statistics was insignificant (0.3790), which implied that there was no overriding identity and hence the instruments used are efficient. AR (2) also failed to reject the null hypothesis that there is no serial correlation. Thus, there is no multicollinearity in the variables used in the model.

Table 5 demonstrated the diagnoses for model 2, model 2a, model 2b, model 2c, model 2d, model 2e and model 2f. The P- value of the J- Statistics for model 2 was 0.4015, model 3a was 0.4409, model 2b was 0.4437, model 2c was 0.5184, model 2d was 0.4939, model 3e was 0.4413 and model 3f was 0.4860 which indicates insignificant. This specified that the instrument employed in all model were efficient. Except for model 2b and 2f which displayed none applicable (NA), the rest of the model failed to reject the hypotheses that there is no serial correlation among the variables employed in the model.

#### **Chapter Summary**

With reference to the purpose of the study to examine the interacting role of governance on the relationship between financial market development and foreign direct investment in Sub- Saharan Africa, three main hypothesis were tested using the panel dynamic generalized method of moments. The purpose of the study was broken into:

The first objective, examining the relationship between FMD and FDI in Sub- Saharan Africa was achieved in table 4 (model 1), where the study rejected the hypothesis there is no significant relationship between financial markets development and foreign direct investment in Sub- Saharan Africa countries. There third objective was also displayed in table 4 (model 1), which analyzed the relationship between governance and FDI in Sub-Saharan Africa, the results failed to reject the hypothesis there is significant positive relationship between governance and foreign direct investment in Sub-Saharan Africa economies.

In addition, table 5 presented the study's final objective assessing the interactive effect of governance on the relationship between FMD and FDI in Sub- Saharan Africa. The findings of the study showed that financial market development and foreign direct investment work together in influencing the level of foreign direct investment Sub- Saharan African economies receive. Thereby, failing to reject the hypothesis, there is interactive effect of governance on the relationship between financial market development and foreign direct investment in Sub- Saharan Africa. A further study showed on the individual indicator of governance serving as the interacting variables. The control of corruption, regulatory quality, political stability and voice and accountability assist financial market development in influencing the level of foreign direct investment Sub- Saharan African economies receive. But government effective and rule of law did not matter in the relation between financial market development and foreign direct investment in Sub – Saharan Africa.

#### CHAPTER FIVE

#### SUMMARY, CONCLUSIONS AND RECOMENDATIONS

#### Introduction

This chapter presents the major findings obtained from conducting this study. The chapter also presents a summary of the findings, conclusions, recommendations as well as the suggestions for further research.

## **Summary of the Research**

In the first chapter of the study, the study presents an introduction to the study, the background to the study as well as the statement of the problem. The purpose of the study was also espoused, research question was asked, after which the hypotheses of the study were carefully stated. In chapter two, the study offered an explanation on the theories and how they relate to the study: the eclectic paradigm specifically locational advantage which state that foreign investors consider financial condition as well as nature of governance in choosing a country to invest; the new institutional theory which stipulate that governance is part of the institutional factors. It then reviewed existing literature that is in line with the relationship between financial market development and foreign direct investment, country-level governance and foreign direct investment and governance and financial market development.

Chapter three centered on research methods to be employed in the study. Research paradigm was positivism, research design was explanatory, research approach was quantitative, specification of the model, definition and measurement of variables in the model, sources of the data in the study, estimation techniques, tools for data analysis and chapter summary. The study employed a panel data for a period of seven (21) years spanning 1996 to 2016.

While Chapter 4 of this study presented the discussion of the results of the study within the context of the study's objectives while supporting it with theories and existing literature reviewed under chapter two. The start with discussion of the results of the regression analyses for the two models used in testing the three (3) hypotheses developed in chapter 1 as showed in Tables 4 and 5. With reference to the main purpose of this study, to examine the interacting role of governance in the association between financial market development and foreign direct investment, specifically the study seeks to:

- 1. examine the relationship between FMD and FDI in Sub- Saharan Africa.
- analyse the relation between governance and FDI in Sub-Saharan Africa.
- assess the interactive effect of governance on the relationship between FMD and FDI in Sub- Saharan Africa.

The first objective with the hypothesis there is no significant relationship between financial markets development and foreign direct investment in Sub- Saharan Africa. The findings of the study revealed significant positive relation at 99% confidence level. Specifically, result was an increase of 12.73% in FDI when every there is 1% increase in financial market development (see table 4).

The second objective of the study was to assess the relationship between country-level governance and foreign direct investment inflows into Sub - Saharan African economies. The study employed the composite of six governance indicator from WDI, and found significant positive relationship

between them at 1% significant level. This mean 1% increase in the quality of governance will result in 26.98% escalate in FDI (see table 4).

Thus, according to this study an improvement financial market develop and governance individually causes an increase in the level of foreign direct investment inflows into Sub - Saharan African economies from 1996 to 2016.

The final objective of the study sought to assess the interactive effect of governance on the relationship between FMD and FDI in Sub-Saharan Africa. The findings were that, governance interact the relationship between financial market development and foreign direct investment inflows into Sub – Saharan African countries within the period under review. Thus, both financial market and governance need to working to attract foreign direct investment which have been emphasized by eclectic paradigm (see table 5) mode 2. The study further acknowledge specifically, control of corruption, regulatory quality and voice of accountability together financial market development attracts more foreign direct investment inflows. However, government effectiveness, rule of law and political stability had no effect on the relationship between financial market developments and foreign direct investment in Ghana in Sub – Saharan Africa.

**Table 6 - Summary of Results** 

Model	Hypotheses	Results
Но	There is no significant relationship between financial	reject
	market development and foreign direct investment	
	inflows in Sub- Saharan Africa.	
H1	There is significant positive relationship between	failed to reject
	governance and foreign direct investment inflows in	
	Sub- Saharan Africa.	
H2	There is interactive effect of governance on the	failed to reject
	relationship between financial market development	
	and foreign direct investment in Sub- Saharan Africa.	

#### **Conclusions**

Works on financial market and foreign direct investment has given mixed results (Wang & Liu, 2017; Desbordes and Wei, 2017). Hence, this study seeks to clear this inconclusiveness by considering the absorptive capacity of financial market development on governance in the relationship between financial market development and foreign direct investment.

The first objective concluded that an improved financial market development in isolation leads to an increase in foreign direct investment in Sub – Saharan Africa. Also, the second objective found that an increase in governance in isolation brings expansion in foreign direct investment inflows in Sub- Saharan Africa. Then the last objective also acknowledged that financial market development and country-level governance together attracts more foreign direct investment inflows in Sub – Saharan economies.

#### Recommendations

Based on the findings obtained from the study, the following recommendations were put forward to help enhance the interaction among financial market development, country-level governance and foreign direct investment inflows. The study suggests that Sub – Saharan Africa should enhance the level of financial market development as well as enhance governance (specifically, control of corruption, regulatory quality, political stability and voice and accountability) in order to attract much inflows from foreign direct investment.

For the financial sectors of Sub – Saharan African economies, government should call all the necessary stakeholders (government, heads of various financial institutions, recognized financial analysts and economists) to come on board in order to review the existing policies such as the minimum capital requirement and policy rate to one that can better improve the financial sectors of Sub- Saharan African countries. The study further suggests that a policy should be introduce that can bring emergency relief financial institution in the form of obligating government to help financial institution that need a little push (such as advances) to survive.

In addition, governance (specifically, control of corruption, regulatory quality, political stability and voice and accountability) can be enhanced in the economies of Sub- Saharan African by: first, revising the remunerations of government workers to discourage corruption and making sure the laws in these countries give adequate punishment to those who engage in corrupt activities in order to deter people from corruption. Again, regulations that governs the activities of private sectors should be implemented to the fullness.

More so, the media should participate in political activities objectively. Overall, the constitution should be review to enable these suggestions above to be successfully implemented.

# **Suggestions for Further Research**

This study employed just the six indicator of country - level governance, further studies could expand the model by incorporating country-level corporate governance as part country-level governance in this study, and this might make a great difference. The study concentrated on only Sub-Saharan African economies, hence, the study suggests that further studies could extend the study to all Africa countries. Finally, further studies could employ other estimation techniques other than the one employed in this study.

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