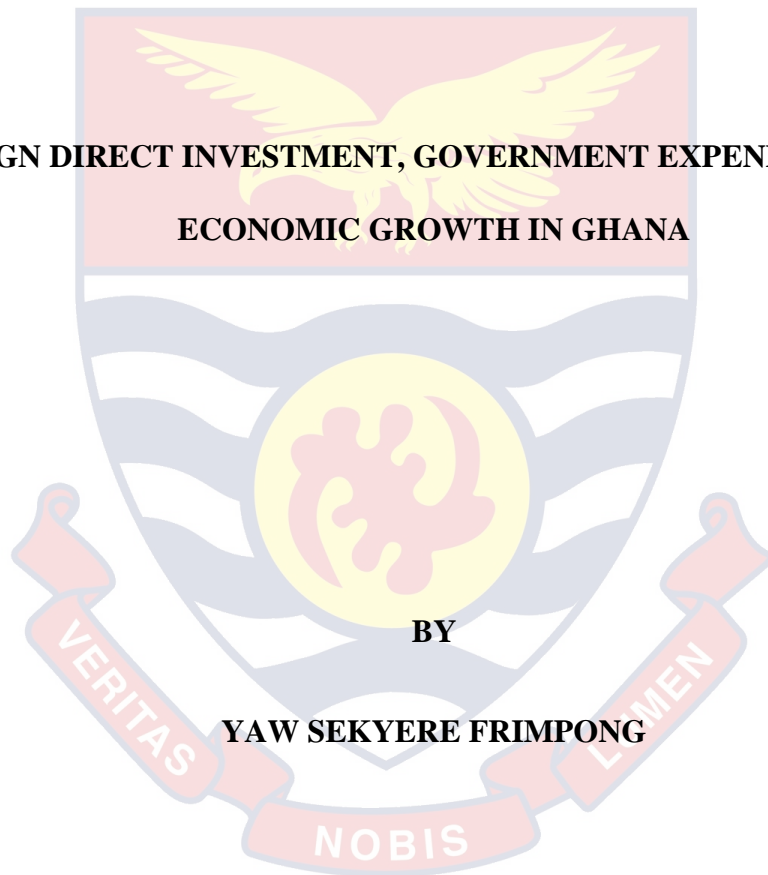


CHRISTIAN SERVICE UNIVERSITY COLLEGE

**FOREIGN DIRECT INVESTMENT, GOVERNMENT EXPENDITURE, AND
ECONOMIC GROWTH IN GHANA**



BY

YAW SEKYERE FRIMPONG

JUNE, 2018

CHRISTIAN SERVICE UNIVERSITY COLLEGE

FOREIGN DIRECT INVESTMENT, GOVERNMENT EXPENDITURE, AND

ECONOMIC GROWTH IN GHANA

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**Dissertation submitted to the Department of Accounting and Finance, of the
School of Business, Christian Service University College, in partial fulfillment of
the requirements for the award of the Master of Science Degree in Accounting
and Finance**

JUNE, 2018

DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original research and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's

Yaw Sekyere Frimpong

Signature

Date

Exam No. PG **14017590**

Supervisor's Declaration

I hereby declare that the preparation and presentation of the dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the Christian Service University College.

Supervisor's Signature

Date

Dr. Sulemana Mahawiya
(Supervisor)

ABSTRACT

Foreign direct investment and government expenditure are some of the key economic variables which policy makers attempt to influence to induce economic growth. In this study, the main objective is to examine the impact of these macro-economic indicators on the economic growth of Ghana for the period 1992 to 2015. A dynamic ordinary least square techniques was used in analyzing data using real GDP growth rate to measure economic growth. The results indicate that a 1% increase in foreign direct investment will lead to about 6% increase in economic growth of Ghana but a 1% increase in government expenditure only leads to about 5% increase in economic growth. Also, in this study, exchange rate, trade percentage of GDP, net taxes and technological advancement were adopted as control variables. The results from the analysis indicated that exchange rate, net taxes and technological advancement had a positive relationship with economic growth while trade percentage of GDP had a negative relationship with economic growth. As part of policy recommendation, the study suggests that the government engages in more bilateral and multilateral trade agreements and strengthen the fight against corruption so as to instill more confidence in foreign investors in order to attract more foreign direct investment. Also, to further enhance growth, the government must ensure that its spending is directed to productive economic activities such as the construction of good roads linking rural communities to urban areas, the provision of affordable but quality health care and investing in the education sector.

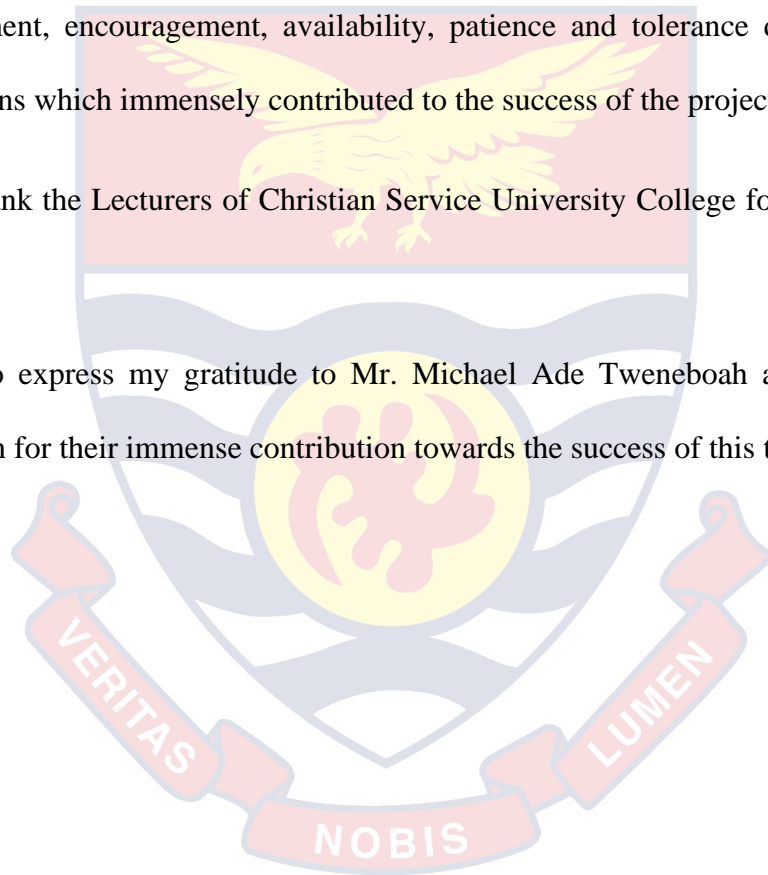
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DEDICATION

I dedicate this thesis to my late father Mr. Francis Frimpong, mother; Mad. Georgina Badu, brother; Kwaku Boakye Frimpong, my boss; Abenaa Akuamoah-Boateng and my friend; Michael Ade-Tweneboah who have been a great source of encouragement throughout the study.



LIST OF ABBREVIATIONS

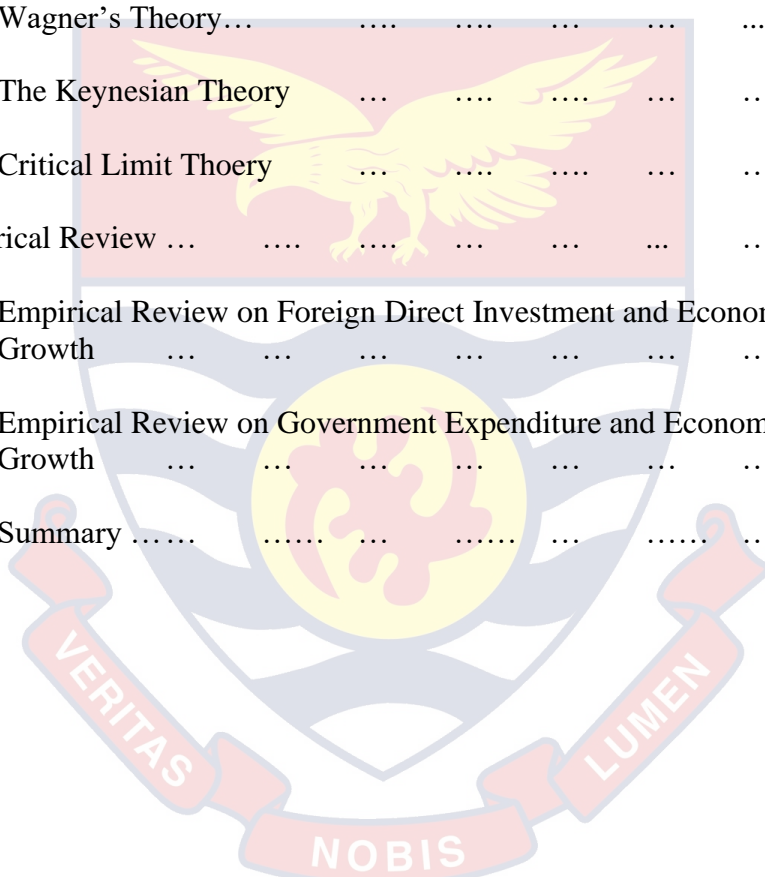
Abbreviations-	Meanings
GDP	- Gross Domestic Product
OECD	- Organization for Economic Co-operation & Development
OLS	- Ordinary Least Square



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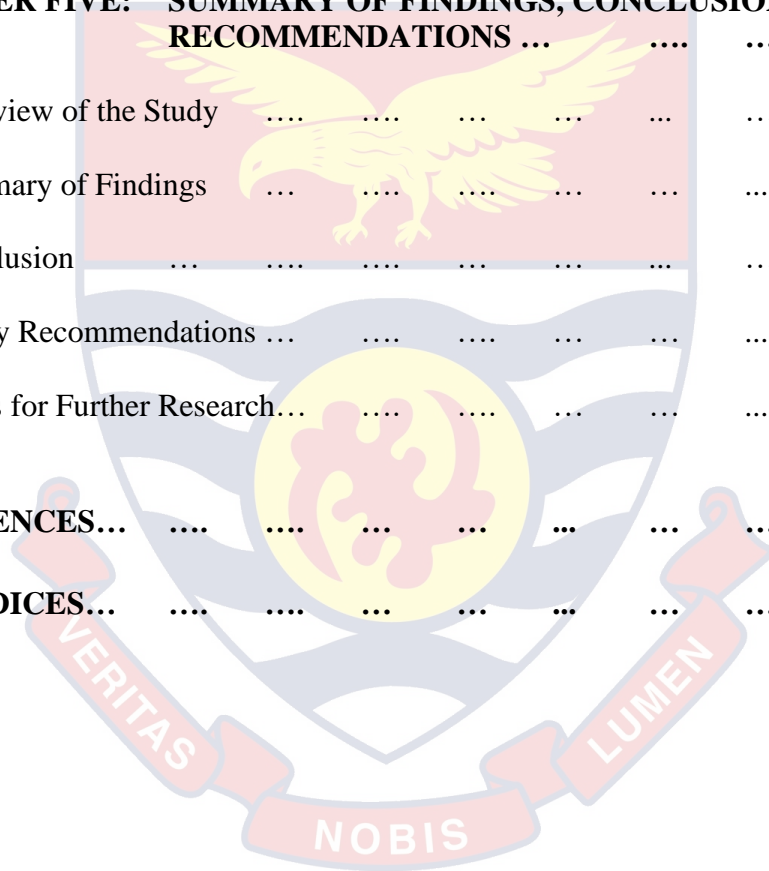
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CHAPTER ONE

GENERAL INTRODUCTION

Undeniably, the subjects of foreign direct investment and government expenditure continue to attract interest in all facets of the academia as well as other major financial institutions. These two variables are usually listed among the most important factors that contribute to economic growth of economies, considering their numerous direct and indirect effects on a country's economy.

By bridging the gap between domestic savings and investment and bringing the latest technology and management know-how from developed countries, foreign direct investments play an important role in achieving rapid economic growth in developing countries. According to Mottaleb & Kalirajan (2010), foreign direct investments have an increasingly important role in the development of capital deficiency of developing countries. Foreign direct investments also help in technological transfer and employment generation.

Also, the link between government expenditures whether capital or recurrent expenditure and economic growth in developing countries is an important analysis as they ought to contribute to growth (World Bank 1994). Government expenditures have far reaching effect on the overall economic activities of any nation. Government expenditure in the form of grants and subsidies to farmers, firms and industries is highly productive as it minimizes cost of production which leads to a fall in prices while expenditures on education and health has direct welfare effect on the society.

Some studies such as Albala & Mamatzakis (2001), Balamoune-Lutz (2004) and Kabir positive impact on economic growth while others such as Fasoranti (2012) and Aitken & Harrison (1999) suggest otherwise.

This study therefore seeks to analyze the impact of foreign direct investment and government expenditure on the growth of the Ghanaian economy between the periods of 1992 and 2015 using a quantitative approach by running a dynamic OLS model.

1.1 Background of the Study

1.1.1 Government Expenditure and Economic Growth

Government expenditure simply refers to the purchase of goods and services, which include public consumption and public investment, and transfer payments consisting of income transfers (pensions, social benefits) and capital transfer.

According to Barro & Sala-i-Martin (1992) government expenditure can promote economic growth directly or indirectly. According to the authors, the direct effect is where government expenditure leads to an increase in physical and human capital stock while the indirect effect can be identified by its impact on marginal productivity of production factors. Also, the impact of government expenditure can be positive or negative depending on its form according to Barro (1990). Expenditure on investment and productive activities contribute positively to growth, whereas government consumption expenditure has negative effects on growth.

Using government expenditure to create and sustain long-term economic growth has become an area of concern for many policy makers for decades. Government spending has been used extensively as a fiscal policy by the government in many developing countries such as Ghana, but its effect on economic growth is questionable.

Considering the economic performance of the Ghanaian economy for the period 1992 to 2015, the average growth rate was 5.58% as compared to an average of 22.95% or 7.84% for Equatorial Guinea and Mozambique respectively. Clearly Ghana was lagging

behind. On a detailed analysis of the performance of the Ghanaian economy, Figure 1.0 indicates that the Ghanaian economy grew fairly around 4% from 1992 to 2002, from 2002 onwards it grew over 4% fairly to 2006 where it plunges to around 4% in 2007. From 2008 onwards growth rate was volatile reaching all time high of 14% in 2011 and then a sharp drop to about 4% in 2015. Based on this analysis, the discussion seems to suggest that the Ghanaian economic growth is not robust enough to propel development.

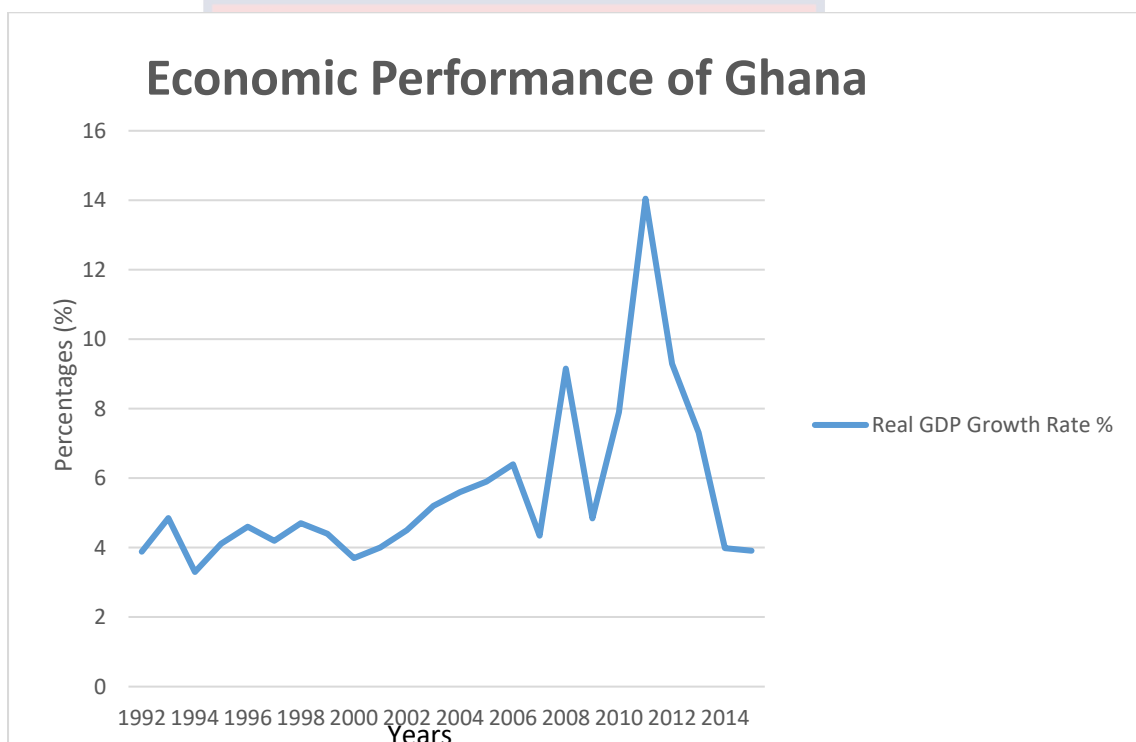


Fig 1.0 Economic Performance of Ghana (1992 to 2015)

To visually examine the relationship between government expenditure and economic growth, a graph of these two variables is shown below in Figure 1.0.

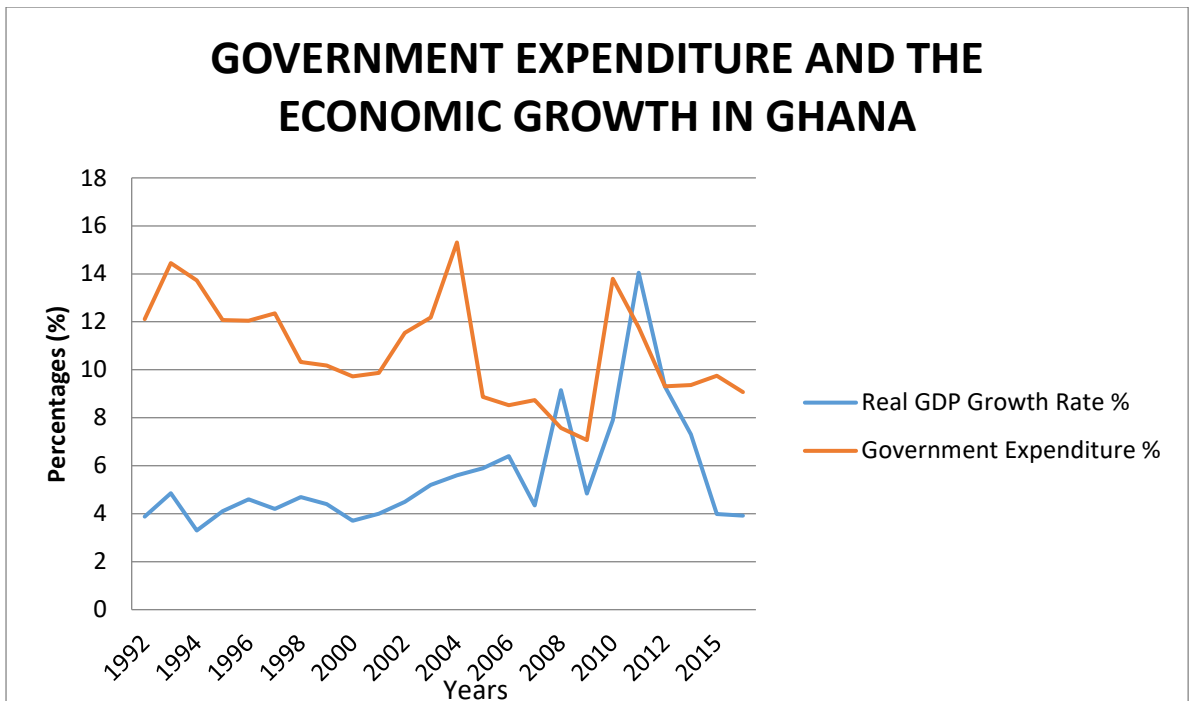


Fig 1.1 Government Expenditure and Economic Growth in Ghana (1992 to 2015)

The above analysis was derived from data on real GDP growth rate as a proxy for measuring economic growth and data on government expenditure from 1992 to 2015. From the graph when government expenditure was rising from 1992 to 1993, economic growth also rose. Both variables experienced a fall in their percentages from 1993 to 1994. However, between 1995 and 2001, government expenditure fell sharply from about 12% to about 10% while economic growth moved steadily maintaining a rate of about 4%. From 2002 to 2004, government expenditure rose to an all-time high of about 15% and economic growth also rose from about 4% to about 6%. Between 2005 and 2010 government expenditure fell steadily and rose slightly to around 13% while economic growth moved unevenly, rising and falling till it reached a rate of about 8%. From 2011 to 2015, economic growth reduced from an all-time high of about 14% to about 4% and government expenditure also reduced from about 11% to about 9%. It can therefore be assumed based on the graph that there is a positive relationship between

government expenditure and economic growth. This conclusion is only drawn based on pictorial evidence. Hence, the study strived to establish whether government expenditure had any impact on the growth of the Ghanaian economy within the period of study using quantitative analysis.

1.1.2 Foreign Direct Investment and Economic Growth

The United Nations Conference on Trade and Development defines foreign direct investment as an investment involving a long-time relationship and reflecting a lasting interest and control by a resident entity in one economy in an enterprise resident in another economy. Agiomirgianakis *et al.* (2003) mentioned that foreign direct investment is mostly defined as capital flows resulting from the behavior of multinational companies. Foreign direct investment is also known as globalization.

Most developing countries consider foreign direct investment as a vital source for their development. However, it is quite difficult to measure the economic effects of foreign direct investment on the host country, taking into consideration their numerous direct and indirect effects. Bora (2002), conducted a research using a panel regression technique to analyze the impact of foreign direct investment on GDP, export and employment of developing economies. The results indicated that foreign direct investment inflows were an important factor for growth and export performances of the developing economies. On the other hand, the impact over employment was negative mainly due to the low level of green field investments and non-attractiveness of the labor-intensive industry for the foreign investors.

According to the data from a research by United Nations Conference on Trade and Developments (2005), global foreign direct investment trends suggest that almost one

fifth of the world's foreign direct investment inflows are destined to developing countries such as Ghana.

The dominance of foreign direct investment in developing countries such as Ghana is largely due to a stronger engagement of multinational enterprises in the services sector. Also, the effort by several African countries such as Ghana to improve their business climates and overall growth has resulted in the increase of foreign direct investment. This evidence is based on the launching of the New Partnership for Africa's Development to increase available capital to US\$64 billion through a combination of reforms, resource mobilization and creating a conducive environment for foreign direct investment (Funke & Nsouli 2003).

This dominance of foreign direct investment leads to the question of whether there is any relationship between foreign direct investment and economic growth in developing countries in Africa such as Ghana. Some studies argue that the relationship between foreign direct investment and economic growth is ambiguous. Aitken & Harrison (1999) for instance argued in their study that the net impact of foreign direct investment on the host country is very small. A graph was employed to examine a graphical analysis of the relationship between foreign direct investment and economic growth in Ghana from 1992 to 2015.

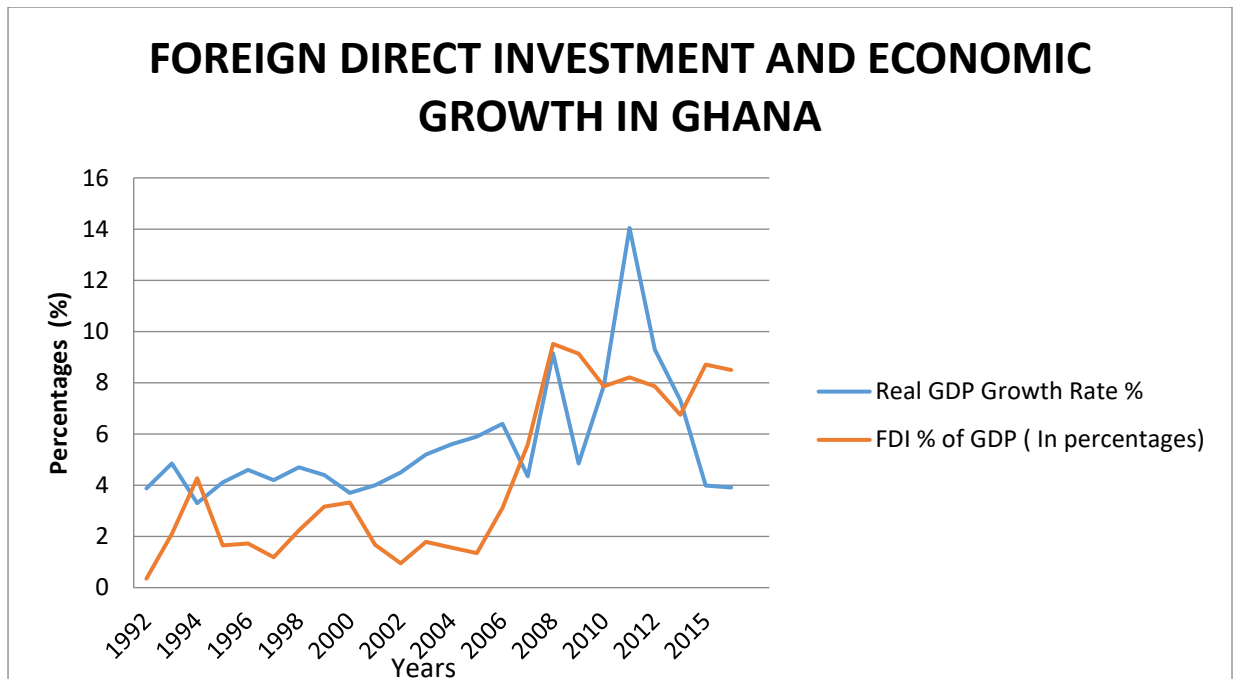


Fig 1.2 Foreign Direct Investment and Economic Growth in Ghana (1992 to 2015)

The graph above was plotted using data on real GDP growth rate as a proxy for measuring economic growth and data on foreign direct investment as a percentage of GDP from 1992 to 2015. Initially from 1992 to 1993 both foreign direct investment and economic growth increased. However, from 1994 to 1999 economic growth moved steadily from about 3% to about 4% while foreign direct investment fell continuously from 4% to about 2% and increased slightly in 1999 to about 3%. Also, between 2000 and 2008, economic growth increased continuously from about 4% to about 9% whereas foreign direct investment initially fell from about 3% to about 1% between 2000 and 2005 and increased significantly from about 3% in 2006 to an all-time high of about 10% in 2008. This signifies that within the period, foreign direct investment and economic growth were positively related. This study employed a quantitative approach to examine the actual relationship between foreign direct investment and economic growth in Ghana, using the period of 1992 to 2015 as a case study. The study analyzed the inflow of foreign direct investment, government expenditure and some selected macroeconomic indicators in Ghana between 1992 and 2015. This period was

selected because the year 1992 marked the beginning of the fourth republic of Ghana, a starting point from which the country experienced significant economic and political stability.

1.2 Statement of the Problem

Certainly, Africa and for that matter Ghana are all confronted with economic crisis situation featured by inadequate resources for long-term development, high poverty level, low capacity utilization, high level of unemployment, and other Millennium Development Goals increasingly becoming difficult to achieve by 2020. Foreign direct investment as well as government expenditure are prominent strategies employed for economic revival and growth by policy makers at national, regional and international levels. Foreign direct investment and government expenditure are mainly used because they are considered as key to bridging the technology and resource gap while avoiding further build-up of debt.

Also, using government expenditure as a fiscal tool to create and sustain long-term economic growth has become an area of concern for many policy makers over the past couple of years. Other major economic problems that continues to snare at developing countries including Ghana is the inability to have enough national savings to finance their investments. There is a constant need of foreign capital in forms of both direct and indirect investments. Initially, loans from international commercial banks were pursued. However, in the 1980s the drying-up of commercial bank lending, because of debt crises, forced many countries to reform their investment policies so as to attract more stable forms of foreign capital, and foreign direct investment appeared to be one of the easiest way to get foreign capital without undertaking any risks linked to the debt. Hence, it became an attractive alternative to bank loans as a source of capital inflows.

Factors that affect the behavior of multinational companies may also affect the magnitude and the direction of foreign direct investment. Multinational companies expand their activities to a foreign country for a number of reasons including, among others, the exploitation of economies of scale or scope, the use of specific advantages, often owing to a life-cycle pattern of their products or just because their competitors are engaged in similar activities.

On the other hand, governments are also engaged in a policy competition by changing key factors of their economic policies, such as domestic labor market conditions, corporate taxes, tariff barriers, subsidies, privatization and regulatory regime policies so as to improve foreign direct investment activity in their countries. Furthermore, as to whether foreign direct investment has impact on the economic growth of Ghana is still a debatable one. What is clear is that the relationship may be significant or insignificant depending on Ghana as a country, the type of investments, the objective of the donor country, the implementation policy of the recipient country, the methodology used and the period of study. Even the impact of foreign direct investment on economic growth as well as poverty reduction is not clear in Africa and for that matter Ghana. Also, most existing research are mostly done analyzing just the impact of only foreign direct investment on economic growth.

As a result of these uncertainties, the study sought to analyze the impact of foreign direct investment and government expenditure on the economic growth of Ghana.

1.3 Purpose of the Study

The study sought to analyze the impact of foreign direct investment and government expenditure on economic growth of Ghana and to provide relevant additional informational which will be beneficial to academics and policy makers.

1.4 Research Objectives

The main objective of the study was to analyze the impact of foreign direct investment and government expenditure on economic growth in Ghana. The specific objectives of the study are:

- i). To analyze the impact of foreign direct investment on economic growth in Ghana for the period of study.
- ii). To assess the relationship between government expenditure and economic growth in Ghana for the period of study.

1.5 Research Questions

Based on the objectives above, the following questions were sought to be answered.

- i. What impact does foreign direct investment have on economic growth in Ghana?
- ii. What impact does government expenditure have on economic growth in Ghana?

1.6 Research Hypotheses

To answer the questions above and also realize the set objectives, the study tested the following hypothesis

Hypotheses 1

H₀: There is no statistically significant relationship between foreign direct investment and economic growth

H₁: There is a statistically significant relationship between foreign direct investment and economic growth

Hypotheses 2

H₀: There is no statistically significant relationship between government expenditure and economic growth

H₁: There is a statistically significant relationship between government expenditure and economic growth

1.7 Significance of the Study

This study is relevant to decision makers and major shareholders. This is because foreign direct investment inflows to Ghana are very critical since it serves as a source of capital. Again, the study is vital because foreign direct investment and government expenditure have numerous advantages including stimulating domestic investment, promoting economic growth and also aiding in the creation of employment opportunities.

To policy makers the findings of the study would provide strong evidence to support their work for a better institutional quality. Also the local market-seeking investors of multinational enterprises would be guided to make an informed choice. The findings of the study will contribute to the knowledge and existing literature in this field and provide a base for further research for both students and other researchers and academicians conducting analogous studies in other related fields.

1.8 Delimitation of the Study

The study only analyzed a few of the numerous macroeconomic indicators that are known to affect economic growth.

1.9 Limitation of the Study

Due to limited data availability, certain macroeconomic variables that were initially considered to be included as control variables had to be dropped.

1.10 Organization of the Study

The study was organized into five chapters. The first chapter comprises of the introduction and background to the study, the statement of the research problem, purpose of the study, objectives of the study, research hypothesis, significance of the study, delimitation of the study, limitation of the study and organization of the study which seals the chapter. Chapter two focused on the review of the various relevant literature on the various subject matter of the study under subheadings in the theoretical, empirical and other carefully selected headings relevant to the research topic.

Chapter three centered on the research methodology. It described the sources of data, explained the model to be employed under the study, provided an explanation of key variables in the model, as well as the empirical design. Chapter four dealt with the pragmatic results which covered the data presentation, analysis and discussion. Over here, secondary data was obtained using various means outlined in the methodology. This was then organized into a meaningful data format, analyzed and discussed in order to draw conclusions. Chapter five presents the summary of major findings from the data analysis and offers conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The topic for the research is a subject which continues to enjoy academic interest from the various sections of the academia. This chapter considers and critically evaluates researches and other literature, related to the topic under study. This research activity allowed the researcher to appreciate the theoretical basis of the research topic. Nonetheless, the related literature to this study was reviewed under the following sub-headings; theoretical frame work, empirical frame work, the concept of foreign direct investment, the concept of government expenditure, the concept of economic growth.

2.2 Theoretical Literature Review

2.2.1 Solo Type Growth Theory

According to De Mello, (1997), the role of foreign direct investment in stimulating economic growth is one of the controversial issues in the development literature. In the standard Solo type growth model, foreign direct investment enables host countries to achieve investment that exceeds their own domestic saving and enhances capital formation. According to this theory, the potential beneficial impact of foreign direct investment on output growth is confined to the short run. In the long run, given the diminishing marginal returns to physical capital, the recipient economy could converge to the steady state growth rate as if foreign direct investment had never taken place leaving no permanent impact on the growth of the economy.

2.2.2 Endogenous Growth Theory

Endogenous growth models that highlighted the importance of improvement in technology, efficiency, and productivity suggest that foreign direct investment can positively influence the growth rate in so far as it generates increasing returns in production via externalities and production spillovers. On further theoretical arguments why developing countries may not gain from foreign direct investment, Krugman & Maurice (1994) argued that the transfer of control from domestic to foreign firms may not always be beneficial to the host countries because of the adverse selection problem. Foreign direct investment undertaken within a crisis situation known as under “Fire Sale” may transfer ownership of firms from domestic to foreign firms that are less efficient. This concern is particularly important to the developing countries including the Sub Saharan African countries, where, as part of privatization, state owned enterprises are sold to foreign firms simply because foreign firms have more available funds than domestic ones. As pointed out by Agosin & Mayer (2010), foreign direct investment may also “crowd out” domestic firms through unfair competition. There is also a concern that the enclave nature of many foreign owned firms and their minimal linkage to the rest of the economy could reduce the potential spillover contribution to the national economy. Moreover, the potential subsequent outflow of foreign firms' subsidiary earnings to their parent companies could also cause deterioration in the balance of payments. It is also argued that foreign corporations tend to produce inappropriate goods that are tailored to satisfy the wealthy portion of the host country's consumers, thereby increasing inequality and engaging in transfer pricing

2.2.3 Neoclassical Theory

According to neoclassical theory, foreign direct investment influences income growth by increasing the amount of capital per person. It spurs long-run growth through variables such as research and development and human capital. Through technology transfer to their affiliates and technological spillovers to unaffiliated firms in the host economy, multinational companies can speed up the development of new intermediate product varieties, raise product quality, facilitate international collaboration on research and development, and introduce new forms of human capital (Ikiara, 2003). Bajona & Kehoe (2006) discussed explanations of multinational production based on neoclassical theories of capital movement and trade within the Hecksher-Ohlin framework. However, they criticize these theories on the basis that they were founded on the assumption of existence of perfect factor and goods markets and were therefore unable to provide satisfactory explanation of the nature and pattern of foreign direct investment. In the absence of market imperfections, these theories presumed that foreign direct investment would not take place. Nevertheless, they argue that the presence of risks in investing abroad implies that there must be distinct advantages to locating in a particular host country.

2.2.4 Wagner's Theory

This theory was developed by a German political economist, Adolph Wagner (1835-1917). The theory argued that economic growth is a function of increased industrialization and economic development. The law cited that "The advent of modern industrial society will result in increasing political pressure for social progress and increased allowance for social consideration by industry." Wagner designed three focal bases for the increased in state expenditure. Firstly, during industrialization process,

public sector activity will replace private sector activity. State functions like administrative and protective functions will increase. Secondly, governments needed to provide cultural and welfare services like education, public health, old age pension or retirement insurance, food subsidy, natural disaster aid, environmental protection programs and other welfare functions. Thirdly, increased industrialization will bring out technological change and large firms that tend to monopolize. Governments will have to offset these effects by providing social and merit goods through budgetary means.

2.2.5 The Keynesian Theory

This theory was put forward by economist; John Maynard Keynes (1883-1946). He argued that government intervention was necessary in the short run to save the economy from depression. He argued that in the long run we are all dead. Increasing saving during depression will not help but instead spending saves the economy. Increased spending raises the purchasing power of people and hence consumption increases. Producers expand their production and hence employment is created. He further said that expansion of government expenditure should be done with a lot of care since too much of it could lead to inflation. The flaws of Keynes theory are: The theory tended to give rise to the phenomenon known as stop-go. That is, in periods of high unemployment, the government would expand aggregate demand. This would reduce the unemployment but at the same time tend to create inflationary pressure so that eventually the government would have to reduce aggregate demand again. Thus, all go period tended to be followed by stop period and it became difficult to achieve long term economic growth. A second limitation of the Keynesian model is that it fails to take adequately into account the problem of inflation. Third, it tends to understate the

influence of money on the real variables in the economy. A change in the money supply, only affects national income through its effects on the rate of interest.

2.2.6 Critical Limit Theory

The critical – limit hypothesis posited that inflation rate would take its natural course and in spite of the fact that as the case may be, the country is operating a balanced budget; when the share of the government sectorial activities have exceeds 25 % of the total activity in the economy. Put in another way, if the overall economic activities of the government (public sector) reaches or surpasses the theoretical limit of 25 percent, majority, most especially the working class will be affected due to a reduction in incentives as a result of a perceptible high tax incidence as a result of reduction in the level of production and supply. Based on the above, the general outcome of the disparity between demand and supply would hitherto increase the inflationary spiral in the economy.

2.3 Empirical Literature Review

2.3.1 Empirical Literature on Foreign Direct Investment and Economic Growth

The empirical evidence on foreign direct investment and economic growth is ambiguous. However, in theory foreign direct investment is believed to have several positive effects on the economy of the host country (such as productivity gains, technology transfers, the introduction of new processes, managerial skills and know-how, employee training). It is also a significant factor in modernizing the host country's economy and promoting its growth. Especially for the developing countries, the recent global changes in the 1990's, have led them to look favorably at the various foreign

direct investments because it is believed that they can contribute to the economic development of the host country.

Evidence on the link between foreign direct investment and economic growth is inconclusive. Alfaro et al. (2006), over the averaged periods of 1975-1995 examined the connections among the foreign direct investment, financial markets and economic growth using cross country data from 71 developing and developed countries. Their empirical evidence suggests that foreign direct investment plays an important role in contributing to economic growth but the level of development of local financial markets is crucial for these positive effects to be manifested.

Between the two separate periods of 1970-1979 and 1980 -1989, Borensztein *et al.* (1998), tested the relationship between foreign direct investment and GDP in a cross country regression framework with 69 developing countries. They established that the effects of foreign direct investment on growth depends on the level of human capital in the host country and that foreign direct investment has positive growth effect only if the level of education is higher than a given threshold.

Baliamoune-Lutz (2004), Kabir (2007), ascertained that foreign direct investment has a positive effect on economic growth through exports. They intimated that foreign direct investment increases the amount of exports and thus enhances foreign currency earnings which can be used to pay external debts.

In China, Zhang (2001), also found that foreign direct investment has enhanced the economic growth by raising its export volume.

Balasubramanyam *et al.* (1996) and United Nations Conference on Trade and Development (2005) suggest that the positive effects of foreign direct investment also depend on openness to trade. Foreign direct investment can broaden access to export

markets as transnational corporations often serve as channels for the distribution of goods from one country to other markets located in another country.

Carkovic & Levine (2002), used a dynamic panel data estimator with data averaged periods of 1960-1995 for a sample of 68 countries. The researchers used an econometric specification that allows foreign direct investment to influence growth differently depending on national income, trade openness, education and domestic financial development. They established a positive relationship but insignificant impact of foreign direct investment on economic growth.

Brenner (2014) in his study reported a mix result of the effect of FDI on economic growth. The research was conducted in 112 less and more developed countries excluding oil exporting countries for the period of 1974-2010. Using General Method of Moment technique he established positive impact of FDI on economic growth in more developed countries compared to negative impact in less developed countries.

Noormamode (2008) reported an ambiguous effect of FDI on economic growth. Vector Autoregressive Regression technique was employed for the study in 58 countries and annual time series data from 1980-2004. She established that the inflow of FDI do not necessarily enhance economic growth and further added that there is uncertainty concerning the impact of FDI on economic growth.

Ciftcioglu et al. (2004) also established a mixed result in their study. They employed panel ordinary least square fixed effects and pooled classical regression technique using nine central and east European countries for the period 1995-2003. They further reported that FDI impacts positively on share of export in GDP, negatively on economic growth, unemployment and the share of manufacturing and agriculture in GDP

Bosworth and Collins (1999), Blomstrom *et al.* (1995), Borensztein *et al.* (1998), Zhang (2001), DeMello (1997), Balasubramanyam *et al.* (1996) and Obwona (2001) provide evidence on the positive effects of foreign direct investment on economic growth. Growth enhancing effect of foreign direct investment is not, however, automatic, but depends on various country specific factors. Blomstrom *et al.* (1995) and DeMello (1997) indicated that the positive effect of foreign direct investment is stronger the higher the level of development of a host country. Higher level of development allows countries to reap the benefits of productivity fostered by foreign investment. For similar reasons, Borensztein *et al.* (1998), have found that significant relations between foreign direct investment flows and economic growth depend on the level of human capital. Host countries with better endowment of human capital are believed to benefit more from foreign direct investment induced technology transfer as spillover-effects than others with less human capital.

Blomstrom *et al.* (1994) also reported that foreign direct investment exerts a positive effect on economic growth, but that there seems to be a threshold level of income above which foreign direct investment has positive effect on economic growth and below which it does not. The explanation was that only those countries that have reached a certain income level can absorb new technologies and benefit from technology diffusion, and thus reap the extra advantages that foreign direct investment can offer. Previous works suggest human capital as one of the reasons for the differential response to foreign direct investment at different levels of income. This is because it takes a well-educated population to understand and spread the benefits of new innovations to the whole economy (Borensztein *et al.* 1998).

However the following researchers had contrasting findings;

Brecher & Diaz-Alejandro (1977), indicated that foreign direct investment may have a negative effect on economic growth of the host country if the foreign direct investment - financed companies repatriate excessive profits to the parent country. This circumstance is known as repatriation of profit which adversely affects the balance of payment of the host country.

Eller *et al.* (2005) study on 11 central and Eastern European countries argued that foreign direct investment crowded out domestic capital. Bornshier & Chase-Dum (1985), also concluded that in addition to crowded out domestic investment, foreign direct investment would be responsible for creating a monopoly.

Konings (2001) uses panel data from firms' level to find out the impacts of FDI on performance of productivity in local firms in 3 emerging economies namely Poland, Romania and Bulgaria. Using data for the period 1993-1997 and the GMM methodology, he finds no evidence of positive spillovers of FDI on domestic firms. He further observes that, FDI have negative spillover effects on domestic firms in Bulgaria and Romania but no spillover effects on domestic firms in Poland.

Lyrouti *et al.*, (2004) on their part also investigated the effect of FDI in transition economies such as Russia, Ukraine, Latvia and Albania. Using the Bayesian estimation technique on data from 17 transition economies for the period 1995 -1998, they observe no significant link between FDI and economic growth. They further obtained same result when the data was split into high income and low income countries

2.3.2 Empirical Literature on Government Expenditure and Economic Growth

From 1987-1997, Yasin (2000) examined the relationship of government spending and economic growth in 26 sub Saharan African countries using panel data. It was observed that government spending on capital formation had a positive and significant effect on economic growth. A suggestion for these countries to increase government spending on capital formation and create favorable economic environment was made.

Alshahrani & Alsadiq (2014), studied the effect of different types of government expenditure on economic growth in Saudi-Arabia, from 1969-2010 using time series data and an econometric technique of Vector Error Correlation Model (VECM). They examined the long and short run effects of the expenditure on growth. It was established that private, domestic and public investments as well as healthcare expenditure stimulate growth in the long run. The result also showed that openness to trade and spending in the housing sector boost short-run production. Hence a positive relationship between the two variables.

In another study carried out by Olugbenga & Owoeye (2007) to investigate if there exist any relationship between government expenditure and economic growth. Data for the study were gotten from 30 under-developing economies between the period 1970 and 2005. After employing regression analysis; the regression shows an existence of a long-run relationship between government expenditure and economic growth. The study also shows that in 16 out of the 30 countries under investigation a unidirectional causality exists between economic growth and government expenditure; this result greatly supported the Keynesian hypothesis. Also, in their work, causality runs from economic growth to government expenditure in 10 out of the countries studied, confirmed Wagner's law in a group of four countries they found existence of feedback relationship between government expenditure and economic growth.

However, the following studies established contrasting findings;

Guseh (1997), used time series data for the period 1960-1985 for 59 middle-income developing countries. The study suggested that growth in government size has a negative effects on economic growth.

Again, Nurudeem & Usman (2010), analyzed the impact of government expenditure on economic growth in Nigeria using co-integration and error correction methods and time series data. They developed their model based on Keynesian and endogenous growth model, it was established that capital expenditure, total recurrent expenditure and government expenditure on education have negative effects on growth.

Edward & John (2012) also analyzed the interrelationships between public spending composition and Uganda's development goals including economic growth and poverty reduction using dynamic computable general equilibrium model. The results demonstrated that public spending composition on productive sectors such as agriculture, energy, water, health and complementary infrastructure such as roads has positive impact on economic growth and poverty reduction while unproductive sectors such as public administration and security had a negative impact on economic growth and poverty reduction.

Maingi (2010), while studying the impact of government expenditure on economic growth in Kenya found out that in the long run expenditure on economic affairs, defense, education, government investment, general administration and services and physical infrastructure have positive impacts on economic growth. In the short run health care, public order and national security have positive impact on economic growth, whereas, public debt servicing had negative impact on economic growth.

Njuru (2014) conducted a research on the effect of government expenditure on economic growth in East Africa focusing mainly on Kenya, Uganda and Tanzania using a disaggregated model. The outcome was that expenditure on health, defense, agriculture and openness were positively related to economic growth while expenditure on education, terms of trade and population growth had a negative impact on economic growth.

Hsieh & Lai (1994), also attempted to examine the nature of the relationship between government expenditure and economic growth in G-7 countries namely Canada, France, Germany, Italy, Japan, UK, and USA. The study found an insignificant relationship between government expenditure and economic growth.

Olopade & Olopade (2010) in their research accessed how fiscal and monetary policies impact economic growth and development. The importance of their study was to determine the components of government expenditure that enhance growth and development, identify those that do not and recommend those that should be cut or reduced to the barest minimum. They used an analytic framework based on economic models, statistical methods encompassing trends analysis and simple regression. They found no significant relationship between most of the components of expenditure and economic growth.

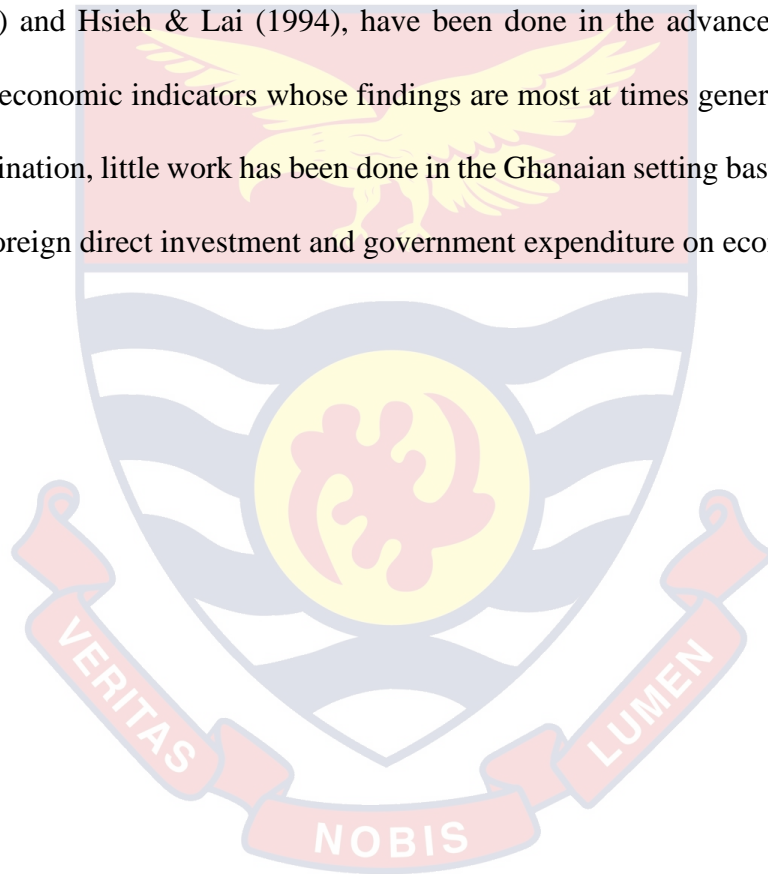
2.3.3 Summary

In summary, several theoretical studies have attempted to explain the impacts of foreign direct investment and government expenditure on economic growth in Ghana under the period of study. This study reviewed five (5) theories under the theoretical review; solo type growth, endogenous growth and neoclassical, Wagner's and Keynesian theories

The various empirical and theoretical discussions above show differing views on the topic under study.

While some studies established a positive associations, others found a negative associations. Some even established no relationship at all. Subsequently, no consensus has yet to be achieved.

Moreover, it can be seen that most of the studies done such as Zhang (2001), Alfaro et al. (2006) and Hsieh & Lai (1994), have been done in the advance economies with different economic indicators whose findings are most at times generalized. Therefore per examination, little work has been done in the Ghanaian setting basing on the impact of both foreign direct investment and government expenditure on economic growth.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the methodology which was used in the research. It includes sources of data, research design, and data analysis.

3.2 Sources of Data

The main source of data for this study was collected through secondary data. According to Saunders, Lewis & Thornhill (2000), secondary data refers to the form of data collected from published data, selected books, journals, the internet and selected books which were relevant to the study. In other to examine the impact of foreign direct investment and government expenditure on the economic growth of Ghana, secondary data was obtained from the database of the World Bank.

The data included information on the annual real gross domestic product growth rate which was used as a proxy for the growth of the economy, foreign direct investment percentage inflows on GDP, data on government expenditure, data on exchange rates, data on net taxes, data on trade percentages of GDP and data on technological advancement. The sample collected data for the years 1992-2015. Hence the study covered a time frame of twenty-four (24) years.

3.3 Research Design

Research design describes the structure for investigations and procedures for conducting and controlling a research study (Heppner et al, (2010)). There are three

common ways to classify research design and these are; descriptive research design, exploratory research design and explanatory research design.

3.3.1 Descriptive Research Design

Descriptive research design focuses on describing the characteristics of a problem. A descriptive research is one which looks with intense accuracy at the phenomena of the moment and then describes precisely what the researcher sees (Saunders et al 2003). It allows for an in-depth analysis of variables in a research study and also enables the generation of factual information about the study. This is so because the descriptive design relies much on secondary data which helps in developing a case based on facts sustained by statistics and descriptive interpretations from archival materials and data.

3.3.2 Exploratory Research Design

Exploratory research design is used for a research on a problem that has not been studied more clearly (Polit et al 2009). It is used to investigate the full nature of a phenomenon and other factors related to it. The results of exploratory research are not usually useful for decision-making by themselves, but they can provide significant insight into a given situation.

3.3.3 Explanatory Research Design

Explanatory research design is used to identify the extent and nature of cause-and-effect relationships. It is used to assess the impact of specific changes on existing norms, and various processes and also to focus on the analysis of a situation or a specific problem to explain patterns and relationships between variables. This study can be classified

under this design as it examined the impact of foreign direct investment and government expenditure on economic growth in Ghana.

3.4 The Model Specification

In this study, foreign direct investment, government expenditure, trade percentage of GDP, net taxes, technological advancement and exchange rates were the independent variables while economic growth rate (using the Real GDP growth rate as a proxy) was the dependent variable. Below demonstrates the model to be estimated;

$$RGDPGR_t = \beta_0 + \beta_1 FDI_t + \beta_2 GovExp_t + \beta_3 Computer_t + \beta_4 TradeGDP_t + \beta_5 ExRate_t + \beta_6 NetTaxes_t + \varepsilon_t \dots \dots \dots 1$$

Where;

$RGDPGR_t$ = Real GDP Growth Rate (proxy for economic growth)

FDI_t = FDI inflows % on GDP

$GovExp_t$ = Government Expenditure

$Computer_t$ = Technological Advancement

$Trade_GDP_t$ = Trade Percentage of GDP

Ex_Rate_t = Exchange rate

$Nettaxes_t$ = Net Taxes

ε_t = Error Term

From the above equation, β_0 is the constant variable and β_1 to β_6 are the coefficients of the selected macroeconomic variables for study while the error term is denoted by ε_t and is defined as the residual error of the regression.

Ordinary Least Squares regression (OLS) is more commonly named linear regression (simple or multiple depending on the number of explanatory variables). The OLS method corresponds to minimizing the sum of square differences between the observed and predicted values.

However, using OLS in analyzing time series data comes with certain issues, the following are some of the problems in using least square regression;

Firstly, the risk of wrong choice of features. The challenge in picking the right explanatory variables for forecasting a problem is a major challenge to all regression techniques. It is important to carefully select variables to be used, including those features that are more likely to have a strong effect on the dependent variable and exempting variables that are unlikely to have much effect.

Also, the risk of the presence of outliers. OLS portrays inefficiency when some point in the data has excessively larger or smaller values for the dependent variable as compared to the remaining data. This makes inferences from such data wrong, as outliers can cause problems on the accuracy of prediction

Hence, Equation 1 is a static model and since this model assumes that the independent variables have a contemporaneous effect on the dependent variable, the model was further modified into a dynamic model as shown below in Equation 2.

$$RGDPGR_t = \beta_0 + \beta_1\Delta FDI_t + \beta_2\Delta GovExp_t + \beta_3\Delta Computer_t + \beta_4\Delta TradeGDP_t + \beta_5\Delta ExRate_t + \beta_6\Delta NetTaxes_t + \varepsilon_t \dots\dots\dots 2$$

3.5 Explanation of Variables

3.5.1 Foreign Direct Investment

A foreign direct investment is simply an investment in the form of a controlling ownership in a business in one country by an entity based in another country. In theory, it is assumed that foreign direct investment helps in accelerating the rate of economic growth by; providing capital, removing balance of payment constraints, bringing technological, managerial and marketing skills, promoting exports of host developing countries, providing increased employment and generating competitive environments in host countries.

This variable is important to this study because foreign direct investment is listed among the top contributing factors to the economic growth of transition economies, considering their numerous direct and indirect effects on domestic economy.

3.5.2 Government Expenditure

Government expenditure simply entails all government consumption, investment, and transfer payments. Some researchers like Ghura (1995) argue that an increase in government spending has positive effects on capital formation and create favorable economic environment. Others like Usman (2010) believe otherwise. They argue that government spending is good for the economy if it is spent on creating productive assets. But if the spending creates a huge fiscal deficit it not good for the economy in long run as taxes will have to be raised in future.

This variable is important to the study since most developing economies like that of Ghana's consider government expenditure as an important tool in accelerating the growth of their economy.

3.5.3 Technological Advancement

Technology simply refers to the collection of techniques, skills, methods and processes used in the production of goods and services or in accomplishing a set objective. Thus, technological advancement simply describes the growth of technology. It is considered that social development occurs if a society can make technological advances and reflect them to their social and cultural lives, also nations that efficiently disseminate technology and information to all areas of the society are considered to create new areas of employment in their countries. However these new areas require qualified work force. Thus necessary revisions should be made to the education policies to ensure the development of human sources with such qualifications supporting the economic growth.

This variable is important to the study since technological advancement is considered an important factor to increasing the growth rate of economy at macro level.

3.5.4 International Trade

International trade is the exchange of capital, goods, and services across international borders or territories. The level of trade is considered as a key contributor to economic growth. The OECD (2003) confirmed this through a study on the impact that trade had on the average income per population. According to the result, the elasticity of international trade was 0.2, which was statistically significant.

Singh (2011) also supports the positive impact of international trade on economic growth theory as evidenced by earlier studies. This variable is important to the study as it is assumed that international trade promotes economic growth by providing a source of foreign currency to help a nation's balance of payments.

3.5.5 Exchange Rate

Foreign exchange rate, is the value of the money of a country in the currency of another country. It is an important factor in determining the real value of the money of a country. Foreign exchange rates can deeply influence the economy of a country as they are considered as one of the important factors in the occurrence of financial crises.

This variable is important to the study as a depreciation of currency will make domestic goods attractive hence boosting their demand which can cause a boost to economic growth and the vice versa, hence foreign exchange rates have an impact on economic growth.

3.5.6 Net Taxes

Net taxes are simply taxes on production less subsidies received. Alternatively, net taxes are taxes paid to the government less transfer payments. To dampen economic growth and inflationary pressure, the government can increase taxes and keep spending constant, or decrease spending and keep taxes constant. To stimulate growth and reduce unemployment, the government can decrease taxes and keep spending constant, or increase spending and keep taxes constant.

Decrease in taxes cause an increase in disposable income and vice versa. Since disposable income is the main factor driving consumer demand which account for a substantial part of total demand which in turn affects the growth of the economy. Hence, this variable is important to the study as taxes can be used as a tool to ensure economic growth.

3.6 Measures of Economic Growth

Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. There are several indicators to measure economic growth including;

The first indicator involves using the human development index. This uses statistics like life expectancy, education and income levels to measure a country's progress. The drawbacks of using this indicator includes; the failure to consider any ecological considerations, lack of consideration of technological development or contributions to the human civilization, focusing exclusively on national performance and ranking, lack of attention to development from a global perspective.

The next indicator involves using the Gross National Product (GNP) index. This includes the total domestic and foreign output claimed by the residents of the country. It comprises GDP plus factor incomes accruing to residents from abroad minus the income earned in the domestic economy accruing to persons abroad. While GNP measures production, it is also commonly used to measure the welfare of a country. Unfortunately, GNP is not a perfect measure of social welfare and even has its limitation in measuring economic output. Improvements in productivity and in the quality of goods are difficult to calculate

Lastly, the Gross Domestic Product (GDP) index can be employed as another indicator. The gross domestic product is one of the primary indicators used to measure the strength of a country's economy. It represents the total value of all goods and services produced over a specific time period, often referred to as the size of the economy. Usually, GDP is expressed as a comparison to the previous quarter or year. Even though there are certain drawbacks in using the GDP as a measure of economic growth including; not

incorporating any measures of welfare, only including market transactions and not describing wealth distribution, GDP is the most commonly used measure of economic growth. Either the nominal GDP or the real GDP can be used as a measure of growth. The difference between the two is that the real GDP values are adjusted for inflation while the nominal GDP values are not.

The real economic growth rate measures economic growth in relation to GDP from one period to another and adjusted for inflation. Hence the real GDP growth rate is used as a measure for real economic growth rate. This study used the Real GDP growth rate as a proxy to measure economic growth because of its effectiveness and numerous advantages including the fact that it tracks the total value produced using constant prices, isolating the effect of price changes.

3.7 Data Analysis

The data for the study was analyzed using a statistical package called E-views.

3.8 Diagnostic Tests

In using OLS, certain assumptions are observed to derive the OLS estimator. These assumptions are;

- The linear regression model is linear in parameters
- There is a random sampling of observations
- The conditional mean should be zero
- There is no multi-collinearity
- There is homoscedasticity
- There is no autocorrelation
- Error terms should be normally distributed

Certain diagnostic test were carried out to examine the validity of these OLS model assumptions. The following tests were conducted.

3.8.1 Normality Test

An assumption of Classical Linear Regression Model (CLRM) is that the errors are normally distributed. The Jarque-Bera test was carried out to test for the goodness-of-fit.

3.8.2 Heteroscedasticity Test

Heteroscedasticity occurs when the variance of the error is not constant thus where

$$\text{Var}(u_i) = \sigma_i^2 \dots\dots\dots 3$$

However, homoscedasticity is where the variance is constant, thus where

$$\text{Var}(u_i) = \sigma^2 \dots\dots\dots 4$$

The presence of heteroscedasticity makes OLS result unbiased. This simply means that the standard errors could be inappropriate and thus any inference made could be wrong. In this study, Breusch – Pagan test was used to test for heteroscedasticity.

3.8.3 Multi-collinearity Test

Multi-collinearity exists if there are relationships between the independent variables of a model. Where this relationship is severe then there is an exact multi-collinearity meaning one variable completely explains another variable. Thus the study used Variance inflation factor (VIF) to ensure there is no multi-collinearity. Where the VIF is below five (5), then there is the absence of multi-collinearity.

3.8.4 Autocorrelation Test

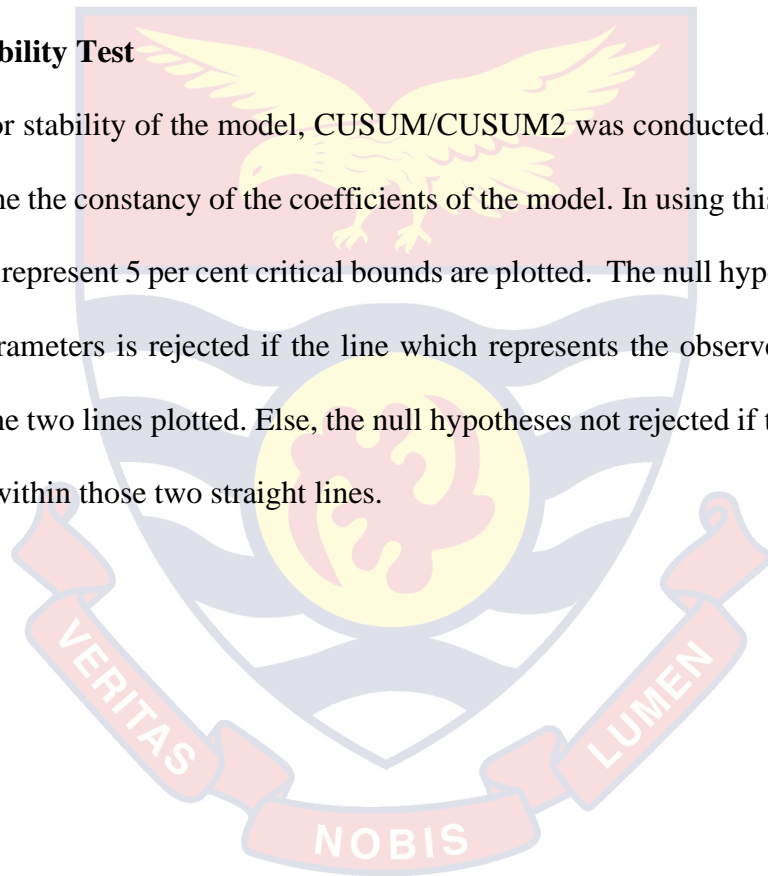
Another important assumption of CLRM is that the errors must not be correlated. Thus

$$\text{Cov}(u_i u_j) = 0 \text{ where } i \neq j \dots \dots \dots 5$$

The Breusch-Godfrey test was used to test for autocorrelation. If the probability value is statistically significant, the null hypothesis is not rejected. Meaning there is no autocorrelation in the model.

3.8.5 Stability Test

To test for stability of the model, CUSUM/CUSUM2 was conducted. This test is used to examine the constancy of the coefficients of the model. In using this test two straight lines that represent 5 per cent critical bounds are plotted. The null hypotheses of having stable parameters is rejected if the line which represents the observed variables falls outside the two lines plotted. Else, the null hypotheses not rejected if the plot generally remains within those two straight lines.



CHAPTER FOUR

PRESENTATION OF DATA, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter describes the analysis of data and discussion of the research findings. The study reviewed time series data on Ghana from 1992 to 2015. The data reviewed was obtained from the database of the World Bank's World Development Indicators. To analyze the data series, a dynamic OLS was employed. The dynamic OLS is used to examine and investigate the linkage between government expenditure, foreign direct investment and economic growth.

4.2 Descriptive Statistics

Researchers conduct descriptive statistics to understand the nature and behavior of data. The summary statistics applied in this study include the mean, standard deviation, minimum, and maximum. Mean measures the central tendency which represents the average of a variable for the period under study. The standard deviation on the other hand measures how an observation deviates from the mean or expected value. A high standard deviation shows how volatile a variable is.

From table 4.1, the average GDP growth rate is about 4.8 and a standard deviation of 3.4. The average GDP growth rate for the 24 year period was not significant since it has a maximum of about 14 and a minimum of about -6.9. This indicates that much of the observations are equal to or less than about 7.1. Again, not only is the average GDP growth rate not significant, there is a high level of uncertainty associated with it as the standard deviation is quite high. This indicates that the descriptive statistics is useful.

A variable of interest, government expenditure recorded a mean and standard deviation of about 10.4 and about 2.1 respectively. These figures especially the high standard deviation establishes the presence of volatility in government expenditure in Ghana within the period under study. Again a comparison between the mean, minimum, maximum and standard deviation shows that the observations for government expenditure are skewed towards the minimum than the maximum making estimation difficult.

Table 4.1 Descriptive Statistics

	GDP	EX_	TRADE_
	GROWTH	COMPUTER	RATE
	FDI	GOVEXP	NET TAXES
Mean	4.778	23.942	0.488
Median	4.795	24.784	0.164
Maximum	14.046	42.393	1.954
Minimum	-6.924	13.901	0.000
Std. Dev.	3.413	6.149	0.592
Skewness	-0.883	0.573	0.994
Kurtosis	7.213	3.781	2.773
Jarque-Bera	30.435	2.807	5.841
Probability	0.000	0.246	0.054
Observations	35.000	35.000	35.000

Another variable of interest, is foreign direct investment. It recorded an average of 3.0 and a standard deviation of 3.2, showing a relatively high level of uncertainty in foreign direct investment in Ghana. One possible cause could be attributable to the existence of

outliers making inference and prediction of the mean wrong and difficult. Foreign direct investment for most of the years are skewed towards minimum than the maximum.

Exchange rate had an average of about 0.5 and a standard deviation of about 0.6 with maximum and minimum values of about 2.0 and 0 respectively. Technology as one of the explanatory variables recorded a mean of about 24.0 and a standard deviation of about 6.1. It also had a minimum and maximum values of about 14.0 and 42.4.

An average of 65.3 were recorded by trade percentage of GDP and a standard deviation of 29.6. It also had a minimum value of 6.3 and a maximum of 116.0

4.3 Diagnostic Test

Some diagnostic tests as previously mentioned were undertaken and are hereby discussed below.

As depicted in Table 4.2, autocorrelation test was conducted using the Breusch-Godfrey test. The null hypothesis of no autocorrelation cannot be rejected since the probability value of about 0.93 is greater than 5%. Hence, it can be concluded that there is no autocorrelation.

Table 4.2: Diagnostic Test Results

Type of test	Method	P-value	Remarks
Normality	Jarque-Bera	0.926192	Normally distributed
Autocorrelation	Breusch Godfrey	0.86472926	No autocorrelation
Heteroscedasticity	Breusch-Pagan	0.46303	Heteroscedasticity
Multicollinearity	VIF	VIFs < 1	No multicollinearity
Stability	Cusum/cusum ²	Stable	Stable

Again, the Breusch-Pagan-Godfrey test recorded probability value of about 0.5 which is greater than 5% and thus, the null hypothesis of homoscedasticity is not rejected. In other words, there is no heteroscedasticity. For the normal distribution of the errors as shown by the Jarque-Bera test which suggests that the errors are normally distributed. This is also supported by the normality test graph which shows normality (see Appendix A). The variance inflation factors were also greater than ten, hence the presence of multi-collinearity. The test results are displayed in appendix A.

4.4 Analysis of Result

From Table 4.3, the Adjusted R-square indicates that, 35.5% of the changes in economic growth are explained by the independent variables of study. However R square is 47.6%.

According to the table, government expenditure which is a variable of interest obtained a coefficient value of about 0.5 and a P value of 0.00026. This indicates a positive and statistically significant relationship between government expenditure and economic growth. This means that a 1% increase in government expenditure will attract a corresponding increase of about 0.5% increase in economic growth and vice versa. Worded differently, a continuous spending by the government in embarking developmental projects, creating jobs (employment) for the populace to increase their purchasing power and income levels will result in growth in the economy. The results corroborate the Wagner's theories and Keynesian theory.

The Wagner's theory states that economic growth is a function of increased industrialization and economic development. During industrialization process, as the real income per capita of the nation increases, the share of public expenditures in total expenditures increases. The theory is with the opinion that, government needs to

provide cultural and welfare services like education, public health, old age pension or retirement insurance, food subsidy, natural disaster aid, environmental protection programs and other welfare functions. These services are deemed as the social responsibility of the governments, since individuals, firms and corporate bodies are obliged by law to fulfil their financial obligations by paying taxes. As a result the government is also expected to provide amenities and programs that will ensure their welfares and smooth operation of their businesses without much difficulties and challenges.

The Keynesian theory on the other hand also states that, government intervention in terms of spending is necessary in the short run to save the economy from depression. Increasing spending by the government raises the purchasing power of the people and hence consumption. Producers expand their production and employment created, goods and services, income levels and by extension per capita level and GDP will increase. The theory cautioned that government expenditure should be done with prudence since too much of it could lead to inflation.

The result confirm the studies of Alshahrani & Alsadiq (2014), Yasin (2000) and Knoop (1999). They all expressed a positive relationship existing between government expenditure and economic growth. However studies from Edward & John (2012), Guseh (1997), Glura (1995), Nurudeem & Usman (2010), Maingi (2010), Naftally (2014) were with a contrasting opinions as the ascertained a negative relationship between government expenditure and economic growth. The likes of Olopade & Olopade (2010) and Hsieh & Lai (1994) argued of insignificant relationship between the two variables.

Another variable of interest which is foreign direct investment had a coefficient and P value of about 0.60 and 0.05 respectively. Foreign direct investment assumes a positive and statistically positive relationship with economic growth. A 1% increase in foreign direct investment will induce about 0.60% increase in economic growth and the vice versa. Also, as more foreign direct investment come in the form machinery, equipment, skilled labor and advanced technology, the production capacity of Ghana is boosted which in turn propels economic growth.

The result is line with the Solo type growth theory and endogenous growth theory. The Solo type growth theory states that foreign direct investment enables host countries to achieve investment that exceeds their own domestic saving and enhances capital formation. The theory however admonished that in trying to stimulate growth, policy maker must confront the issue of what kinds of capital the economy need most and the kind of capital that yields the highest marginal product.

The endogenous theory is also with the argument that, foreign direct investment positively influences the growth rate so far as it generates increasing returns in production through externalities and production spillovers. It further states that developing counties may not gain from foreign direct investment because the transfer of control from domestic to foreign firms may not be beneficial to the host countries because of adverse selection problem. This is because foreign direct investment undertaken within a crisis situation may transfer ownership of firms from domestic to foreign firms that are less efficient. Again there is also the concern that foreign direct investment may crowd out domestic firms through unfair competition.

The findings therefore confirm the view that foreign direct investment has a significant positive relationship with economic growth and hence it is efficient to use foreign direct

investment as a tool to induce economic growth in Ghana. But though foreign direct investments should be encouraged, measures need to be put in place to ensure that local entrepreneurship is not adversely affected.

Table 4.3: Results from Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
COMPUTER	0.317154	0.075198	4.21758798	0.000265
GOVEXP	0.515592	0.180591	2.85501925	0.008343
TRADE_GDP	-0.00646	0.031879	-0.20257939	0.841041
FDI	0.595146	0.286866	2.07464679	0.048056
EX_RATE	3.871586	1.173866	3.29815047	0.002822
NETTAXES	0.0000000000534	0.000000000342	0.15604471	0.877203
C	-0.72553	0.379403	-1.91230421	0.066915
R-squared	0.476435	Durbin-Watson stat		1.985802
Adjusted R-squared	0.355612			
F-statistic	3.94325			
Prob (F-statistic)	0.006186			

Also, from the results generated, it was found that exchange rate has a positive relationship with economic growth and this relationship is significant. This results indicate that a 10% increase in exchange rate will result in about a 0.039% increase in economic growth. Chen (2012), McPherson & Rakovskipaper (2000) and Kogid *et al.*

(2012) also established a positive relationship between the two variables in their findings.

Trade percentage of GDP established a coefficient of about -0.006 and a P value of about 0.84. This indicates a negative and statistically insignificant relationship between trade percentage of GDP and economic growth. This implies that economic growth is insensitive to changes in trade percentage of GDP in Ghana. The result obtained does not support the findings of Wacziarg *et al.* (2008) and Sachs & Warner (1995) who argued that economies that are more open to trade experience faster income convergence compared to closed economies.

Net tax also recorded a coefficient of 0.0000000000534 and a P value of about 0.88. This indicates positive relationship existing between net taxes and economic growth, but this relationship is quite insignificant. The result is in line with the studies of Ojong, Anthony & Arikpo (2016). They examined the impact of tax revenue on economic growth in Nigeria from 1986-2010 using an OLS model. Their findings revealed a positive but insignificant relationship between the two indicators. Studies from Stoilova (2017) and Dackehag & Hansson (2012) on the other hand established a negative relationship.

Finally, technological advancement had a coefficient of about 0.32 and a P value of 0.00026. This also indicates that economic growth reacts positively to changes in technological advancement. Hence, as technology improves in the form of new efficient production techniques, the economic growth of Ghana increases. Studies such as Romer (1990) and Aghion, Philippe & Howitt (1992) all expressed a positive relationship between technological advancement and economic growth.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Overview of the Study

Examining the impact of foreign direct investment and government expenditure on economic growth was the main aim of the study. Foreign direct investment and government expenditure are the most common of the numerous economic variables adopted by policy makers of developing countries in inducing growth in the economy. The impact of these variables on the economic growth of Ghana according to researchers have been diverse. In an attempt to add knowledge to the already existing information, the researcher analyzed the impact of foreign direct investment and government expenditure based on data from the world development indicators for the period of 1992 to 2015 using a dynamic OLS model as a tool for analyses. A summary of the findings are captured in section 5.2 below.

5.2 Summary of Findings

The results from the dynamic OLS model obtained indicated that government expenditure, one of the main variables of study had a positive significant relationship with economic growth. Hence, during the period of study government expenditure induced economic growth. Foreign direct investment, the other main variable of study also had a positive significant relationship with economic growth. This also shows that foreign direct investment promoted economic growth within the period of study.

Among the other control variables, exchange rate, net taxes and technological advancement all had a positive relationship with economic growth. Trade percentage of GDP on the other hand had a negative relationship with economic growth.

Also, the R squared was obtained from the model was 47.64% and the adjusted R squared was 35.56%. This therefore means that per the model, 35.56% of the variations in economic growth are explained by foreign direct investment, government expenditure, exchange rate, net taxes, technological advancement and trade percentage of GDP.

5.3 Conclusion

The results obtained indicated that there is a significantly positive relationship between government expenditure and economic growth. This is in line with Wagner's theory and the Keynesian theory which all state that government expenditure positively impacts economic growth. The results also confirm the findings of studies such as Yasin (2000), Knoop (1999) and Alshahrani & Alsadiq (2014). This therefore means that within the 24 year period, as the government of Ghana increased its investment in infrastructural developments and other related expenses, the growth rate of the country's economy improved.

Also, the findings indicated that foreign direct investment has a positive impact on economic growth and this impact is significant. This is in line with the Solo type growth theory and the endogenous growth theory. The results is also in line with the findings of studies such as; Alfaro et al. (2006), DeMello (1997), Balasubramanyam *et al.* (1996) and Obwona (2001). Hence, within the 24 year period, as the number of foreign multinational companies and foreign investors increased, it translated into a positive impact on the growth rate of the Ghanaian economy.

5.4 Policy Recommendations

Going by the findings and conclusions drawn from this study, the following recommendations are suggested. The government needs to come up with policies that may enhance the attraction of foreign direct investment such as opening up of the economy by engaging in more bilateral and multilateral trade agreements and strengthening the fight against corruption so as to instill more confidence on foreign investors. The government can also work through the Ghana Investment and Promotion Centre to actively seek to attract foreign direct investment and come up with measures to increase the benefits from foreign direct investment in terms of technology transfer and improvement of labor skills among many others.

Also, feasible measures should be taken to limit the disadvantage of multinational companies on domestic businesses as one direct effects of the expansion of multinational companies is the fear of losing control over the market and industries by locally owned businesses. Special treatment should not be given to these multinationals, rather local firms should be given equal treatment. The bureaucratic and administrative constraints on domestic state owned enterprises should also be gradually eliminated to make them more efficient.

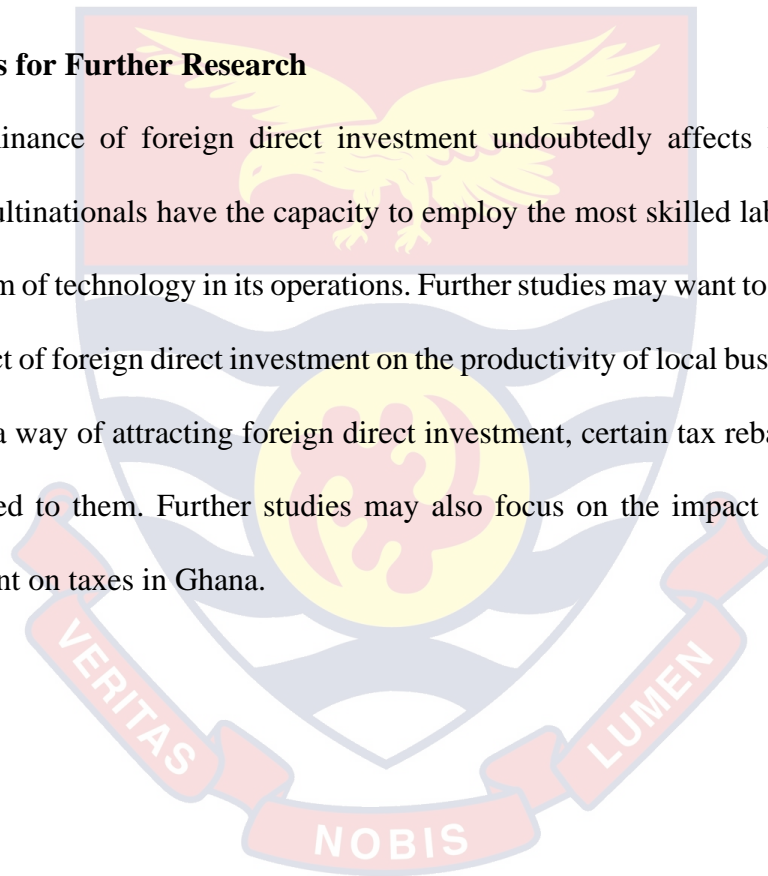
To further enhance growth, it is also recommended that the government comes up with policies that ensure that government spending are directed largely to current productive economic activities such as the construction of good roads, provision of quality healthcare and investment in the education sector in order to invigorate efficiency in the economic sectors. The government however needs to ensure that the increment in government expenditure does not negatively affect the economy of people within the country. If the increment will lead to higher tax costs or higher borrowing which result

in higher interest payable than the government expenditure might not achieve its purpose of accelerating economic growth.

It is also recommended of the government to embark on expansionary fiscal policies in the form of investing in infrastructure particularly infrastructure that would boost human capital. If this is done, the productivity of labor will increase and this would enhance growth.

5.5 Areas for Further Research

The dominance of foreign direct investment undoubtedly affects local businesses. These multinationals have the capacity to employ the most skilled labor and adopt the latest form of technology in its operations. Further studies may want to look at exploring the impact of foreign direct investment on the productivity of local businesses in Ghana. Also, as a way of attracting foreign direct investment, certain tax rebates and holidays are offered to them. Further studies may also focus on the impact of foreign direct investment on taxes in Ghana.



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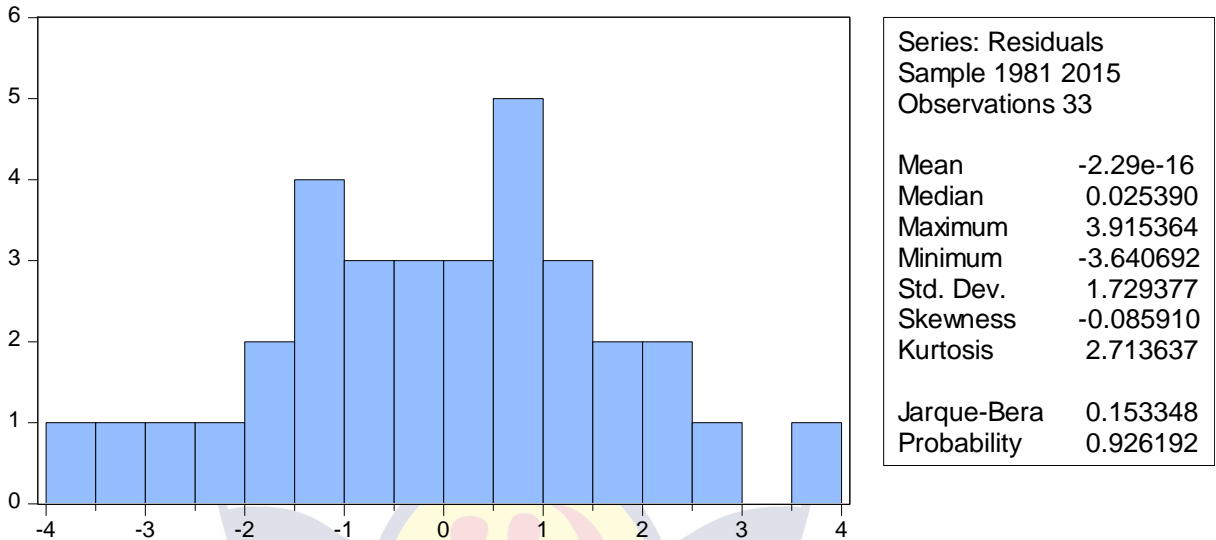
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APPENDICES

APPENDIX A: DIAGNOSTIC TEST RESULTS

DIAGNOSTIC TEST RESULTS

NORMALITY TEST



AUTOCORRELATION

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.106640285	Prob. F(2,24)	0.89927245
Obs*R-squared	0.290677621	Prob. Chi-Square(2)	0.86472926

HETEROSKEDASTICITY

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.895970872	Prob. F(6,26)	0.51248294
Obs*R-squared	5.65410571	Prob. Chi-Square(6)	0.46303
Scaled explained SS	3.007263454	Prob. Chi-Square(6)	0.80793464

MULTICOLLINEARITY TEST

Variance Inflation Factors

Variable	Coefficient	Uncentered	Centered
	Variance	VIF	VIF
COMPUTER	0.005654737	1.6664246	1.637608255
GOVEXP	0.032613265	1.3458246	1.343606229
TRADE_GDP	0.001016245	1.068087	1.028101851
FDI	0.082292342	1.1830148	1.133945206
EX_RATE	1.377960631	1.5710378	1.571037667
NETTAXES	1.17E-19	1.6485534	1.430979052
C	0.143946856	1.2905068	

STABILITY TEST

