UNIVERSITY OF GHANA

COLLEGE OF HUMANITIES

THE EFFECTS OF THE DEPRECIATION OF THE GHANA CEDI ON FOREIGN DIRECT INVESTMENT IN GHANA

BY

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DECLARATION

I do hereby declare that this thesis is the outcome of my own study and has not been submitted by any person or group of persons for any academic award in the University of Ghana or any other tertiary institution in or outside Ghana. I have duly acknowledged all the references used in this study.

I solely bear responsibility for any shortcomings.

…… ……

FRANCIS TETTEH PADI DATE

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CERTIFICATION

This is to certify that this thesis has been supervised in accordance with the prescribed procedures of the University of Ghana.

…… ……

DR. EDWARD ASIEDU DATE

(SUPERVISOR)

DEDICATION

To God and Family

This thesis is dedicated to my mother Mrs. Cecilia Efua Padi, my late father, Mr. Joseph Padi as well as my lovely and ever supporting siblings Regina, Emmanuel, Justin and Doris whose unconditional love and prayers has seen me through this study.

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ABSTRACT

This study was primarily to ascertain the relationship and by extension the effect that the depreciation of the Ghana Cedi has on the inflow of foreign direct investments (FDI) into Ghana. The study employs secondary data from the Central Bank of Ghana database, World Development Indicators, National Statistical Service and the Ministry of Energy over a seventeen-year period from 2002 to 2016. The correlation analysis established that; currency Depreciation has an inverse relation with the inflow of FDI with a correlation coefficient of -0.58 The regression results which is consistent with the correlation results also buttressed the fact that there is an inverse relationship betweem currency depreciation and Foreign Direct Investment (FDI) into the country. It, therefore, implies that the continuous depreciation of the local currency will reduce the amount of FDI that will flow into the country. It was also ascertained that there was a steep increase in the flow of FDI into the Ghanaian economy between 2002 to 2016. Even though the receipt of FDI into the country is on the upward trajectory, it should be mentioned that this is still very low as compared to the volume of FDI received by other countries in other regions of the world. As a result, it can be said that the concentration of policy should be geared towards maintaining favourable levels of depreciation of the local currency as it influences the volume of net Foreign Direct Investments that are received into the economy

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ABBREVIATIONS

FDI	Foreign Direct Investment
IMF	International Monetary Fund
M&A	Merger and Acquisition
GDP	Gross Domestic Product
MNE	Multinational Enterprises
UNCTAD	United Nations Conference on Trade and Development
ERP	Economic Reform Programme
MNC	Multi-National Corporation
DPN	Currency Depreciation
IFR	Inflation Rate
ITR	Interest Rate
MPR	Monetary Policy Rate
PCI	Per Capita Income
HIPC	Highly Indebted Poor Countries
IDA	International Development Association

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The two devastating World Wars at the turn of the 20th Century had a negative effect on the World's economies. The aftermath of the Second World War led to the formation of the Bretton Wood Institutions. These institutions namely, The World Bank and International Monetary Fund were primarily set up to correct the distortions created by the gold standard. Consequently, only the United States fixed the price of the dollar in terms of gold. All other convertible currencies were pegged to the dollar and free convertibility of gold into dollars was limited. However, in 1971 the Bretton Woods agreement collapsed and countries were compelled to exchange their currencies among themselves at a determined rate (floating system).

Exchange rate volatility has been found to have adverse effects on economic growth through international trade. It has been found to have negative effects on international trade, directly through uncertainty and adjustment costs and again indirectly through its effects in the allocation of resources and government policies (Cote, 1994). According to past studies when exchange rate movements are not fully anticipated, an increase in exchange rate volatility may lead risk-averse agents to reduce their international trading activities. The dependence on imported capital goods and the specialization of commodity exports can also instigate the pronounced impact of exchange rate volatility on the economic activity of developing economies.

Many African countries after gaining their independence from their colonial masters sought to engage in bilateral and multinational dealings as a means of opening up to their economies to large investors. Thus in the period after independence, the obvious sources of external capital

for most African countries came through over-sea assistance and mainly specific countries. This is what Moss et al (2004) maintained that much of the cynicism exhibited by the then African leaders towards FDI could be traced to history partly blamed on ideology and the post-independence period politics.

Many studies have sought to define FDI. Significantly, the most frequent used definition of FDI is the of the International Monetary Fund (IMF) which defines FDI to be an investment made to acquire a lasting interest in a foreign enterprise with aim of having an effective voice in management. This investment could be direct or indirect. (IMF, 1995). FDI can take the form of either “greenfield” investment (also called "mortar and brick" investment) or merger and acquisition (M&A), depending on whether the investment involves mainly newly created assets or just a transfer from local to foreign firms. It is worth noting that most FDI investment has taken the form of acquisition of existing assets rather than investment in new assets ("greenfield").

According to the World Bank, the current GDP in Sub-Saharan Africa is estimated to have expanded by 4.7 percent in 2010, up from 1.7 percent in 2009. Excluding the region's largest economy, South Africa, growth in the region is estimated at 5.8 percent in 2010, up from 3.8 percent in 2009. The World Bank noted that Foreign direct investment is the most important source of private capital flows to sub-Saharan Africa. After declining by 12.3 percent in 2009, FDI recovered by 6 percent to $32bn in 2010. Indeed, foreign direct investment to the region has risen in six of the past eight years, reflecting increased investment interest in the region (UNCTAD estimates that the rate of return of FDI in Africa is the highest globally). The current $32bn of FDI in 2010 is a significant leap as compared to what Asiedu (2004) noted in the flow of FDI to sub-Saharan Africa between 1995 and 2005. She noted that annual flow averaged at $7bn. notably, the amount fell to $2.9bn if Angola, Nigeria and South Africa were excluded.

1.2 Problem Statement

In the review of the literature, it was observed that studies on the effect of the depreciation of the Ghana cedi on the inflow of Foreign Direct Investment specifically in Ghana are very scarce. Adjasi *et al*. (2008) and Kyereboah-Coleman & Agyire-Tettey (2008) have analyzed the effect of exchange rate volatility on the stock market and the effect of the exchange rate volatility on foreign direct investment in Ghana respectively. Tutu *et al*. (1991) also examined the impact of exchange rate policy (regime) on macroeconomic performance in Ghana, specifically; he examined the effect of the exchange rate regime on economic growth between 1970 and 1988. Frimpong & Adam (2010) also examined the effect of exchange rate changes on consumer prices in Ghana.

Basically, exchange rates exist in either a fixed form or in a flexible form. Since 1983 the exchange rate regime in Ghana has been the flexible type which is managed sometimes. The flexible exchange rate system has been relatively stable in some periods while in other periods it has been highly volatile. For example, on an annual basis in the year 1991, the Ghanaian cedi depreciated by 11.5%. In 1992, the cedi saw a depreciation of 25%. In 1994 depreciation was 21.8% and in 1996, it was 16.9%. (Bank of Ghana Annual Report, 1991; 1992; 1994 and 1996) Also, in 1997, the Ghanaian cedi saw a depreciation of 22.7% and a depreciation of 33.0% in 1998. In the year 2000, the cedi continued it depreciating run by showing a depreciation of 49.8% that year with depreciation of 13.2% in 2002 and a depreciation of 20.1% in the year 2008.

The analysis above appears to indicate some correlation between exchange rate and economic growth. In periods of exchange rate depreciation economic growth rate seemed to be declining and vice versa. This seems to have been confirmed in 2000 when the exchange rate depreciated by 25% whilst GDP growth rate fell to 3.7% from 4.4% the previous year. In 2008, the real

growth rate showed a decrease from 7.3% to 4.7% when in the first and second quarter the cedi recorded a high depreciation rate of 12.2% and 6.1% against the US dollar respectively.

Udoh and Egwaikhide (2008), sought to determine the impact of exchange rate volatility and inflation uncertainty on the flow of foreign direct investment into Nigeria. There was no study found that examines the relationship between the volatility of the Ghana Cedi and the advent of Foreign Direct Investment in Ghana. Therefore, this thesis proposes to fill this knowledge gap and the primary research objective is: does the continuous depreciation of the Ghana cedi have an effect on the Foreign Direct Investments received into the country?

1.3 Objectives of the Research

The main objective of this study is to analyze the impact of the depreciation of the Ghana Cedi on Foreign Direct Investments in Ghana using annual data for the years 2002 – 2016.

The specific objectives are given as follows;

- To analyze of the depreciation of the Ghana Cedi over the years 2002 to 2016.
- To ascertain the trend of FDI inflows in Ghana between the years 2002 and 2016.
- To ascertain the effect of the depreciation of the Ghana Cedi on FDI between the years 2002 and 2016.

1.4 Research Questions

The research seeks to answer the questions below;

- What has been the level of depreciation of the Ghana Cedi over the years 2002 to 2016?
- What has been the trend in FDI inflows in Ghana between the years 2002 to 2016?

- What is the effect of the depreciation of the Ghana Cedi on FDI in Ghana between the years 2002 and 2016?

1.5 Hypothesis

This study seeks to empirically test the following hypotheses based on the earlier stated research objectives:

H0: Depreciation of the Ghana Cedi has no impact on the inflows of Foreign Direct Investment in Ghana.

H1: Depreciation of the Ghana Cedi has an impact on the inflows of Foreign Direct Investment in Ghana.

1.6 Justification of the Study

This study has its rationalization from the fact that among the research works conducted on the effect of exchange rate volatility on the economy of Ghana (Adjasi et al. 2008; Kyereboah-Coleman and Agyire-Tettey, 2008) none has examined the impact of the depreciation of the cedi on Foreign Direct Investments. This study will lay bare in-depth information about the various trends of depreciation of the cedi in relation to FDIs. The Government can base on such information to design an Exchange Rate policy framework that will reduce the uncertainties in the exchange rate market to allow for value for money investments in the economy by foreign investors.

Investors, on the other hand, obtain a level of certainty regarding how much they will earn on their investment in real terms without the fear of losing all their spread through currency depreciation. Furthermore, this study could commence further research into the effect of other macroeconomic variables or on this same variable to bring to light other factors that may be in play.

1.7 Limitation of the Study

The study used a smaller data period which was from 2002 to 2016. The study period could have been expanded a little more to cover early years however the constraint of time made this impossible. The currency used was limited to only the Ghana Cedi. The main reason was as a result of the unavailability of data on the currencies of other countries within the Sub-Sahara region. It must, however, be emphasized that the above limitations do not in any way undermine the outcome from the study.

1.8 Organization of the Study

The study is organized into six main chapters as follows:

Chapter One: Introduction

This chapter comprises the background of the study, statement of the research problem, objective of the study, the significance of the study and the scope and limitation of the study.

Chapter Two: Literature Review

This chapter contains a detailed review of the existing theoretical and empirical literature on currency depreciation, currency volatility and foreign direct investment in Africa and Ghana to be specific.

Chapter Three: Methodology

This chapter entails data gathering techniques which will focus on secondary data. A regression model used in the study will be specified in this chapter.

Chapter Four: Analysis and Discussion of Findings

In this chapter, the findings from the study are analyzed and discussed. The result of the regression model is also be discussed.

Chapter Five: Conclusion and Recommendations

This chapter summarizes the findings from the study, draw conclusions and make recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter of the study seeks to discuss the theoretical and empirical literature on currency depreciation and its effects on FDI inflows in Ghana. The discussion looks at the various theories behind foreign direct investment. Subsequently, the empirical studies done on foreign direct investment will then be detailed out. This chapter will also discuss empirical studies on currency volatility as relates to Ghana and other sub-Saharan Africa countries. The last section of this chapter then provides a summary of the main issues raised in the literature review.

2.2 Overview of FDI Inflows

Foreign direct investment (FDI) is a key element of globalization. FDI serves as an avenue for creating direct, stable and long-lasting relationships between economies of countries. Under the right policy environment, it can serve as an important vehicle for local enterprise development, and it may also help improve the competitive position of both the recipient and the investing economy. FDI can also be said to encourage the transfer of technology and know-how between economies. It also provides an opportunity for the host economy to promote its products more widely in international markets. FDI, in addition to its positive effect on the development of international trade, is an important source of capital for a range of host and home economies.

The significant growth in the level of FDI in recent decades, and its international pervasiveness reflect both an increase in the size and number of individual FDI transactions, as well as the growing diversification of enterprises across economies and industrial sectors. Large multinational enterprises (MNE) are traditionally the dominant players in such cross-border

FDI transactions. This development has coincided with an increased propensity for MNEs to participate in foreign trade. In recent years, it is believed that small and medium-sized enterprises have also become increasingly involved in FDI. Foreign Direct Investment in the developing world has been extremely rapid in recent decades, but Africa's share of global FDI remained a little over 3% (UNCTAD, 2006). It is however very ironic in the sense that the World Bank and IMF as well as the United Nations Economic Commission for Africa advocates that FDI is the key to solving Africa's economic problems. They are of the view that attracting large inflows of FDI would result in economic development. With this mindset, most African leaders are keen on positioning their countries so as to attract the needed FDI. The reasons are obvious but will invariably center on gaining access to foreign markets, efficient managerial abilities, technological transfer and innovation, employment creation and so on to boost their economic growth. However, the flow of FDI is mostly affected by external factors. FDI flow from the source countries is known to be affected by the recession and boom periods. This is what Reinhart and Reinhart (2001) stated that FDI to developing countries has an important cyclical component than other types of capital flows. However, using a panel data from Africa, Calvo and Reinhart (1999) conclude that, in contrast to other regions like Asia, the only external factor that systematically influences capital flows to Africa is world commodity prices.it implies that in commodity price booms, the flow of FDI to the continent increases and, other things equal, decline during busts.

Sawkut et al (2009) also sort to find out the various potential determinants of foreign direct investment for a sample of 20 African economies through a panel data analysis. The Hausman test specification suggested that they use the fixed effect model. The study was against the backdrop that despite the decline in foreign direct investment to the continent over the past decade, FDI in 2006 rose by 20% to US$36billion, twice over that of 2004. The study covered a 15 year period from 1990-2005. The conclusion drawn was that the abundance of natural

resources is reported to be positive and significant, openness had a positive impact on FDI as well and is in line with the fact that an efficient environment that comes with more openness to trade is likely to attract foreign firms. The size of the domestic market, stock of human capital, though to a large extent as witnessed by the size of their respective coefficients, played a positive role while political instability and labour cost a negative role in attracting FDI in the markets.

2.3 FDI in Ghana

Ghana was one of the first sub-Saharan African countries to carry out market-friendly economic reform programmes. Beginning with the implementation of the Economic Reform Programme (ERP) in 1983, the adoption of the Mining Code in 1986, the enactment of the Investment Code in 1994, and the Free Zone Act in 1995, Ghana has greatly improved the business environment for foreign (and domestic) investors (UNCTAD 2003). At the time Ghana implemented the Investment Code, this code was viewed as best practice in Africa.

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business environment for foreign (and domestic) investors (UNCTAD 2003). At the time Ghana implemented the Investment Code, this code was viewed as best practice in Africa. While the reform agenda lost some momentum in the late 1990s, the World Bank (2008) has recognized Ghana for having implemented significant economic and institutional reforms in recent years. In fact, Ghana belongs to the group of top reformers and continues to increase the efficiency of its public services. On the political level, Ghana introduced a multi-party democratic system in 1992, helping to ensure a key prerequisite for attracting FDI, namely political stability.

Despite liberalizing investment rules and improving the business climate, Ghana did not receive as much FDI as the government had expected. Between 1993 and 2005, annual FDI inflows fluctuated between US $50 million and US $250 million. In 2006, FDI rose to almost US $636 million. The fluctuations in the level of FDI reflects erratic levels of investment and inflows linked to increased privatization of the economy.

Table 2.1 shows the total FDI inflows into the Ghanaian economy for the ten-year period 2007-2017.

Table 2.2 also compares the FDI inflow into Ghana with two of its close neighbors.

Table 2.1: FDI Inflows into Ghana (in millions of US $)

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
855.4	1	2	2	3	3	3	3	3	3	3255.0
	220.4	897.1	527.4	237.4	293.4	226.3	357.0	192.3	485.3	

Table 2.2: FDI Inflows into Ghana, Nigeria and Côte D'Ivoire (in millions of US $)

Country	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
GHA	855	1,220	2,897	2,527	3,237	3,293	3,226	3,357	3,192	3,485	3,255
NGA	6,087	8,249	8,650	6,099	8,915	7,127	5,608	4,694	3,064	4,449	3,503
CIV	427	446	377	339	302	330	407	439	494	577	675

Source: UNCTAD (2018)

2.4 Definitions of Foreign Direct Investment

The concept of FDI is defined as a long-term investment by foreign direct investor in an enterprise, resident in an economy other than that in which the foreign direct investor is based. FDI should consist of a parent enterprise and a foreign affiliate which together form a Multi-National Corporation (MNC).

According to UNCTAD's World Investment Report (2017) Foreign direct investment (FDI) is defined as an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate). It further explained that FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities.

The fifth edition of the IMF's Balance of Payment Manual defines the owner of 10% or more of a company's capital as a direct investor. This guideline is however not cast in stone, as it acknowledges that smaller percentage may entail a controlling interest in the company (and, conversely, that a share of more than 10% may not signify control). The IMF recommends using this percentage as the basic dividing line between direct investment and portfolio investment in the form of shareholdings. According to World Investment Report (2007), Foreign direct investment (FDI) is defined as an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate).

Flows of FDI comprise capital provided (either directly or through other related enterprises) by a foreign direct investor to an enterprise, or capital received from an investing enterprise by a foreign direct investor. FDI has three components: equity capital reinvested earnings and intra-company loans.

2.5 Theories of Foreign Direct Investment

The theories underlying FDI are discussed at this stage of the study. These theories perceive the concept of Foreign Direct Investment from three distinct perspectives.

The first approach used in the theoretical framework seeks to explain why firms in the same industry often undertake FDI at the same time, and why certain continents, sub-regions and geographical locations are favoured over others as a target for foreign direct investment. These set of theories seek to explain the perceived pattern of FDI inflow to a geographical location. Another band of theoretical discussions seeks to understand why a firm will favour foreign direct investment as an approach to staking claim to a foreign market even though the entity will be privy to the options of exporting and licensing. A third theoretical perspective, known as the Eclectic Paradigm also seeks to combine the other two theoretical perspectives into a single explanation of FDI (IMF, 2008). Other theories on FDI assume that the size of the host country, represented by market size and distance (geographical) are important determinants of FDI (Linnemann, 1966; Breuss and Egger, 1997). It implies that foreign investors when they decide to invest, will consider the bigness of the host economy and also the cost that the distance between the two countries will bring.

As pointed out already, one set of theories of FDI seeks to explain the question of why firms go through all the trouble of establishing operations abroad through FDI when other options such as exporting and licensing are available. The question is an important one because FDI

may be both expensive and risky. FDI is expensive because a firm must establish production facilities in a foreign country or acquire a foreign establishment. It is risky because of the problems associated with doing business in a different country where the ―rules of the game‖ may be very different. However, the viability of an export strategy is often constrained by transportation cost and trade barriers. When transportation cost is added to production cost, it becomes unprofitable to ship a product over a long distance. Again, a branch of economic theory known as internationalization theory seeks to explain why firms often prefer FDI to license as a strategy for entering a foreign market (Hymer, 1976). According to this theory, licensing has three main drawbacks as a strategy for entering a foreign market. First licensing may result in a firm giving away valuable technological know-how to a potential foreign investor.

A second problem is that licensing does not give a firm tight control over manufacturing, marketing and strategy in a foreign country that may be required to maximize its profitability. With licensing, control over manufacturing, marketing, and strategy is granted to a licensee in return for a royalty fee. However, for both strategic and operational reason, a firm may want to retain control over these functions.

A third problem associated with licensing arises when the firm's competitive advantage is based not so much on its products, as in the management, marketing, and manufacturing capabilities that produce those products. Such capabilities are often not amenable to licensing.

2.6 Overview of Exchange Rate Policies and Regimes

According to the March 2008 Finance and Development quarterly magazine of the International Monetary Fund (IMF) exchange rate regimes can be broadly categorized into three. The first is the hard exchange-rate pegs also known as fixed exchange rate regime. This can be explained as either using the legally authorized currency of another country (also known

as full dollarization) or a legal mandate that requires the central bank to keep foreign assets at least equal to local currency in circulation and bank reserves (also known as a currency board) (IMF 2008). Hard pegs mostly go hand in hand with sound fiscal and structural policies coupled with low inflation rates. Conversely, the central banks do not have an independent monetary policy in countries with fixed exchange rate regimes. This is because the central bank has no exchange rate to change and its interest rates are also tied to those of the anchor currency's country.

The second type is the soft exchange rate peg regimes. In this regime, currencies maintain a stable value against an anchor currency or a composite of currencies. The exchange rate can be pegged to the anchor within a range narrow of +1 and –1 percent. Though soft pegs keep a firm "nominal anchor" to calm down inflation expectations, they allow for low flexibility in monetary policy to deal with shocks (IMF 2008).

The final type is the floating exchange rate regimes. As its name suggests, the exchange rate is determined by the market mechanism where the forces of demand and supply jointly determine the exchange rate. In this regime, when there are shocks either internal or external (or both), the central bank gets involve by using its policy tools to limit the possible short-term instabilities in the exchange rate. However, in some countries, the central banks almost never get involved to manage the exchange rates. Nations that use the flexible regime have the benefit of keeping an autonomous monetary policy.

The primary aim of the exchange rate regime is "to establish an exchange rate consistent with a sustainable current account balance and with the promotion of exports needed for continued growth" (Duesenberry, et al, 2001, p.1). Hence the choice of a suitable exchange rate regime for sub - Sahara Africa has been a debate in international finance for many decades. The

tremendous rise in the variability and the magnitude of international capital flows into the region has intensified the debate in the past decade (Ernst and Young, 2014).

However, there are areas where some agreement has emerged. The exchange rate regime that would possibly suit the economic interest of a country would be determined by factors such as country-specific circumstances (such as the level of financial development, the size and the level of openness to trade and financial flows, production structure and export composition, its inflationary history and the nature of shocks to the country's economy and the source of these shocks); the preferences of policymakers for the trade-offs among the core policy goals; political circumstances; and the integrity of its policymakers, institutions and structures (Yagci, 2001).

2.6.1 Exchange Rate Volatility and Investment

The concept of exchange rate volatility highly impacts on growth through investments decisions by all the agents in the economy. The effect which exchange rate volatility has on investments made both by citizens and non-citizens of a country as well as on economic growth cannot be over emphasized as it has been a cause for concern over previous years. Researchers over the years have established in their works that uncertainty can lead to a decrease in investment in the presence of adjustment costs and when the investment process includes an element of irreversibility. Real exchange rate creates an uncertain environment for investment decisions and therefore, investors delay their investment decisions to obtain more information about the real exchange rates if investments are irreversible and exerts negatively on economic performance.

With currency depreciation, goods domestically produced become less expensive compared to foreign ones. This results in an increase in demand for domestic goods. In the same vein, exports will increase because they have become cheaper. For a given capital and labour,

marginal revenue products of capital and labour increase as a result of convenient demand situations. The firm response by increasing its investment in capital and consequently, labour (Campa and Goldberg, 1999).

According to Nucci and Pozzolo, there exists an impact of Exchange rate volatility on investment. This is as a result of the price of imported inputs. Depreciation has a tendency of raising total production costs; this results in lower marginal profitability.The effect of the exchange rate on marginal profitability is proportional to the share of imported inputs into production.

Third, Harchaoui et al. (2005) show that the exchange rate can also affect investment through the price of imported investment via adjustment cost. Depreciation causes an increase in investment price, resulting in higher adjustment costs and lower investment. Overall, it is important to note that the global impact of exchange rate on investment is not obvious because it depends on which of these previous effects prevail and the values of elasticities of demand.

2.6.2 Currency Depreciation and International Trade

The effects of exchange rate variability on trade flows are analyzed in terms of risk/uncertainty. Exporters are either very risk-averse or less-averse and therefore would react differently to changes in the real exchange rates. The variability of exchange rates is the source of exchange rates risk and has certain implications on the volume of international trade, consequently on the balance of payments. Hooper and Kohlhagen (1978) and IMF (1984) have analyzed theoretically the relationship between higher exchange rate volatility and international trade transactions. They argued that higher exchange rate volatility leads to higher cost for risk-averse traders and to less foreign trade. This is because the exchange rate is agreed on at the time of the trade contract, but payment is not made until the future delivery actually takes place. If changes in exchange rates become unpredictable, this creates uncertainty about the profits to

be made and, hence, reduces the benefits of international trade. Exchange rate risk for all country is generally not hedged because forward markets are not accessible to all traders. Even if hedging in forward markets were possible, there are limitations and costs. For example, the size of the contracts is generally large, the maturity is relatively short and it is difficult to plan the magnitude and timing of all international transactions to take advantage of the forward markets.

However, subsequent theoretical studies revealed that this prediction is based on restrictive assumptions about the form of the utility function (De Grauwe, 1988). Even under the maintained hypothesis of risk aversion, the sign of the effect becomes ambiguous once the restrictions were relaxed. As pointed out by De Grauwe (1988), an increase in risk has both substitution and an income effect. The substitution effect per se decrease export activities as an increase in exchange rate risk induces agents to shift from risky export activities to less risky ones. The income effect, on the other hand, induces a shift of resources into the export sector when the expected utility of export revenues declines as a result of an increase in exchange rate risk. Hence, if the income effect dominates the substitution effect, exchange rate volatility will have a positive impact on export activity. In addition, an increase in exchange rate volatility can create a profit opportunity for firms if they can protect themselves from negative effects by hedging or if they have the ability to adjust trade volumes to movements in the exchange rate. Franke (1991) demonstrated that an increase in exchange rate volatility can increase the value of exporting firms and thus can promote exporting activities.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter focusses primarily on the methods employed to achieve the main objectives of the study, that is, an analysis of the depreciation of the Ghana Cedi over the years 2002 to 2016, ascertaining the trend of FDI inflows into the country between the years 2002 and 2016 and the effect of the depreciation of the Ghana Cedi on FDI between the years 2002 and 2016.

3.2 Research Design

This study deploys secondary data and a quantitative approach is also adopted. This is geared towards enabling a deeper assessment of the relationship between the variable of interest and the control variables on one hand and the explained variable on the other. The sources of the secondary data were periodic reports from bulletins of the Central Bank of Ghana, the government of Ghana annual budgets between 2002 and 2016, the IMF reports on year on year on year currency depreciation, Ministry of Energy reports on industry investments. The materials from which data were extracted were sourced from the websites of the above-mentioned institutions. The decision on using a fifteen-year period for the study was informed by the fact that longer durations give a better insight into the relationship between the explained and explanatory variables.

3.3 Specification of Model

The first two objectives will be addressed by undertaking a trend analysis as the data to be analyzed is of a time-series nature. The analysis of the depreciation of the Ghana cedi over the

time period given will be done using a simple 1trend analysis with special references to specific trends identifiable within election years and first years of a new government.

The third objective will be addressed by the model below.

Bean (1981) and Darby et al. (1999) developed the equation below which provides our baseline for modeling investment.

$$In(l_t) = \beta_1 + \beta_2 In(Y_t) + \beta_2 In(C_t) + \emptyset_t \text{ .... Equation 1}$$

Equation (1), as developed by Bean (1981) and used in studies such as Darby et al. (1999). The intuition behind equation (1) is that in the long run, determination of investment is based on a simple accelerator model. The basic model refers to the traditional determinants of investment for domestic investors

It is however identifiable that, a decision to attract foreign investment must consider the effect and importance of other variables need to be considered. When investors decide to move overseas, they consider other variables such as how open the economy is to trade, the level of public investment, the labour force and so on. Therefore, considering theses variables and looking at other studies the augmented model which is an expansion of equation 1 above will be:

$$FDI_t = \alpha_0 + \beta_1 DPN_t + \beta_2 INT_t + \beta_3 GDP_t + \beta_4 PCI_t + \beta_5 INF_t + \emptyset_t \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots \boldsymbol{Equation\ 2}$$

The variables of the model are explained below;

Foreign Direct Investment (FDI):

Foreign direct investment is net inflows of investment to acquire a lasting management interest (10) percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows total net, that is, net FDI in the reporting economy from foreign sources less net FDI by the reporting economy to the rest of the world. Data are in current U.S. dollars.

Rate of Currency Depreciation (DPN):

Rate of currency depreciation refers to the rate at which the local currency loses its value compared to one of its trading partner currencies. This is determined by the forces of demand and supply. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar).

Inflation Rate (IFR):

Inflation, as measured by the 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. The Laspeyres formula is generally used. Inflation is a measure of price instability over a period of time. A high rate of inflation may indicate internal economic instability. It stands then that in a high inflationary period, firms face uncertainty in terms of product and input pricing, thus investors may limit the number of resources invested in such economies. According to Akinkugbe (2003), the inflation rate is not significant in the empirical study of the determinants of FDI inflows to hitherto neglected developing countries. However, Sneider and Frey (1985) found that high inflation is a disincentive for investment by foreign firms. Annual inflation rates will be used. The effect may be inconclusive.

Interest Rate (ITR):

Real interest rate is the lending interest rate adjusted for inflation as measured by the GDP deflator (i.e. Lending Rate + Inflation). This is set as the cost of capital. For the purpose of this study, the Monetary Policy Rate (MPR) set by the Central bank is used. In the case of foreign investment two interest rates come to play: the foreign interest rate, which is the source country and the interest rate of the host country. A high-interest rate in the source country represents the cost of fund to the investor and it is expected to adversely affect foreign investment, to this Calvo et al, (1996) postulated that the lower interest rate in the US is a push factor for FDI flow to developing countries. However, attention to the relevance of this study will be focused on the real interest rate of the host country. This interest is seen as an indicator of the rate of return on investment and thus is expected to impact positively on foreign investment.

Gross Domestic Product (GDP):

Economic growth will invariably attract investment because can predict that they will get the returns they require on their investments. Thus a growing economy is an attractive place for foreign investors. When the economy is growing FDI comes in not only to supplement domestic investment but as noted by Alfaro et al (2007) it helps in the transfer of technology to the host country, creation of employment, brings about competition in the domestic market and other positive externalities.

Per Capita Income (PCI)

Per Capita income, in layman terms, refers to the portion of the Gross Domestic Product attributable to each member of the population. That is when the GDP is divided among the entire population, how much will be attributable to each member. This is a very important macro-economic indicator as it shows the cumulative and wealth per head in the economy.

Error Term ($Ø_t$)

The error term encompasses all other conditions that influence FDI inflow which is not catered for by the independent variables in the model in equation 2.

3.4 Conclusion

This chapter has presented the methodology adopted in the study. It is composed of the population, data source, specification of a model for data analysis, and model estimation techniques. Trend analysis of FDI inflows as well as depreciation of the Ghana cedi were undertaken to realize the study objectives of analyzing the depreciation of the Ghana Cedi establishing the trend of FDI inflows in Ghana over the years 2002 to 2016 The multivariate regression model also addresses the third objective of ascertaining the effect of the depreciation of the Ghana Cedi on FDI in Ghana between the years 2002 and 2016.

CHAPTER FOUR

ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Introduction

The purpose of the study seeks to investigate the impact currency depreciation of Foreign Direct Investments in Ghana covering the period of 2002 to 2016 in Ghana. Pertaining to this objective, a detailed account of the results and discussions are provided in this chapter. The chapter presents the descriptive statistics of variables deployed in this analysis as well as the empirical results that were obtained.

4.2 Descriptive Statistics

This section seeks to present a summary of both dependent and independent variables of the various macroeconomic variables as well as the Foreign Direct Investments within the Country over the time frame and shows the feature of the various key variables. The descriptive statistics seek to gaudily explain the data included in the model. The major descriptive measures are the mean, skewness, kurtosis, standard deviation, the minimum and maximum variables over the period under review. The table below represents the descriptive statistics.

Table 4.3: Descriptive Statistics

VARIABLE	MEAN	STD. DEV.	MINIMUM	MAXIMUM	SUM
GDP	6.20	3.03	2.18	14.05	93.02
IFR	14.33	4.87	7.13	26.68	214.98
MPR	18.03	4.67	12.50	26.00	270.50
DPN	-10.61	8.82	-32.45	-0.64	-159.18
PCI	1,224.80	646.74	304.56	2,378.16	18,372.00
FDI	1,994.33	1,402.40	58.00	3,485.00	29,924.00

The mean value of GDP Growth is (6.20%) and the standard deviation is (3.03%). GDP Growth has a minimum and maximum values of 2.178% and 14.047% with the maximum value occurring in 2011 and the lowest growth identifiable in 2015. From the above table, the maximum and minimum values for inflation are (26.675%) which came about in 2003 and (7.126%) which was recorded in 2012 with a sample mean of 14.33% and a sample standard deviation of 4.87%. The minimum and maximum values for the Monetary policy rate variable are 12.5% and 26% and this occurred in the years of 2006 and 2015 respectively. The mean and standard deviation were 18.03 and 4.67. Currency Depreciation had a mean of -10.61 and a standard deviation of 8.82%. The minimum value for inflation is -32.45 and it occurred in the year 2014 while the maximum value of -0.64 occurred in the year 2005. Per Capita Income had a standard deviation of 646.74 and mean value of 1,224.80. Per Capita Income has a minimum value of 304.56 and it occurred in the year 2002 while the maximum value is 2,378.16 and this occurred in the year 2013. Foreign Direct Investment recorded a mean and a standard deviation of 1,994.33 million and 1,402.40 million. The minimum value is 58.00 million and this occurred in the year 2002 and 2000 while the maximum value is 3,485.00 million and this occurred in the year 2016.

4.3 Correlation Matrix

This section discusses the correlation matrix for all dependent and independent variables used in the regression analysis. *Table 4.3* shows the coefficient of correlation between any two variables used in the regression analysis. The coefficient of correlation is primarily structured to give an index of direction and the relation between two variables without any special reference to impact or causality. The correlation matrix comes in handy in sorting out variables that highly correlated and cannot be in a model. *Table 4.3* provides a pairwise correlation of the variables used in this study. The correlation matrix helps in knowing whether there are elements of multicollinearity in the data set. Multicollinearity occurs when some or all the variables in a model are highly correlated with one another making it tedious to know which of them influences the dependent variable. The table below shows that the correlation between the variables is very low. Therefore, there is no multicollinearity between the variables.

Table 4.4: Correlation Matrix

	GDP	**IFR**	**MPR**	**DPN**	**PCI**	**FDI**
GDP	1					
IFR	-0.51	1				
MPR	0.68	0.63	1			
DPN	0.17	0.13	0.38	1		
PCI	0.08	0.29	0.03	-0.51	1	
FDI	0.20	0.25	0.04	-0.58	0.93	1

4.4 Empirical Results

4.4.1 Trend analysis of depreciation in Ghana Cedi over the years 2002 to 2016

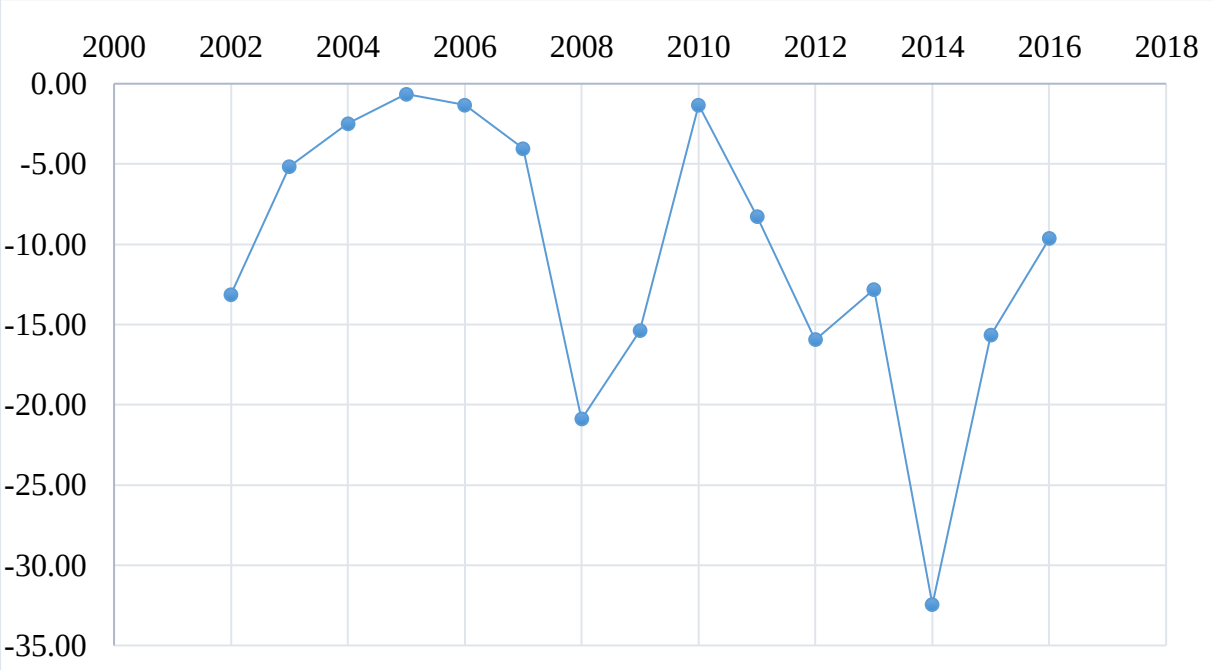
The trend of the depreciation of the Ghana cedi against the United States Dollar over the years was ascertained. It was noted among others that the currency depreciated slightly higher on the average on or around election years as can be seen in the years 2002, 2008, 2009 and 2012. During these periods, the governments have the tendency of undertaking expansionary economic activities such as an increase in Government spending. By this, there is an increased supply in the local currency which results in the reduction of the price of the local Ghanaian Cedi which possibly results often in increased inflation during these periods. The increased supply of the Ghanaian Cedi results in an increase in demand for the United States Dollar and given the supply of the dollar constant, the dollar will increase in price causing a depreciation of the Cedi.

Another notable trend is the low levels of currency depreciation during the Highly Indebted Poor Countries (HIPC) initiative entered into by the Government of Ghana. In February 2002, the Executive Boards of the International Monetary Fund (IMF) and International Development Association (IDA), agreed to support a comprehensive debt-reduction package for Ghana (World Bank 2004). Under this initiative, the government subscribed to a cancellation of external debts owed to certain bilateral and multilateral agencies while agreeing to undertake certain macroeconomic activities which were aimed towards making the external debts more sustainable over the periods ahead. As a result, there was an increase in external reserves as funds were not diverted into the settlement of external debts owed but stored up by the Central Bank as foreign reserves. As a result, the local currency regained stability as there was a good supply of the United States Dollar within the Economy to meet the demand.

The discovery and exportation of crude oil also play in the trends identifiable. Ghana discovered oil in commercial quantities in 2008 however the first exportation of crude did not

occur until 2010. The revenue received from the exportation of crude helped shove up our foreign reserve and made an instant impact of resulting in a record low depreciation of the Ghana Cedi by only 1.32 percent over the year.

Figure 4.1: Depreciation of Ghana Cedi

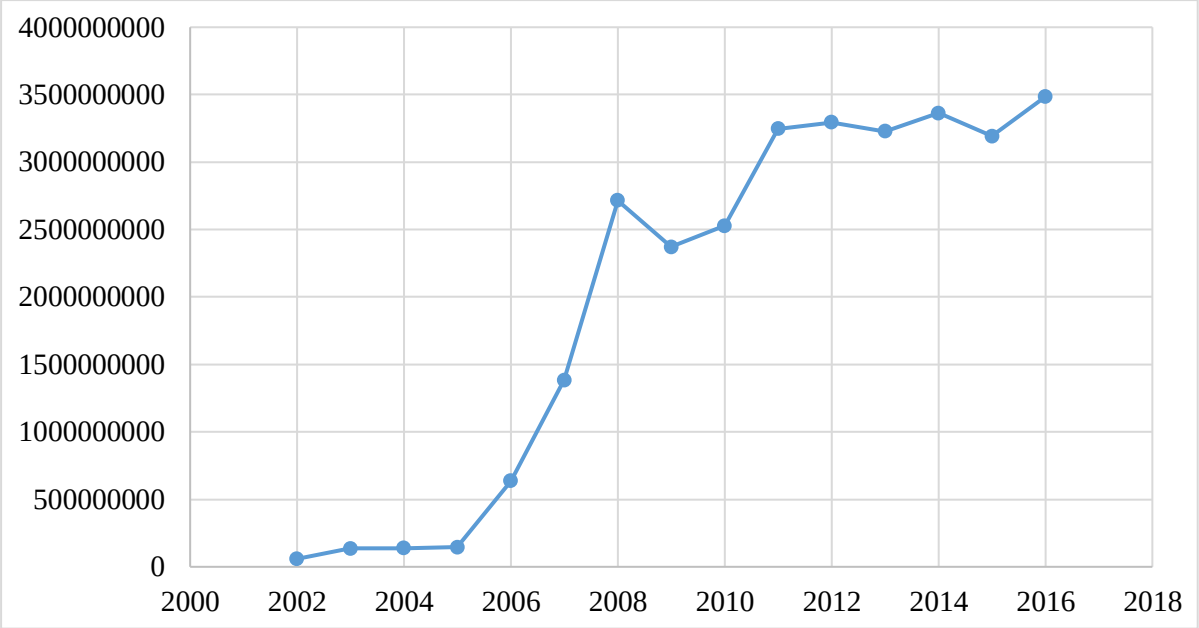


4.4.2 Trend Analysis of Net Inflow of FDI in Ghana over the years 2002 to 2016

The trend of net inflow of Foreign Direct Investment (FDI) over the years was ascertained. FDI inflow can be seen to be on a consistent ascendency from 2002 through to 2016. The highest amount received as FDI was USD 3,485.00 million received in 2016 with the lowest net inflow of FDI inflow coming in 2002.

There is an identifiable increase in the net inflow of FDI from 2010 to 2011 by USD 720.00 million which can be partly attributable to the discovery of oil and the subsequent exportation of same from 2011. There were huge investments from major players in the upstream oil industry including Kosmos Energy and Tullow Oil. This is evident in the consistent rise in the net inflow of FDI from 2011 to 2016.

Figure 4.2: Net inflow of FDI



4.4.3 Analysis of Regression results

Table 4.5: Results of regression analysis

Variable	Coefficients	Standard Error
GDP growth	0.018	0.773
Inflation	0.020	0.022
MPR – BOG	-0.013	0.013
Currency Depreciation	-0.004	0.007
Log(Per Capita Income (PCI))	2.170	0.207
Constant	2.316	0.773
Observations	15	
R-Squared	0.95	
Adjusted R-Squared	0.93	

The results show that Foreign Direct Investment (FDI) is significantly influenced by the Per-Capita Income in a positive direction. This implies that when a country has A high per-capita income, foreign investors possess a high degree of comfort in investing in that country. The high Per Capita Income means the GDP of the economy is large enough to accommodate shocks which may lead to loss of investment and hence the average loss to be realized by an external investor will be lower.

GDP growth positively impacts the rate of Foreign Direct Investment Inflow into a country as per the regression results depicted above. This implied that an increase in GDP of a country causes the inflow of Foreign Direct Investment to rise. The impact of Monetary policy rate on Foreign Direct Investment inflow moves in a negative direction. Theoretically, the higher the Interest rates of a country, the lower the Foreign Direct investments made in the country as the investors turn to face a high cost of capital resulting in a higher cost of doing business in Ghana.

Currency Depreciation negatively impacts the Foreign Direct Investment inflow into a country. It can this be explained that, these two variables move in an opposite direction meaning an increase in the level of depreciation of the Ghana Cedi against the United States Dollar results in a decrease in the inflow of Foreign Direct Investment into the country and a decrease in the level of depreciation (Appreciation of the Ghana Cedi) results in the increase in Foreign Direct Investment Inflow into the country. This is shown by the coefficient of the variable being negative as per *table 4.5* above.

The level of Inflation in the country also has a positive impact on the net inflow of Foreign Direct investments in the country. According to the regression results above, an increase in the level of inflation in a country results in an increase in the levels of Foreign Direct Investment in the country. This is evident in the positivity of the coefficient of the variable.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This concluding chapter contains a summary of the major findings, the conclusions that are derivable from the study as well as possible recommendation derived from the findings recommendations. The study set out to achieve the following specific objectives:

- To analyze of the depreciation of the Ghana Cedi over the years 2002 to 2016.
- To ascertain the trend of FDI inflows in Ghana between the years 2002 and 2016.
- To ascertain the effect of the depreciation of the Ghana Cedi on FDI in Ghana between the years 2002 and 2016.

The main hypothesis of the study is:

H0: Depreciation of the Ghana Cedi has no impact on the inflows of Foreign Direct investment in Ghana.

H1: Depreciation of the Ghana Cedi has an impact on the inflows of Foreign Direct investment in Ghana.

5.2 Summary

This study has primarily sort to examine the effect of the depreciation of the local Ghanaian Cedi on the net inflow of Foreign Direct Investment in Ghana. The investigation covers the period between 2002 and 2016.

The variable used included Currency Depreciation, however other variables such as Inflation rate, GDP Growth rate, and Monetary Policy Rate and Per Capita-Income were used as control variables. The study accessed whether the Depreciation of the Local Currency had any impact

on decisions by investors to undertake Foreign Direct Investments in the country with the aim of buttressing or refuting earlier studies in this line of argument.

There is no doubt that foreign direct investment is an important element in the growth model

of many economies. However, Africa has over the years received the least flow of foreign direct investment. Even though from the analysis it was evident there was a steep increase in the flow of FDI into the Ghanaian economy between 2002 to 2016 grew by 5814.36 per cent. This is still very low as compared to the volume of FDI received by other countries in other regions of the world. In this regard, many researchers have sought to look at the factors influencing foreign direct investment into Africa. Some of the main determinants studied include the resource-based and infrastructure , where emphasis is placed on natural resources, infrastructure and human capital as determinants of FDI to Africa (Nnadozie and Osili, 2004; Aseidu, 2002; Noorbakhsh et al, 2001); Political factors such as coups and military interventions (Dupasquier and Osakwe, 2005; Kyereboah-Coleman and Agyire-Tettey, 2008); The regulatory framework of the host country such as governance systems, intellectual property and to a large extent the incidence of corruption; Global and other factors such as return on investment, the GDP and interest rates of the source country (Asiedu 2002; Cavallari, L and D'Addona, S. 2011); and lastly economic factors such as exchange rate and its volatility, interest rate and GDP of the host country, openness of the host economy (Kyereboah-Coleman and Agyire-Tettey, 2008; Nnadozie and Osili, 2004; Aseidu, 2002; Udoh E. and Egwaikhide F. O. 2008),). Following the last factor, the import of this study was to determine the effect of a single variable such as Depreciation of the local Ghanaian Cedi on FDI inflow.

The findings of the study were however not entirely different from the expected outcomes. More importantly, the results of the correlation analysis show that Currency Depreciation has an inverse relation with the inflow of FDI with a correlation coefficient of -0.58. The coefficient

of regression for Currency Depreciation of -0.003 also buttress the fact that there is an inverse impact of a unit increase or decrease in the level of Currency Depreciation to the tune of 0.3 per cent on the inflow of Foreign Direct Investment into the country. This meant that a percentage increase in the depreciation of the local currency will result in a decrease in the inflow of FDI by 0.3 per cent while a unit reduction in the depreciation of the Local Ghana Cedi (appreciation of the Cedi) will also result in an increase in the inflow of FDI into the country. To reduce the depreciation of this variable, measures should be taken to ensure its stability.

The trend of the depreciation of the cedi was also ascertained over the period of study and it was realized that the HIPC initiative entered into by the Government of Ghana helped reduce significantly the depreciation of the cedi between 2003 and 2007 as a result of an increase in foreign reserve resulting in less pressure on the US Dollar as it was relatively stable in supply within the country. The first exportation of crude oil also played a significant part in reducing the rate of depreciation of the cedi to -1.32 percent in 2011. This was as a result of an increase in foreign reserves resulting from the revenues received from the exportation of crude oil.

5.3 Conclusions of the Study

The first objective of the study was to analyze the depreciation of the Ghana Cedi over the years 2002 to 2016. It was discovered that increasing the foreign reserves of a country is a sure way of reducing the rate of depreciation of the local currency as evident within the period of the HIPC initiative and exportation of crude oil.

The second objective was to ascertain the trend of FDI inflows in Ghana between the years 2002 and 2016. It was

found out that even though from the analysis it was evident there was a steep increase in the flow of FDI into the Ghanaian economy between 2002 to 2016 from USD 58.00 million to an amount of USD 3,485.00 million which represents a growth of 5814.36 percent. This is still very low as compared to the volume of FDI received by other countries in other regions of the world.

The third objective of the study was to ascertain the effect of the depreciation of the Ghana Cedi on FDI in Ghana between the years 2002 and 2016.

5.4 Recommendations

After a thorough analysis and based on the conclusion given above, the following recommendations regarding policy are worth noting:

First, the influence of foreign reserves on the depreciation of the local currency insinuates that policies which are geared towards curbing the rampant depreciation of the cedi should be targeted from the point of increasing the foreign reserves of the country as this would increase the supply of the foreign trading currency reducing the price and rather inversely increasing the price of the cedi. Currency Depreciation also has an inverse relationship with FDI inflow into the country and as a result, an increase in foreign reserves which would favourably adjust the depreciation of the Ghana Cedi will also go a long way to positively influence the inflow of FDI into the country. Measures geared towards increasing export revenue through the exportation of value-added products which would command higher prices on the world market other than the continuous exportation of products in their primary state.

Secondly, the inverse relationship between inflation and FDI signifies that high inflation deters FDI in Ghana. However, price stability may not attract FDI because of the unidirectional causality from FDI to inflation. High FDI is central to low levels of inflation in Ghana.

Therefore, both fiscal and monetary policies geared toward encouraging FDI in Ghana would enable Ghana to witness high and sustainable growth. A plausible policy position would be one which will be geared towards attracting export-oriented FDI into the industrial sector and more especially the agricultural sector of the economy since agriculture is the backbone of the Ghanaian economy.

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APPENDIX

A. DATA ON THE DEPRECIATION OF GHANA CEDI

YEAR	DEPRECIATION OF GHANA CEDI
2002	-13.13
2003	-5.15
2004	-2.48
2005	-0.64
2006	-1.33
2007	-4.05
2008	-20.89
2009	-15.38
2010	-1.32
2011	-8.26
2012	-15.95
2013	-12.81
2014	-32.45
2015	-15.68
2016	-9.65

B. DATA ON NET INFLOW OF FDI

YEAR	NET INFLOW OF FDI (USD)
2002	58,930,000.00
2003	136,751,000.00
2004	139,270,000.00
2005	144,970,000.00
2006	636,010,000.00
2007	1,383,178,000.00
2008	2,714,916,000.00
2009	2,372,540,000.00
2010	2,527,350,000.00
2011	3,247,588,000.00
2012	3,294,520,000.00
2013	3,227,000,000.00
2014	3,363,389,000.00
2015	3,192,321,000.00
2016	3,485,333,000.00

C. DATA LOG

YEAR	GDP GROWTH	INFLATION	MPR - BOG	DEPRECIATION	LOG PCI	LOG FDI
2002	4.50	14.82	24.50	-13.13	2.48	7.77
2003	5.20	26.68	21.50	-5.15	2.57	8.14
2004	5.60	12.63	18.50	-2.48	2.62	8.14
2005	5.90	15.12	15.50	-0.64	2.69	8.16
2006	6.40	10.92	12.50	-1.33	2.96	8.80
2007	4.35	10.73	13.50	-4.05	3.03	9.14
2008	9.15	16.52	17.00	-20.89	3.08	9.43
2009	4.84	19.25	18.00	-15.38	3.03	9.38
2010	7.90	10.71	13.50	-1.32	3.11	9.40
2011	14.05	8.73	12.50	-8.26	3.19	9.51
2012	9.29	7.13	15.00	-15.95	3.21	9.52
2013	7.31	11.67	16.00	-12.81	3.38	9.51
2014	2.90	15.49	21.00	-32.45	3.29	9.53
2015	2.18	17.15	26.00	-15.68	3.25	9.50
2016	3.45	17.46	25.50	-9.65	3.29	9.54