UNIVERSITY OF CAPE COAST

DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN GHANA

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BY

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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 Signature …… Date ……...

Name: Jennifer Ewool

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 University of Cape Coast.

Supervisor's Signature …… Date ……...

Name: Prof. Anokye Mohammed Adam

ABSTRACT

The study sought to examine the factors that drive foreign direct investment inflows in Ghana. The quantitative approach to research was adopted for this study and secondary data was used. The data were mainly obtained from World Development Indicator and International Financial Statistics. Data was sampled for the period 1990 to 2018. Pearson's correlation, Two-Stage Least Square (2SLS) Regression, and Granger causality were used as the estimation techniques. The study found that there was a positive relationship between human capital and foreign direct investment; between financial development and foreign direct investment, and between exchange rate and foreign direct investment. On the other hand, a negative relationship was found between interest rate and foreign direct investment, and between inflation and foreign direct investment. Furthermore, the study found that human capital, financial development and exchange rate positively affect foreign direct investment inflows in Ghana, but inflation had a negative effect on foreign direct investment inflows in Ghana. Again, a bidirectional relationship was found between human capital and foreign direct investment as well as between financial development and foreign direct investment. No causal relationship was found between FDI and interest rate, inflation, and trade openness. The study therefore recommends that economic policymakers must design policies that attract development-based foreign direct investments considering making effort to enhance financial development, human capital development, and maintain a stable price level and strong currency performance.

KEYWORDS

Exchange rate

Financial development

Foreign direct investment

Granger causality

Human capital

Inflation rate

Interest rate

Trade openness

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DEDICATION

To my parents and siblings

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LIST OF ACRONYMS

ADF	Augmented Dickey-Fuller
AIC	Akaike Information Criterion
EXR	Exchange Rate
FD	Financial Development
FDI	Foreign Direct Investment
HC	Human Capital
IR	Interest Rate
OLI	Ownership-Location-Internationalisation
PP	Phillips-Perron
TO	Trade Openness
USD	United State Dollar

CHAPTER ONE

INTRODUCTION

Foreign direct investment (FDI) is becoming a more important part of the global economy, particularly in developing countries, where it has surpassed domestic capital as the primary source of development capital. The assertion that foreign direct investment is less retrenchment or downsizing operations carried out by foreign investors in the same country, are referred to as foreign direct investment". For this reason, this study carried out an investigation into the factors that predict FDI, and by extension provided the strength and the direction of the relationship so that within the policy and academic circles, necessary actions are taken to benefit economies.

Background to the Study

Foreign direct investment (FDI) can be thought of as a collection of resources that complements financial flows while also contributing significantly to the development process (Enu, Havi, & Attah-Obeng, 2013). Notably, the transfer of technology and managerial skills from the source country to the receiving country is common in foreign direct investment projects. According to Iamsiraroj (2016), the influx of FDI into an economy is important for several reasons because it gives the recipient country's economy the desired economic recognition. As said by Iamsiraroj (2016), exports of the host country of FDI experience better access to the global market. He submits further that FDI serves as a source of development funding aiding in the financing of economic investment. Additionally, FDI raises the level of technical progress in the host country, which has a significant impact on the economic development process.

Most countries, particularly developing countries, aim to attract FDI because they anticipate long-term economic growth from additional stable resources in host nations (Iamsiraroj, 2016). Advanced technology, skills, research and development (R&D), and know-how to host countries are some of the more fundamental reasons for FDI's attractiveness (ADB, 2020). The above discussions have resulted into the consensus that FDI is an important part of the economic process and one of the most important ways for developing countries to solve their problems (Olusanya, 2013; Ho & Rashid, 2011). This is because most of these countries have benefited from FDI inflows, which have helped to invigorate their economies and lift people out of poverty.

Similarly, Shah, Ahmad, and Ahmed (2016) point out that the positive role of FDI has become an axiomatic truth in economics, where foreign firms fill the saving-investment and technological gap by providing much-needed cash and technology to the recipient economy. They contend that FDI also gives local firms the opportunity to learn from foreign companies, either by 'doing' or 'watching,' and instils a sense of much-needed competition in local firms and institutions, thereby increasing the host country's overall productivity. They argue further that FDI does not only influence the transfer of productive innovative technologies but also improves the quality of institutions and contributes to the local economies.

A review of the World Bank's data on FDI percentage of gross domestic product shows that over the past few decades FDI has formed an important part of economies worldwide. FDI globally increased from 0.49 percent in 1970 to a high 5.36 percent in 2007 just before the global market crash (The World Bank Group, 2020). Since then, FDI has decreased to 1.63 percent by 2018. In 2018,

the global FDI flows experienced a fall for the third consecutive year, dropping by 13 percent from $1.5 trillion in the previous year to $1.3 trillion (UNCTAD, 2019). The UNCTAD however showed that while developing countries generally experienced a sharp drop in FDI flows to 27 percent which was their lowest since 2004, the flows in developed countries was quite stable at 2 percent rising to $706 billion.

Extant empirical works of literature have proposed a number of macroeconomic factors as significantly predicting the inflow of foreign direct investment into a country. In the opinion of Aziz (2018), institutional quality promotes property rights and the rule of law which improve a country's economic prospects and make it more appealing to foreign investors. Contrarily, poor institutional quality can be a barrier to FDI inflows because it puts the investment at risk. Because FDI has high sunk costs, businesses are hesitant to enter foreign markets unless they are low-risk and low-uncertainty. As a result, countries that want to attract more foreign capital should create a conducive institutional environment that includes political stability, market efficiency, and property rights (Aziz & Mishra, 2016).

In another sphere, human capital has emerged as another factor whose impact on FDI has been considered in literature with the effect on the flow of FDI occurring in varying forms and levels in both developed and developing countries. According to Almfraji and Almsafir (2014), the interaction usually leads to a positive effect on FDI and consequently on economic growth in countries in which studies are conducted. Human capital components like education tend to improve the creativity and innovativeness of citizens in a country making them tools for knowledge dissemination and economic growth

(Nasir, Shahbaz, Mateev, Abosedra, & Jiao, 2020). In order for countries like Ghana to achieve inclusive economic development and have an open access to foreign direct investment, it is imperative that she must continue to improve human capital and ensure that children are safe and developed to grow and become competent and productive workers (Tanaka, Shimmei, Opoku, & Oyatoye, 2019).

From a theoretical perspective, "the neoclassical theory is developed from the perspective that in a perfect competition and the absence of other unusual simplifying assumptions for an economy to attract foreign direct investment," reliance should be based on the macroeconomic variables. Similarly, the Ownership-Location-Internationalisation (OLI) paradigm submit that countries will benefit from FDI through the various significant factors that foster foreign productions.

Statement of the Problem

Ghana has made considerable efforts in attracting FDI for the past years. For example, Ghana's Economic Recovery Program (ERP) which was introduced in 1983, made FDI attraction a crucial part of its major policy objectives (Nguea, 2020; UNCTAD, 2018). Also, the establishment of the Ghana Investment Promotion Centre which is responsible for encouraging, promoting, and the facilitation of investments within and into the country is another effort Ghana has made in quest of attracting FDI. Following these efforts in attracting FDI into the Ghanaian economy, Ghana's FDI inflows have increased significantly in recent years.

However, these inflows of FDI into the various economic sectors are unequal creating an imbalanced distribution of these investments. According to

the UNCTAD (2019), Ghana's FDI inflows have been biased towards the mining subsector. In recent years however, the inflow of FDI in other sectors has risen significantly in Ghana, with each sector making tremendous contribution to the economic growth of the country (Adjei & Agyapong, 2018). The increasing inflow of FDI in Ghana has generated much interest in the study of FDI in the country, especially its motivations and determinants. Studies by Osei (2020), Owusu-Antwi et al., (2019), Adjei and Agyapong, (2018), Barthel et al., (2017) and Tsikata et al., (2016) carried out on the determinants of FDI in Ghana dwelled on country or national level analysis with limited studies at the individual sector level.

Therefore, there are at best too scanty studies with regards to the significant factors which determine FDI inflows across various economic sectors in Ghana. To the best of the researchers' knowledge, not much studies have been done about the determinants of foreign investment and how much of an impact they have within the local context of the Ghanaian sector (Harvey & Abor, 2019).

However, their study focused only on manufacturing sector using explanatory variables such as trade openness, financial development, human capital, inflation, interest rate and exchange rate as FDI determinants. This study contributes to the current research on FDI at sector level in two ways. Firstly, it extends the work of Harvey & Abor (2019) by employing a more recent data and including macroeconomic factors to determine FDI at the manufacturing sector. Secondly, the study seeks to investigate the significant factors influencing services sector and agricultural sector FDI which have not been studied in Ghana.

In furtherance, available literature such as Dungan (2016), Adunga (2014) and Ubuntu (2017) has biasedly averted attention unto cross-country analysis that renders the findings doubtful in nature as a result of data comparability and heterogeneity problems. To address this problem, the researcher employed the two-stage least square approach which corrects the problems of endogeneity. Again, an avalanche of existing empirical works has concentrated on developed economies and continents other than the Sub-Saharan region. Consequently, Ghana has not seen so much of empirical works on the determinants of foreign direct investment.

Against this backdrop, this study sought to fill that gap by investigating the determinant of foreign direct investment in Ghana.

Purpose of the Study

The general purpose of this study is to examine the factors that determine foreign direct investment in Ghana.

Research Objectives

To achieve this purpose, the study as coined the following research objectives:

1. To assess the relationship between selected macroeconomic variables and foreign direct investment.
2. To examine the effect of the selected macroeconomic variables on foreign direct investment.
3. To determine the bi-causal relationship between selected macroeconomic variables and foreign direct investment.

Research Questions

To achieve the objectives of the study, the following questions are asked:

1. What is the relationship between the selected macroeconomic variables and foreign direct investment?
2. How does the selected macroeconomic variables affect foreign direct investment?
3. Is there a bi-directional causality between each of the selected variables and foreign direct investment?

Significance of the Study

The outcome of this study is important for several reasons. Given that investment, internally or externally has been proven to be of great significance to economic growth, and contributing in alleviating various forms of economic hardships such as unemployment and poverty, this study will assist policymakers in developing relevant economic policies that will aid in increasing the amount of money saved and invested in a number of developing countries like Ghana. For the field of finance and economics, this study sheds lighter on the issue of macroeconomic variables and investment, which has received a lot of attention. The study adds to the existing investment literature and serves as a catalyst for future research.

Also, the current study clarifies the effect of macroeconomic variables in order to effectively estimate their impact on the performance of investment activities in Ghana. With the accomplishment of this study, policymakers in Ghana can develop policies that will boost investment's influence in the country, thereby increasing the country's gross domestic product (GDP).

Again, this research is essential and of great interest to financial controllers, finance managers, and managing directors, particularly those working in investment firms, because it provides insight into how to generate

effective returns on investment activities. Additionally, the study may be beneficial to practitioners interested in determining to what extent macroeconomic factors have effect on investment and subsequently assist them in deciding when and how to invest.

Delimitations of the Study

The study is mainly focused on the Ghanaian economy. The data coverage is also limited to 1995 to 2019. As result, findings of the study are particularly motivated by the sampled period and the selected variables. For the independent variables, the study made use of only the following: trade openness, financial development,'' human capital, inflation, exchange rate, and interest rate.

Organisation of the Study

The study is organised into five chapters. Chapter one encompasses the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions/hypotheses, significance of the study, delimitations of the study, limitations of the study, and organisation of the study. Also, chapter two covers the review of literature on related topics. Chapter three details the research methods that have been employed in this study to enable the researcher to meet the specified aims and objectives of the study. Chapter four captures the analyses and discussions of the findings for the study. Lastly, chapter five presents the summary, conclusions, and recommendations as well as suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

Introduction

This chapter discussed in detail, pertinent and associated literature works on factors affecting foreign direct investment in Ghana. Simultaneously, Hart (2018) argued that literature review was essential to discover significant variables relevant to the subject; to summarise and acquire a new perspective; to identify the connections among ideas and practices; and to understand the structure of the subject and related ideas and to link theory to applications.

This study mainly organised examined literature in four ways. The first segment shows the theoretical basis of the study. The second section examined relevant empirical literature. In this third section, the key concepts and variables of the study are presented and in this last section lessons learned and gaps in knowledge identified as a chapter summary were discussed. The empirical review discusses the links between selected macroeconomic variables and FDI. The fourth segment examines relevant concepts in this area.

Theoretical Review

There cannot be overemphasis on the importance of a theoretical review in research. Lysaght (2011) points out that, in addition to the basis for the use of particular methods, a theoretical framework offers the structure which supports research rationale, problem statement, purpose and significance of the study.

Ownership-Location-Internationalisation (OLI) Paradigm

The Ownership-Location-Internalization (OLI) paradigm (Dunning, 1977, 2001) has been the leading theoretical framework for comprehending FDI

since its inception in 1977. Dunning (2001) was perplexed by the fundamental question: why do companies invest in other countries, or, in a broader sense, what determines the amount and composition of international production? The eclectic paradigm was enthralled from the start with defining the origin, pattern, level, and growth of firms' overseas activities. Today, the emphasis is on explaining why firms invest abroad rather than entirely at home, as well as on explaining the pattern of FDI across countries (Collis, 2014). Dunning (2001) submits his argument supporting the OLI paradigm into a framework as presented in Figure 1.

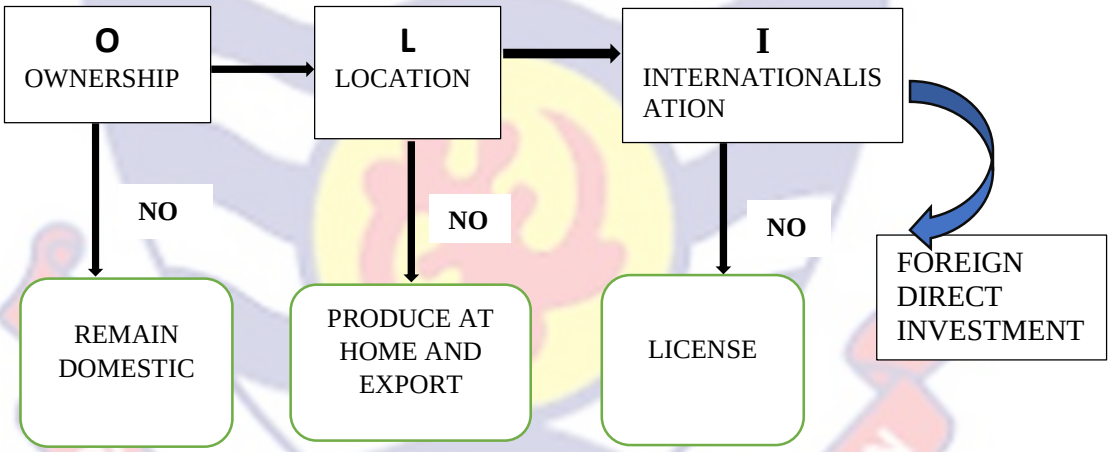

Figure 1: The Eclectic Paradigm (Dunning, 2001)

The framework is a three-tiered evaluation model that multinational corporations can use to determine whether pursuing FDI is advantageous as seen in Figure 1. The framework states that a firm's decision to enter a foreign market, as well as its mode of entry, is influenced by ownership, location, and internalization advantages (Dunning, 2001). While the ownership-specific advantages were revisited (Eden & Dai, 2010), Narula and Santangelo (2012)

investigated the location-specific advantages. Furthermore, Cuervo-Cazurra and Narula (2015) provided a more in-depth understanding of the investment motivations by utilising the location advantage. Cantwell (2015) synthesized the OLI framework's antecedents and extensive development as a meta-framework.

The purpose of FDI is for firms with Flexible Spending Account (FSAs) to leverage and arbitrage their competitive advantages in foreign markets (Collis, 2014). This is accomplished via the dynamic ownership advantage. Assuredly, the ownership advantage compensates for the "foreignness liabilities" that a business may face when operating from afar (Eden & Dai, 2010). The location advantage comprises favourable government incentives, regulations in different countries, and the desire to reduce transaction costs are all factors that can influence a company's decision to relocate operations or production abroad (Cuerzo-Cazura & Narula, 2015). The internalisation advantage is the framework's last benefit. The advantages of in-house operations are considered. It believes that a company's tangible and intangible assets benefit from keeping them within the company rather than allowing third parties to participate in the business process. As a result of the ownership advantage, internalization lowers transaction costs (Cantwell, 2015).

Vahlne and Johanson (2013) assert the complexities of foreign investment. According to the authors, the complexity of investing abroad necessitates that a firm gradually expands its international operations through lower-risk entry modes before gradually undertaking risky ventures. They also perceive a physical distance (culture, geography, language, markets, etc.) between countries that must be considered in the internationalization decision-

making process. To this end the OLI model advises firms to pursue FDI in markets with a lower psychic distance (Vahlne & Johnson, 2017). This implies that businesses should pursue cross-border operations in countries with similar cultures, languages, markets, and geographic proximity. The reason for this is that the risk of failure is lower in those markets because knowledge gained from operating in the home country can be applied to the host country, which is similar to the home country (Moon, 2019).

In a later paper on the OLI framework, Dunning and Lundan (2008) noted how the global economy has changed dramatically, affecting (MNC) competences and tactics. That is, the exponential growth of strategic asset-seeking FDI has been the most significant change in the motivations of foreign direct investment. This new change, according to Dunning and Lundan (2008), is a way for an investing firm to take advantage of a current ownership-specific advantage. Over the last decade, MNCs' location preferences have shifted, with MNCs pursuing locations that provide the best institutional and economic facilities (country-specific advantage) for their core competencies (firm-specific advantage) to be efficiently exploited (Collis, 2014).

Neoclassical Growth Theory

The neoclassical growth theory is one of the earliest theoretical frameworks for understanding investment. In an analogy to Newton's law of motion, the neoclassical theory was originally used to explain bilateral trade flows between countries (Breuss & Egger, 1997). Subsequently, Tasi (1994) attempted to simplify a growth model by converting it to a simple production function and to identify key variables that could maintain constant growth rates. He incorporates variables affecting investment in growth rates into his model.

On the other hand, according to endogenous growth theory, investment flows can contribute to an economy's economic growth either directly or indirectly. As a result, Wang and Swin (1994) distinguish the benefits of investment activity into direct benefits to the home country, such as increased production and knowledge transfer to local suppliers; and indirect benefits, such as improving the quality of their workforce.

With the advent of endogenous growth theory (Barro & Sala-Martin, 1996; Romer, 1990), research into the channels through which investment can be expected to promote growth in the long run has become possible. The theory asserts that trade between two countries is determined by the size of their economies (as measured by GDP and population), the geographical distance between the two countries, and some preferential trade considerations. According to Zang and Chin (1996), investment must flow from the home country, which has a comparatively disadvantaged industry, to the host country.

Empirical Review

This section of the chapter captures the detailed review of earlier works on the topic. The section is segmented into three main headings namely: relationship between macroeconomic variables and foreign direct investment; bi-directional causality between macroeconomic variables and foreign direct investment, and finally, a section headed as chapter summary.

Relationship between Macroeconomic Variables and Foreign Direct Investment

Mudiyanselage, Mayoshi, Epuran, & Tescas (2021) examined the causal relationship between trade openness and foreign direct investment

(FDI) inflows in Romania from 1997 to 2019. They used trade openness as the primary independent variable, and the Auto Regressive Distributed Lag (ARDL) Bounds test as the analytical technique. Their findings revealed that trade openness has a long-run and short-run negative and statistically significant connection with FDI inflows in Romania. By implication, trade openness has a detrimental effect on FDI inflow, implying that the greater the degree of openness, the less likely FDI will be attracted in the long run. The Granger causality test revealed that Romania's trade openness and FDI have a one-way relationship and the causality ran from FDI to trade openness.

Alfalih and Hadj (2020) explored the factors that influence foreign direct investment (FDI) inflows into an oil-rich host country. The approach they took in their research allowed them to test the short- and long-term validity of the resource curse, not only in terms of the abundance of resources, but also in terms of the cost of those resources, which was a significant finding. Their research also looks into short- and long-term policies that can benefit an oil-rich country in order for it to reap the benefits of resource-based foreign direct investment and progress toward becoming a country that is not reliant on oil resources. Using the ARDL approach, which was applied to the case of Saudi Arabia over the period 1984–2017, their findings reveal that the effects of oil factors, macroeconomic factors, infrastructure, and law and order differed depending on the time horizon considered.

Another research by Ngo, Cao, Nguyen, and Nguyen (2020) sought to identify the predictors of FDI in Vietnam over the period 2000-2019. The Generalized Methods of Moments (GMM) and Pooled Mean Group (PMG) were used in their study to analyse panel data that was provided by the General

Statistical Office of Vietnam. The findings indicate that market size has a positive and statistically significant impact on FDI attraction. Aside from that, some other factors, such as the labour force, macroeconomic policy, macroeconomic stability, and skilled labour were revealed to have positive influences on FDI. The trade openness of a country has a negative impact on FDI inflows in the short term, but is not statistically significant in the long term. Furthermore, economic shocks frequently have a negative impact on FDI inflows.

As a result of the findings of their study, the following recommendations were made: First and foremost, authorities should pay close attention to increasing the rate of economic growth in Vietnam in order to increase the size of the market, as this is the number one priority of foreign investors. Second, authorities must continue to increase the rate of skilled labour, particularly among the highly qualified management force, engineers, and highly skilled workers, among other things. Third, the authorities should increase the role of trade openness as a determinant of attracting FDI inflows by adjusting trade openness.

Zangina and Hassan (2020) conducted an empirical examination of the asymmetric relationship between anti-corruption efforts and FDI in Nigeria. The study analysed time series data from 1984 to 2017 using the "non-linear autoregressive distributed lag (NARDL)" bounds test technique. The findings indicate that corruption reduces FDI inflow and that combating corruption has an asymmetric impact on FDI inflow to Nigeria. Positive shocks or changes in corruption control are positive and statistically significant over the long run, whereas negative shocks are negative but statistically insignificant. This means

that strengthening anti-corruption measures encourages FDI inflows into the country, whereas weakening anti-corruption measures has a negligible effect. Nigeria must redouble its efforts to combat corruption in order to effectively improve the conduciveness and attractiveness of its business operating environment for FDI inflow.

Ayomitunde, Pereowei, and Awe (2020), in their recent study, examined the variables that influence foreign direct investment in the Chinese economy. They gathered data from the United Nations Conference on Trade and Development and the World Bank Indicator between 1990 and 2017, and addressed its objective using the Autoregressive Distributed Lag (ARDL) model and Error Correction Model (ECM). They observed the following: the result of ECM term confirmed that about 19% of the total disequilibrium in the previous year would be corrected in the current year. Meanwhile, the primary drivers of FDI inflows into China are the country's large market size and rapid economic growth. GDP per capita, on the other hand, cannot be used to calculate FDI inflows into China. Based on the outcomes of their study, the following recommendation was by the authors: whenever the Chinese government seeks sporadic inflows of FDI, the China's government should manage the size of its economy's market and its rate of expansion. A similar proposition has been made by Haudi and Cahyono (2018).

Using panel data for low, lower middle, upper middle, and high-income countries for the sample period of 1996–2016, Sabir Rafique, and Abbas (2019) investigated the impact of institutional quality on Foreign Direct Investment inflows. The system Generalized Method was used to conduct the research. In order to determine the impact of institutional quality on FDI

inflows, independent variables such as inflation, trade openness, mobile phone subscriptions per 100 people, GDP per capita, and value-added share of agriculture as a percentage of GDP were used as control variables. In all groups of countries, the results showed that institutional quality had a positive impact on foreign direct investment. In developed countries, corruption control, government effectiveness, political stability and regulatory quality, rule of law, and voice and accountability for FDI inflows were all higher than in developing countries.

Qamruzzaman, Karim, and Wei (2019), using Autoregressive Distributed Lagged (ARDL) and nonlinear ARDL, investigated the pattern of symmetric or asymmetric relationships between exchange rate and foreign direct investment in Bangladesh. They used quarterly data from 1974Q1 to 2016Q4 in their investigation. Their study's findings revealed a long-term relationship between foreign direct investment, the exchange rate, monetary policy, and fiscal policy. The findings from NARDL demonstrated the existence of a long-run asymmetric relationship in the empirical equation when the asymmetric assumption is taken into account. In the long run, positive changes in the exchange rate against the US dollar reduce FDI inflows, whereas negative shocks increase FDI inflows; however, positive shocks have a higher intensity than negative shocks in the exchange rate.

Wickramarachchi (2019) used the ARDL method to conduct research based on a supply–demand framework to identify the key determinants of FDI inflows in Sri Lanka from 1970 to 2014. The dependent variable was the ratio of FDI flows to developing countries, while the independent variables were real gross domestic product, trade openness, real wage index, and real effective

exchange rate. Political stability is accounted for as a dummy variable, as are changes in FDI policy regimes from 1977 to 2000, 2001 to 2008, and 2009 to 2014. According to the findings, trade openness and the real wage index had no significant relationship with FDI inflow in Sri Lanka. In the long run, real gross domestic product was a minor factor in determining FDI inflow. This outcome is consistent with Athukorala (2003). The results show that FDI inflows to Sri Lanka have been export-oriented rather than market-driven. The variable of the real effective exchange rate had a negative and statistically significant effect. It was found that as the real effective exchange rate rose, FDI inflows into Sri Lanka decreased. Inflows of foreign direct investment (FDI) have had a positive and significant impact on political stability.

Asongu, Akpan, and Isihak (2018) sought to examine the factors that determine the direction of FDI to the fast-growing BRICS (Brazil, Russia, India, China, and South Africa) and MINT (Mexico, Indonesia, Nigeria, and Turkey) countries using panel analysis. First, they estimated and modelled the determinants of FDI for three samples: BRICS only, MINT only, and BRICS and MINT combined, using a pooled time-series cross-sectional analysis of data from 2001 to 2011. The model for BRICS and MINT combined was then created using a fixed effects approach. Their findings show that market size, infrastructure availability, and trade openness are the most important factors in attracting FDI to BRICS and MINT, while natural resource availability and institutional quality play minor roles. The governments of BRICS and MINT must ensure that their countries remain attractive for investment by providing a level playing field for investors and political stability in order to sustain and promote FDI inflow. They recommended that governments in the BRICS and

MINT must also invest more in human capital to ensure that their economies can absorb significant skills and technology spill overs from FDI while promoting long-term economic growth.

Vasileva (2018) examined the effect of information technology on FDI flows to developing countries using a difference-in-differences approach and panel data for 71 countries from 1985 to 2013. Additionally, the researcher examines the difference in FDI inflows between targeting and non-targeting countries during periods of high instability. The findings if the study indicated that adoption of information technology results in an increase in FDI flows to developing countries in general and, more importantly, during times of distress. He submits further that while FDI has increased significantly in developing countries over the last several years, not all developing countries have been successful in attracting it. A credible monetary policy, such as inflation targeting, may make countries that implement it more attractive destinations for FDI flows as a result of the stable macroeconomic environment created.

Lindelwa Makoni (2018) examined the effect of trade openness on foreign direct investment in nine African countries from 2009 to 2016. He used the ratio of net FDI inflows to GDP was used as the dependent variable, while the log of FDI to GDP and trade openness, real exchange rate, macroeconomic stability as measured by real economic growth, natural resource endowment, infrastructure, and capital openness were used as the independent variables. Again, the researcher used a variety of econometric techniques, including the pooled OLS, the Least Squares Dummy Variable (LSDV) model, the Fixed Effects (FE) model, the Random Effects (RE) model, the Generalized Method of Moments (GMM) model, and the Generalized Least Squares (GLS) model

(GLS). For his results, the random effects model revealed a positive correlation between foreign direct investment and trade openness. Real exchange rate variables had a statistically significant positive effect on FDI inflow, whereas capital openness had a positive but insignificant effect.

Using an unbalanced panel data set spanning the years 1990 to 2012, Kumari and Sharma (2017) launched an investigation to identify key determinants of FDI inflows in developing countries. Their study research looks at 20 developing countries from South, East, and Southeast Asia as a whole. With the help of the Hausman test, the authors attempted to find the best fit model from the two models considered (fixed effect model and random effect model) using seven explanatory variables (market size, trade openness, infrastructure, inflation, interest rate, research and development, and human capital). For the panel of developing countries under study, fixed effect estimation shows that market size, trade openness, interest rate, and human capital all produce significant coefficients in relation to FDI inflow. Market size was observed to be the most important determinant of FDI inflow, according to their findings.

Similarly, Pantelidis and Paneta (2016) studied the determinants of foreign direct investment (FDI) in Greece. They examine the factors that affect FDI flows into Greece for the period 1982-2013 using econometric techniques. According to their findings, inward FDI is positively influenced by gross national income (GNI), exchange rate (ER), and economic openness (EO), and negatively influenced by unit labour costs, corporate tax rate, and Greece's membership in the European Monetary Union. As a result, in order to increase the attractiveness of FDI flows to Greece, they mentioned that an appropriate

institutional framework should be in place, with a view to lowering corporate profit taxes and developing a strategic plan aimed at increasing the country's economic openness and fostering economic growth.

Mateus, Proença, and Júlio (2016) sought to examine the factors that drive foreign direct investment in the tradeable sector of European countries. The dataset consisted of FDI from 47 source countries to 22 European host countries. Compared to other studies, they employed the modified gravity model in order to obtain a robust result. Their findings demonstrated that countries with a large market size, a greater degree of economic openness, a higher level of productivity, and strong institutions are more likely to attract FDI in the tradable sector. Additionally, they argue that physical distance is not as significant an impediment to tradable sector FDI as it appears to be for aggregated FDI. By contrast, empirical evidence suggests that it has no effect on the attraction of FDI to the tradable sector, based on aggregated FDI that shares a common border.

During the period 1980 to 2011, Muzurura (2016) looked at the determinants of FDI inflow in Zimbabwe. External debt, gross fixed capital formation (GFCF), gross fixed capital expenditure (GFCE), gross domestic product (GDP), trade openness and inflation rate were the independent variables. Gross fixed capital formation and trade openness had positive and statistically significant relationships with FDI inflow in the long-run, the results showed. Also, it was found that FDI inflows were negatively affected by inflation. However, in the short run, lagged GDP, external debt, government expenditure, and lagged exports emerged as insignificant determinants of FDI inflow.

Also, Xaypanya, Rangkakulnuwat, and Paweenawat (2015) carried out an investigation to look into the major factors that influence FDI in Cambodia, Laos, and Vietnam (ASEAN3), as well as Indonesia, Malaysia, the Philippines, Thailand, and Singapore (ASEAN5) from 2000 to 2011. Their study used the first differencing technique to estimate the parameters on the constructed panel data. The determinants of FDI differ between "ASEAN3" and "ASEAN5". They submitted that observed findings was due to the different stages of economic development. Again, they discovered that infrastructure facility, level of openness, and inflation have significant positive effects on FDI inflow in "ASEAN3", while real exchange rate, gross domestic product, and net official development assistance have no effect. According to the findings in ASEAN5, market size and infrastructure facilities are important factors in attracting FDI. Furthermore, despite an increase in inflation and a decrease in the level of openness measured, the "ASEAN5" countries remain attractive to foreign investors.

A static panel data analysis and a dynamic panel data analysis are used by Erdogan and Unver (2015) to investigate the determinants of foreign direct investment (FDI) for 88 countries over the period 1985–2011. In the study's findings, the urbanization rate, the ratio of people over the age of 65, social security spending, and health spending all have a negative and statistically significant impact on foreign direct investment, whereas per capita gross domestic product (GDP), economic growth (GDP), market size, inflation rate, unemployment rate, labour force growth, credit to the private sector, market capitalization, and corruption control all have a positive and statistically significant impact on foreign direct investment. Additionally, they establish that

factors that have both statistically significant negative and positive effects on FDI inflows are the host country's financial openness and the amount of energy it imports.

Anyanwu and Yameogo (2015) also used a panel dataset spanning the period 1970 to 2010 to examined the factors that influenced foreign direct investment (FDI) in West Africa. In order to make the estimations, the researchers employed techniques of OLS and GMM. The main findings of their study indicate that there is a U-shaped relationship between economic development and foreign direct investment (FDI) inflows into Western Africa. Specifically, the quadratic element of real per capita GDP, domestic investment and trade openness, first year lag of foreign direct investment, natural resources (oil and metals) endowment and exports, and monetary integration all have a significant impact on FDI inflows to West Africa; however, the loan component of ODA, economic growth, level of emigration, and monetary integration all have a negative impact on FDI inflows to the sub-region.

According to Mugableha (2014), an unconditional error correction approach was used to investigate the determinants of foreign direct investment inflows into Malaysia over the period 1977 to 2012. When using the ARDL approach, the broadest money supply, the consumer price index, exchange rates, gross domestic product, and trade were all taken into account as determinants of foreign direct investment (FDI). According to the findings, exchange rates, gross domestic product, broadest money supply, and trade all had a significant impact on foreign direct investment inflows into Malaysia, whereas the consumer price index had a negative impact on foreign direct investment inflows into Malaysia.

Khachoo and Khan (2012) analysed through the estimation of a panel econometric model, the factors that influence foreign direct investment (FDI) inflows into developing countries over a long period of time. The findings of their study are based on a sample of 32 developing nations. In their analysis, foreign direct investment (FDI) inflows are modelled as a function of the size of the host country's market, total reserves, infrastructure, labour costs, and degree of openness. According to a panel data estimator using data from 1982 to 2008, market size, total reserves, infrastructure and labour costs are the most important determinants of foreign direct investment (FDI) inflows to developing countries. The findings of their study suggest that improving infrastructure, maintaining adequate foreign exchange reserves, and increasing GDP should be the top priorities of developing countries' foreign policy in order to attract more foreign direct investment and maximize the benefits from it.

Demirhan and Masca (2008) used panel data analysis to investigate the determinants of foreign direct investment (FDI) inflows in 38 developing countries from 2000 to 2004. The dependent variable in the model was FDI net inflows as a percentage of GDP, with the following independent variables: per capita GDP growth rate, inflation rate, telephone main lines per 1000 people measured in logs, labor cost per worker in the manufacturing industry measured in logs, degree of openness, risk, and corporate top tax rate. The findings revealed a positive and statistically significant relationship between per capita growth, telephone main lines, and degree of openness and FDI net inflows. The rate of inflation and the rate of taxation both had negative and statistically significant relationships with FDI net inflows. Labor cost, on the other hand, has a positive sign and risk has a negative sign, which is consistent with previous

research. Both variables have no effect on FDI net inflows, implying that labor costs and risk factors are not important in attracting FDI.

Bi-causal relationship between macroeconomic variables and Foreign Direct Investment

This section of the empirical review focused on providing details of works that studied the bi-directional or the two-way relationship between macroeconomic variables and foreign direct investment.

By employing the panel dynamic simultaneous-equation modelling approach for a sample of 19 developing Asian countries over the period 2002–2015, Huynh, Nguyen, Nguyen, and Nguyen (2020) empirically investigated the three-way linkages between foreign direct investment (FDI), the shadow economy, and institutional quality. It was observed that institutional quality attracts inward FDI, and FDI in turn improves institutional quality. Institutional quality is not only the cause but also a consequence of the shadow economy, and FDI inflows help reduce shadow economies through the channel of institutional improvement. Lower shadow economies, which increase institutional quality, are associated with higher institutional quality. As a result, they suggested by the empirical findings that policy implications for dealing with these dynamics at the same time are beneficial.

To ascertain the factors affecting FDI inflows and their impact on economic growth in the South Asian Association for Regional Cooperation (SAARC) countries from 1980 to 2018, a study examining a series of factors affecting FDI flow was conducted by Gunawardhana and Damayanthi (2019). GDP per capita, inflation, money and quasi-money (M2), trade openness, current account balance, telephone lines, and time to export were considered as

the explanatory variables. Their findings indicate that a country's market size as measured by GDP per capita growth, current account balance, financial deepening (money and quasi-money (M2), and trade openness all have a significant impact on FDI flows into the South Asian region. The coefficient of the INF variable, however, was positive but insignificant at any significant level. This demonstrates that inflation cannot adequately account for the variation in FDI inflows over time in the region. Most importantly, they discovered that trade and FDI had a bidirectional Granger causality for seven countries in the SAARC region.

Asiamah, Ofori, and Afful (2018) examined the determinants of FDI inflow in Ghana from 1990 to 2015 using a Johansen's cointegration test and a vector autoregressive model. The regression model used FDI stock as the dependent variable and inflation rate, interest rate, real effective exchange rate, real gross domestic product rate, electricity production, and telephone usage as the independent variables. The results indicated that while inflation, exchange rates, and interest rates all had a statistically significant negative effect on FDI in Ghana, gross domestic product, electricity production, and TU all had a positive effect on FDI in both the long and short run. Additionally, the Granger causality test revealed a bidirectional causal relationship between electricity production, telephone usage, and FDI. However, inflation, interest rates, currency exchange rates, GDP, and FDI all have a unidirectional causal relationship.

Duarte, Kedong, and Xuemei, (2017) carried out an investigation on the interconnectedness between FDI and economic growth, and financial development for the period 1987–201 in Cabo Verde. In their methodology,

they made use of both the bound test approach to cointegration (ARDL) and ECM-Granger causality analysis. When GDP and FDI are used as the dependent variables, the bound test indicated that there is a long-run relationship. Additionally, their findings indicated that FDI benefits Cabo Verde's economic growth. Additionally, it discovered a bidirectional causal relationship between FDI and economic growth, i.e., FDI causes GDP and GDP causes FDI. Thus, they concluded that increased FDI inflows result in increased economic growth and vice versa for Cabo Verde's economy. Additionally, they discovered that economic growth and domestic credit to the private sector both play a significant role in stimulating FDI into the country. These findings are critical for policymakers in Cabo Verde to take appropriate measures to enhance and improve the environment for FDI inflow. As similar finding is shared by (Qamruzzaman, Karim, &Wei, 2019).

Gökmenoğlu and Taspinar (2016) assessed the causality between Co2 emissions, energy consumption, economic growth and foreign direct investment in Turkey for the period 1974–2010. The bounds test reveals the long-run equilibrium relationship between CO2 emissions, energy consumption, economic growth, and FDI. According to the error correction model with autoregressive-distributed lag, CO2 emissions converge to their long-run equilibrium level at a 49.2 % annual rate of adjustment due to energy consumption, economic growth, and FDI. They also found that the Toda–Yamamoto (1995) causality test results imply bidirectional causal relationships between carbon emissions and FDI, energy consumption, and CO2 emissions. On the other hand, unidirectional causal relationships exist between economic growth and energy consumption and FDI, as well as between economic growth

and energy consumption. Their findings support the pollution haven hypothesis, as well as the scale effect and the EKC in the case of Turkey.

Gui-Diby and Renard (2015) explored the reverse causality between foreign direct investment and industrialisation for African countries. They make use of panel data from 49 countries spanning the years 1980–2009. They also employed the feasible generalised least square and the Dumitrescu–Hurlin causality test. The findings indicate that while FDI had a negligible effect on these countries' industrialization, other variables such as market size, the financial sector, and international trade were significant. This study concludes that the role of FDI in Africa's transformation agenda should be carefully examined in order to maximize the impact of these capital inflows. They also found an absence of reverse causality in either direction. This seem to suggest that there is the absence of bi-directional causality.

In the study of Lily, Kogid, Mulok, Thien Sang, and Asid (2014), using annual data on ASEAN economies, namely Malaysia, the Philippines, Thailand, and Singapore, they empirically examine the relationship between exchange rate movements and foreign direct investment (FDI). The empirical results indicated that for the case of Singapore, Malaysia, and the Philippines, there is significant long-run cointegration between exchange rate and FDI, with all countries recording negative coefficients, implying that the appreciation of the Singapore dollar, Malaysian ringgit, and Philippine peso has a positive impact on FDI inflows. Both Singapore and the Philippines show long-run bidirectional causality between exchange rate and FDI when using the ECM-based ARDL approach for causality testing, whereas Malaysia shows long-run unidirectional causality between exchange rate and FDI.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter describes the methods that the researcher used in order to carry out the study, as well as the research design that was used. There is also discussion of the sources of data collection, the variables that were used, the time series regression model, and the plan for data analysis.

Research Approach

Generally, there are three main approaches to research namely: quantitative, qualitative and mixed (Choy, 2014). Given the purpose and the focus of this study, a quantitative approach is employed. And so, Bhattacherjee (2012) defines quantitative approach as the conversion of observations into data that can then be analysed from a neutral and objective point of view, according to him. Yilmaz (2013) provides evidence to support this claim, stating that quantitative research explains concepts through the use of numerical data that has been examined using mathematically-based techniques, particularly statistics. Typically, a quantitative researcher will meticulously record and verify information, almost always in the form of numbers, and then transfer the information into a computer-readable format (Choy, 2014).

In quantitative study, correlations between given variables and outcomes can be established (Apuke, 2017). Apuke adds that information gathered through quantitative research should enable others to confirm original findings by conducting their own independent replications. In the view of Neuman (2006), quantitative research allows the researcher to look at cause and

effect, test hypotheses, make predictions, identify statistical relationships and to generalised findings that can be applied to other populations.

Research Paradigm

The type of research methodology that a researcher chooses is determined by the research philosophy to which he or she adheres, and this choice will determine the research objective(s), the research instruments that are developed and used, as well as the search for a solution to the problem that he or she is investigating (Khaldi, 2017). Myers and Avison (2002) opine that for defining valid research, the most suitable approach is to stick to a research paradigm. According to Khaldi, empiricism and rationalism have been the dominant research philosophies thus far. These can be traced back to the earlier debate between the empiricists and the rationalists, who were both inductivists. These two diametrically opposed views will explain how knowledge is acquired differently: either through inductive reasoning, as the empiricists believed, or through deductive reasoning, as the rationalists believed.

On another hand, Scotland (2012) as well as Bryman (2008) argue that the three most dominant paradigms in social science research are positivism, interpretivism and pragmatism. This study tows the line of Scotland and Bryman, and particularly adopts the positivism philosophy to research. Positivism is a philosophical school of thought in which a researcher examines an observable reality through the use of structured systems and procedures, as well as deductive reasoning. According to Comte (2017), positivism is a synthesis of rationalism and empiricism. He went on to say that theory and observations are inextricably linked, and that theories are only authentic when proven through observation.

According to Apuke (2017) and Gelo, Braakmann, and Benetka (2008), positivism is the next best thing to a quantitative approach to research; it supposes that reality is distinguishable, measurable, and factual; the knower and the known are independent; variables and relationships can be identified and analysed; and it aims for generalization and causal explanations. The mathematical and statistical techniques that aim to reveal distinct and specific reality are central areas for the positivist (Burton-Jones & Lee, 2017; Kock, Avison, & Malaurent, 2017).

For these reason as provided in the discussions above, positivism becomes best fit philosophy for this study.

Research Design

A research design is the reasoning for the study that enables the researcher to draw general conclusions effectively. A research design is a blueprint or detailed plan outlining the manner in which a study will be conducted (Oppenheim, 1992; Malhotra & Birks, 2007; Ofosu-Asare, 2011). As a result, a research design specifies which individuals will be studied and when, where and when (McMillian & Schumacher, 2001). Apuke (2017) submits that there are several research designs and alternatives namely: survey, correlational, experimental, and causal-comparative or ex post facto. This current study chose the correlational research design, specifically, explanatory research design. According to Apuke (2017), correlational research design is a quantitative methodology for determining whether and to what extent two or more variables in a population have a relationship (or a sample). “When researchers want to investigate the extents to which two or more variables co-vary, or where

changes in one variable are reflected in changes in the other, they use explanatory design" (Creswell, 2008, p. 358).

Data Collection Procedure

The study aimed at exploring the causal relationships between macroeconomic variables and foreign direct investment in Ghana. The macroeconomic variables used as the explanatory variables in the study include: trade openness, financial development, human capital, inflation, interest rate, and exchange rate. Given the provisions above, secondary data primarily annual time series data was obtained for this study. The data were mainly obtained from World Development Indicator and International Financial Statistics. Data was sampled for the period 1990 to 2018. The period chosen was mainly due to data availability.

Measurement of Variables

The variables used in the study were carefully chosen from a critical review of empirical literature on the topic. The selected variables and how they have been commonly measured in literature, and as well as studies that have adopted the same measurement channels are presented in Table 1.

Table 1: Measurement of Variables

Variable	Measurement	Empirical support
Foreign Direct Investment (FDI)	Foreign direct investment, net inflows (% of GDP)	(Haudi & Cahyono, 2020; Huynh et al., 2020)

Trade Openness (TO)	Trade (export and import) as % of GDP)	(Ngo et al., 2020; Gunawardhana & Damayanthi, 2019)
Human Capital (HC)	Index of human capital per person, based on years of schooling and returns to education	(Barro & Lee, 2013; Psacharopoulos, 1994)
Financial Development (FD)	Domestic credit provided by financial sector (% of GDP)	(Shahbaz, Bhattacharya, & Mahalik, 2018; Duarteet al., 2017)
Inflation (INF)	Percentage change in the consumer price index (CPI)	(Sabir et al., 2019; Erdogan & Unver, 2015)
Exchange Rate (EXR)	National Currency Units per US Dollar	(Qamruzzaman et al, 2019; Lily et al, 2014)
Interest Rate (IR)	Lending interest rate adjusted for inflation as measured by the GDP deflator.	(Asiamah et al., 2018).

Source: Field survey, (2022)

Data Processing and Analysis

The annual time series obtained on the variables was process using the latest version of Eviews (Eviews version 11). To analyse the data, descriptive statistics such as mean, median, standard deviations, maximum, minimum,

skewness and kurtosis were used. Secondly, stationary test using Augmented Dickey-Fuller (ADF), and Philips-Perron (PP test were conducted as a diagnostic check on the data. To achieve the purpose of the study with respect to the specific research objectives, Pearson's Product-Moment correlations was employed to obtained a correlation matrix for research objective one, the Two-Stage Least Square (2SLS) was also used to assess the effect of the selected explanatory variables on FDI. Lastly, Granger-Causality test was also used to examine the bi-causal relationships among the selected explanatory variables and the outcome variable.

Stationarity Test

Phillips and Perron, (1988) contend that in both statistical theory and application, methods for detecting the presence of a unit root in parametric time series models have recently attracted a lot of attention. Economics and finance are two major fields where the hypothesis of a unit root has significant implications. As a result, scholars have asserted that when working with time series data, it is critical to identify the data's characteristics in order to ensure that the conditions for a valid data analysis are met. The unit root test is the first step in estimating time series data (Dickey & Fuller, 1979; Phillips, 1987).

According to Dickey (2015), an important aspect of forecasting is deciding whether to analyse a time series in levels or differences. In large samples, stationarity refers to a set of conditions that allow estimation of model parameters with standard properties, such as "t test" statistics with approximately normal distributions. Stated differently, the statistical properties of a system must not change over time for data to be stationary. This does not

imply that the values for each data point must be identical, but the data's overall behaviour should be consistent (Manuca & Savit, 1996).

As already mentioned, this study used the Augmented Dickey-Fuller test and the Phillips-Perron test to examine the unit root status of the data.

Augmented Dickey-Fuller (ADF) Test

The first times series unit root testing was done by Dickey and Fuller in 1979. The basic goal of the Dickey-Fuller (DF) test is "to test the null hypothesis" that C=1 in $y_t = Cy_{t-1} + \varepsilon_t$ against the one-sided option of $\theta < 1$ (Adam & Owusu-Junior, 2017).

The hypotheses of interest are;

H_O: The series is not stationary.

H_1: The series is stationary.

According to Brooks (2002), a series has a unit root if C = 1. Thus, the regression model can be stated as;

$$\Delta y_t = (C - 1)y_{t-1} + \varepsilon_t \quad \text{Eqn (1)}$$

Where Δ is "the first difference operator. This model can be estimated and tested for a unit root is equivalent to testing μ=0 (since $C - 1 = \mu$)."

Therefore;

$$\Delta y_t = \mu y_{t-1} + \varepsilon_t \quad \text{Eqn (2)}$$

One major drawback of the DF test is that; it has an assumption that the error term has no serial correlation in the error term. That is the error term is white noise. Because of this limitation, "the Augmented Dickey-Fuller (ADF) test was developed as a modification of the DF test" and it involved "augmenting the DF equation by lagged values of the dependent variables." It was made to ensure that the term is "free from serial" correlation.

The ADF equation may be expressed as:

$$\Delta y_t = B_1 + B_2 t + B_3 y_{t-1} + \sum_{i=1}^{m} a_i \Delta y_{t-i} + \varepsilon_t \quad \text{Eqn (3)}$$

Where y_t represents the times series variables, t is the time or trend variable, B_1 and B_2 are the estimated parameter, Δ is "the first difference operator, a_i denotes the various estimated parameters of the differenced values of the lagged variables and ε_t is the white noise error term."

The ADF test tests "the null hypothesis that a series contains unit roots against the alternative hypothesis of no unit root."

That is;

H_O: The series is not stationary.

H_1: The series is stationary.

The series is stationary if the null hypothesis is rejected. If the null hypothesis is not rejected, then the series is not stationary and as such has a unit root.

Phillips and Perron (PP) Test

Phillips and Perron in 1988, developed the Phillips-Perron unit root test. According to Adam and Owusu-Junior (2017), the main difference between the PP unit root test and the ADF unit root test is how the PP unit root test handles "the serial correlation and heteroscedasticity" in the error term.

According to Adam and Owusu-Junior, the Phillips-Perron test can be expressed as;

$$\Delta y_t = B_1 + B_2 t + B_3 y_{t-1} + \pi y_{t-1} + \varepsilon_t \quad \text{Eqn (4)}$$

Where ε_t is I (0).

The PP test rectifies heteroscedasticity and serial correlation found in the "errors of the test regression by explicitly changing the t-test statistics as a function of π (Adam and Owusu-Junior, 2017)."

The hypothesis for the PP test is;

H_0: The series has a unit root.

H_1: The series does not have a unit root

Pearson's Correlation

The Pearson product-moment correlation coefficient (also known as Pearson's correlation) is an indicator of the strength and direction of association between two variables observed on an interval scale (Cohen, 1988). According to Schober, Boer, and Schwarte (2018), in its broadest sense, correlation is a measure of the relationship between variables. A change in the amplitude of one variable is combined with a change in the amplitude of another variable in either the same direction (positive correlation) or the opposite direction (negative correlation) in correlated data (negative correlation). In most cases, the term correlation refers to a linear relationship between two continuous variables, which is expressed as a Pearson product correlation.

For data that is normally distributed, Pearson' correlation coefficient is commonly used (the data follows a two-variable normal distribution). Akoglu (2018) states that "the relationship (or the correlation) between the two variables is denoted by the letter r and quantified with a number, which varies between −1 and +1." He asserts further that "Zero means there is no correlation, where 1 means a complete or perfect correlation. The sign of the r shows the direction of the correlation. A negative r means that the variables are inversely related. The strength of the correlation increases both from 0 to +1, and 0 to−1."

The Pearson's correlation coefficient is defined as:

$$r = \frac{\Sigma(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\Sigma(x_i - \bar{x})^2 \, (y_i - \bar{y})^2}}$$

Where;

r = correlation coefficient

x_i = values of the x-variable in a sample

$\bar{x}$ = mean of the values of the x-variable

y_i = values of the y-variable in a sample

$\bar{y}$ = mean of the values of the y-variable

The interpretations for the correlation figures are presented in Table 2

Table 2: Interpretation for Pearson's Correlation Coefficients

Correlation value	Meaning
-1 < r < 0	Opposite relationship between two variables
0 < r < 1	Identical relationship between two variables
0.0 < r < 0.2	Weak relationship between two variables
0.2 < r < 0.4	Moderate relationship between two variables
0.4 < 0 < 0.84	Stable relationship between two variables
0.84 < r	High relationship between two variables

Source: Li, Chang, and Chang (2010)

Two-Stage Least Square

According to Eviews Community (2020), "Two-stage least squares (TSLS) is a special case of instrumental variables regression. As the name implies, there are two separate stages in two-stage least squares. In the first stage, TSLS locates the percentages of the endogenous and exogenous variables that can be credited to the instruments." This stage involves estimating an OLS regression of each variable in the model on the set of instruments. The second stage is a regression of the original equation, with all of the variables replaced by the fitted values from the first-stage regressions. The coefficients of this

regression are the TSLS estimates. Angrist and Imbens (1995) argue that TSLS technique is frequently used to address the problem of "simultaneous equations bias."

More broadly, TSLS is a powerful and flexible estimation strategy that can be used to address the problem of omitted-variables bias in a variety of single-equation regression applications, including models with mismeasured regressors (Durbin, 1954) and the estimation of treatment effects in manpower training programs (Heckman & Hotz 1989; Heckman & Robb 1985). Freedman (1984) submits that the statistical technique of two-stage least squares (2SLS) regression analysis is used in the analysis of structural equations. The OLS method has been extended with this technique. When the error terms of the dependent variable are correlated with the independent variables, the 2SLS method is used, and it is beneficial when the model contains feedback loops (Bollen, 1996).

Therefore, to apply Two-Stage Least Squares (TSLS) in a regression analysis, Biewen and Kugler (2021) contend that the following assumptions must be met:

1. The dependent and the independent variables must be quantitative.
2. For each value of the independent variable, the distribution of the dependent variable must be normal.
3. The variance of the distribution of the dependent variable should be constant for all values of the independent variable.
4. The relationship between the dependent variable and each independent variable should be linear

Generally, the Two-Stage Least Squares (TSLS) is also referred to as an instrumental variable estimator (Zubair & Adenomon, 2021). This technique addressed research objective two as stated in the chapter one of this study.

Granger Causality

To augment the depth of the analyses of the relationship between the selected independent variables (institutional quality, infrastructural development, and human capital) and the selected dependent variable (foreign direct investment), Granger causality was employed to assess the bi-directional relationship between the independent variables and the dependent variables. Granger (1969) proposed a Granger causality test as a statistical hypothesis test to decide whether one-time series is significant in predicting another. The relationship is defined over two concepts: the cause occurs before its effect, and the cause has unique data about its effect's potential values. Research objective three (3) warrants the use of Granger causality and thus the multi-variate Granger causality analysis is performed by fitting a VAR model with L time lags as follows:

$$X(t) = \sum_{\tau=1}^{L} A_\tau X_j(t-\tau) + \varepsilon_t \qquad (6)$$

Where $\varepsilon(t)$ represents a white Gaussian random vector, and A_τ symbolises a matrix for every τ. To assess bi-causal relationship using Granger causality approach, a time-series Xι is referred to as a Granger cause of another time series Xj, if, in absolute terms, at least one of the elements $A_\tau(j,i)$ for $\tau = 1, \ldots,$ L is substantially greater than zero. This technique addressed research objective three (3) as mentioned in the chapter one of this study.

Model Specification

The model for the model generally flows from the ordinary least square approach. The dependent variable for the study is foreign direct investment. To estimates that factors that determine FDI in Ghana, the following baseline model is designed:

$$FDI_t = B_0 + B_1 TO_t + B_2 FD_t + B_3 HC_t + B_4 INF_t + B_5 EXR_t + B_6 IR_t + U_t \qquad Eqn\ (7)$$

In the model (Eqn 7), *FDI* represents Foreign Direct investment, *TO* denotes Trade Openness, *FD* represent Financial Development, *HC* represents Human Capital, *INF* represents Inflation, *EXR* represents Exchange Rate, *IR* represents Interest Rate and *U* represents the error term.

Chapter Summary

This chapter was dedicated to outlining the research methods and approach that the researcher followed in gathering data, processing data and subsequently analysing the data. Also, the chapter outlined the analytical techniques that were employed in addressing the three research objectives: objective one was analysed with correlation, objective two was analysed with research two-stage-least square, and Granger causality was proposed to be used analyse objective three.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter considered the results that emerged from the study. Given annual time series data from 1990 to 2018, the results obtained using Eviews 11 are presented and discussed in this chapter. Firstly, descriptive statistics on the raw data are presented and this is followed by the preliminary analysis which captures the ADF and PP tests on unit root. Subsequently, based on the research objectives, the empirical analyses are presented and the chapter concludes with a summary.

Descriptive Statistics

This section offers insight into the state of the macroeconomic variables used in the study. The descriptive statistics presented covers the mean, standard deviation, skewness and kurtosis, maximum and minimum, Jarque-Bera and the number of observations. The mean provides the average observed values of each variable and the skewness, kurtosis and the Jarque-bera measures the normal distribution of the data. Standard deviation also measures the degree of variability of dispersion.

Table 3: Descriptive Statistics for all Variables

Statistics	FDI	TO	FD	HC	INF	EXR	IR
Mean	3.920	75.528	11.113	2.1763	19.633	1.2584	24.301
Median	3.157	72.205	12.387	2.1674	15.489	0.8995	21.580
Maximum	9.466	116.05	15.827	2.4957	59.462	4.5900	42.770

Minimum	0.251	42.488	3.6573	1.8741	7.1264	0.0330	10.140
Std. Dev.	2.861	18.891	3.9633	0.1695	12.058	1.3618	9.5424
Skewness	0.469	0.2359	-0.6653	0.1103	1.6991	1.2852	0.5058
Kurtosis	1.935	2.5397	1.9593	2.2208	5.7359	3.4968	2.1493
Jarque-Bera	2.435	0.5251	3.4478	0.7924	22.999	8.2818	2.1112
Probability	0.296	0.7691	0.1784	0.6729	0.0000	0.0159	0.3479
Observations	29	29	29	29	29	29	29

Source: Field survey, (2022)

With reference to Table 3, all variables were observed to be normally distributed given the highest skewness value of 1.6991 and the lowest value as -0.6653; and kurtosis value for the variables having the highest value (5.000) and lowest value (1.9350). According to Bryne (2019) as well as George and Mallery (2019), a data is described as normal if skewness is between -2 to +2 and kurtosis is between -5 and +5. To support the argument, the P-values of Jarque-bera statistic for almost all the variables were 0.05 ($p > 0.05$) depicting that null hypothesis of normal distribution cannot be rejected.

Again, given the sampled period (1990-2018), it was observed that FDI recorded an average of 3.92% (net inflow as % of GDP). In the same period, the highest and lowest FDIs as percentages of GDP were 9.466% and 0.2513% respectively. These were particularly observed in the years 2008 and 1990 respectively. Trade openness (TO) also recorded the mean of 75.258. this demonstrate that on the average the export and import as a percentage of GDP

was 75.28%. A maximum value of 116.05 and minimum value of 42.488 were recorded for the years 2000 and 1991 respectively.

From Table 3, it can also be observed that the average value record for financial development (FD) was 11.113 indicating that the average credits provided by the financial sector constitute 11.11% of GDP. For human capital (HC), an average of 2.1763 signifies that Ghana recorded an improvement in the return to education by 2.18%. With a mean of 19.63, inflation for the year recorded an average of 19.63% meaning that for the sampled period considered, annual changes in prices increased by 19.63%. Exchange rate had a mean of 1.2584 demonstrating the for the years considered for the study, the GHS/USD rate was 1.2584. Finally, interest rate also recorded an average of 24.301 suggesting that for the period considered the lending rate was 24.3%.

Preliminary Analysis

This section outlines the various diagnostics test conducted to ensure that the model is fit and the results are robust for analysis.

Unit Root Test

The unit root test is a requirement for analysing time-series data to determine and explore other intrinsic features of the data. Therefore, in this study, the stationarity status of the GHS/USD "exchange rate" was examined by employing the Augmented Dickey-Fuller (ADF) unit root test, and the Phillips-Perron (PP) unit root test The lag lengths were selected according to the Akaike information criterion (AIC).

Table 4: Unit root test results

Variable	ADF	PP

	level	1st difference	level	1st difference
FDI	0.4394	0.0028	0.3999	0.0033
TO	0.1736	0.0002	0.1736	0.0002
HC	0.6760	0.0005	0.6608	0.0005
FD	0.4066	0.0000	0.4292	0.0000
INF	0.0492	0.0057	0.0549	0.0001
EXR	0.9952	0.0005	0.0748	0.0000
IR	0.3633	0.0000	0.3891	0.0000

Note: ADF = Augmented Dickey Fuller, PP = Philips-Perron, prob is significance at 5% sig level.

Source: Field survey, (2022)

Results in Table 4 presents analysis on the test of stationary or presence of unit root in the time series data. The two tests used in this analysis all test the null hypothesis: "data is non- stationary or series has unit root". Against the stated null hypothesis, we fail to reject the assumption of non-stationary at level for all variables for both the ADF and PP since all p-value were above 0.05. However, at 1st difference, all variable were stationary since all the observed p-values were below 0.05. hence, the study rejects the assumption of unit root at difference and submit that the series are stationary at integrated order *I* (1).

Multicollinearity Test

To enhance the robustness of a regression estimates, there is the need to meet the assumption of no multicollinearity. According to Alin (2019), multicollinearity problem occurs whenever there is a high correlation between and among the independent variables of a study. Multicollinearity is a problem because it undermines the statistical significance of the independent variables,

two predictors may offer similar information about the response variable, resulting in unreliable predictor coefficients (especially for linear models), a predictor's estimate on the response variable will typically be less precise and reliable, a significant predictor can lose significance if it has a collinear relationship with other predictors and in more particular cases, the independent variables tend to have large standard errors (Zubair & Adenomon, 2021). Table 5 presents result for multicollinearity among the independent variables.

Table 5: Correlations among independent variables

	D(TO)	D(HC)	D(FD)	D(INF)	D(EXR)	D(IR)
D(TO)	1					
D(HC)	0.1004	1				
D(FD)	0.5617	-0.1813	1			
D(INF)	0.0463	0.1809	-0.0273	1		
D(EXR)	0.1911	0.3577	0.0268	0.1516	1	
D(IR)	0.3708	0.2505	0.0161	0.4842	0.1179	1

Source: Field survey, (2022)

The results presented in Table 5 provides the Pearson ordinary correlation coefficient among the independent variables. As a diagnostic check for the independent variables, multicollinearity among the predictor variables were examined in a pairwise correlation approach. The highest correlation was recorded between trade openness (TO) and financial development (FD) (r = 0.5617), and this is below the commonly used threshold of Pearson's correlation coefficient (r = 0.7) (Prunier et al., 2018; Dormann et al., 2017). The result suggests absence of multicollinearity among independent variables.

Empirical Analyses

This section of the chapter presents the results that emerged from the study on basis of the study objectives. Firstly, the relationship between the selected independent variables and foreign direct investment is provided. Next, the effect of these selected independent variables on foreign direct investment is presented. Finally, the bi-causal relationship is also presented.

The relationship between selected macroeconomic variables and foreign direct investment

To assess the relationship between selected macroeconomic variables and foreign direct investment in Ghana, Pearson Correlation was adopted. Table 6 present the result of the correlation coefficient.

Table 6: Relationship between selected independent variables and FDI

IV	Correlation	t-Statistic	Probability
TO	0.0320	0.1666	0.8690
HC	0.6922	4.9831	0.0000
FD	0.6849	4.8839	0.0000
INF	-0.4214	-2.4146	0.0228
EXR	0.5418	3.3498	0.0024
IR	-0.4754	2.8079	0.0092

*Note: T-statistics of above 2.0 means correlation is significant, Probability = Significance level (decision is made at $p < 0.05$). ** = significance at $p < 0.01$, * = significance at $p < 0.05$. IV = Independent Variable, n = 29*

Source: Field survey, (2022)

Research Objective one was to examine the relationship between selected independent variables and foreign direct investment in Ghana. Using Pearson product moment correlation, the result obtained are presented in Table 6. It can be observed in Table 6 that Trade Openness (TO) even though having a positive correlation value is not significantly related to foreign direct investment in Ghana ($r = 0.0320$, $p = 0.8690$). Because the correlation coefficient is not statistically and significantly different from zero, there is considerable evidence to suggest that trade openness and foreign direct investment do not have a significant linear relationship.

From Table 6, it is also evident that human capital has a statistically significant positive relationship with foreign direct investment in Ghana [$r = 0.6922$, $p < 0.01$]. In line with Li et al., (2017) and Cohen (2019), it can be said that the strength of the positive relationship obtained is stable and moderate. To some extent, this result suggests that when human capital improves or increases, flow of foreign direct investment into Ghana also increases. This in line with Kumari and Sharma (2017).

The study also sought to investigate the relationship and the strength of same between financial development of Ghana and foreign direct investment of Ghana [$r = 0.6849$, $p < 0.01$]. From the results submitted in Table 6, it is evident that there is a statistically significant and positive relationship between Ghana's financial development level and the inflow of foreign direct investment. In accordance with Li et al., (2017) and Cohen (2019), the relationship between financial development and foreign direct investment in Ghana can be classified as stable and moderate. This gives an indication that an increase in financial development results in an increase foreign direct investment in Ghana.

The relationship between inflation and foreign direct investment was also examined. The outcome for this investigated as presented in Table 6 suggests that there is a statistically significant negative correlation between inflation levels in Ghana and foreign direct investment [$r = -0.4214$, $p < 0.05$]. Commensurate with Li et al., (2017) and Cohen (2019), the relationship between inflation levels in Ghana and foreign direct investment is appraised as stable and weak. The results point out the indication that a hype or increase in Ghana's inflation decreases the inflow of foreign direct investment into the economy.

The study also assessed the association between exchange rate (GHS/USD) and foreign direct investment in Ghana. From Table 6, the result presented indicate that exchange rate has statistically significant and positive relationship with foreign direct investment in Ghana [$r = 0.5418$, $p < 0.01$]. The outcome of the study proposes that an increase in the exchange rate position (appreciation of the cedi) will serve as a motivation for foreign direct investment. Similarly, a decrease in the value of the cedi will decrease the flow of foreign direct investment in Ghana. In agreement with the assertions of Li et al., (2017) and Cohen (2019) on the meaning of correlation value, the relationship between exchange rate and foreign direct investment in Ghana can be described as stable and moderate.

Finally, the study determined the relationship between interest rate and foreign direct investment in Ghana. From Table 6, the result presented indicate that interest rate has statistically significant and negative relationship with foreign direct investment in Ghana [$r = -0.4754$, $p < 0.01$]. The outcome of the study proposes that an increase in the interest rate levels will decrease foreign

direct investment. Similarly, a decrease in the levels of interest rate will increase the flow of foreign direct investment in Ghana. In agreement with the assertions of Li et al., (2017) and Cohen (2019) on the meaning of a correlation value, the relationship between interest rate and foreign direct investment in Ghana can be described as stable and weak.

The effect of the selected macroeconomic variables on foreign direct investment

For research objective two, the study sought to analyse the effect of the macroeconomic variables on the flow of foreign direct investment in Ghana. A Two-Stage Least Square approach was used to avoid problems of endogeneity and omitted variables. Table 7 presents the result obtained.

Table 7: Regression Estimates for FDI

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TO	-0.0117	0.0114	-1.0263	0.4125
HC	0.1381**	0.0419	3.2959	0.0023
FD	0.3751**	0.0150	25.0067	0.0070
INF	-0.0175*	0.0067	-2.9167	0.0173
EXR	0.0141*	0.0045	3.1334	0.0138
IR	-0.0434	0.2515	-0.1726	0.8646
C	-4.5484	63.1586	-0.0720	0.9433
R-squared	*0.403693*	*Durbin-Watson stat*		*1.604729*
Adjusted R-squared	*0.233320*	*Instrument rank*		*8*
S.E. of regression	*2.471895*	*Second-Stage SSR*		*29.78119*
F-statistic	*5.057134*	*J-statistic*		*1.570031*

Prob(F-statistic)	*0.002371*	*Prob(J-statistic)*	*0.210203*

** = Significant at p < 0.05, ** = significant at p < 0.01*

Source: Field survey, (2022)

Results presented in Table 7 provide the empirical effect that the selected variables have FDI inflows in Ghana. It can be observed from Table 7 that financial development, human capital development, and exchange have a statistically significant positive effect on FDI inflows to Ghana. For financial development, the coefficient of 0.3751 depicts that an increase in financial development by 1 percent will lead to 0.3751 percent. A well-developed financial system and sector of an economy engenders active economic activity that makes FDI attractive to it. The result indicate that a strong financial system can assist in converting savings into investments, optimizing resource allocation regardless of space and time, and spreading risk for investors. Similar proposition is made by Gürler and Kara (2020) that for foreign investors, a stable financial sector is critical, and this is an area of concern in emerging regions.

Similarly, an increase in human capital by 1 percent increase FDI by 0.1381 percent. This suggests that an investment in human capital results in higher returns on developing skilled and advanced trainers, employers and employee for advancing economic growth. This finding agrees with the study of Kumari and Sharma (2017). A similar assertion is made by Sharma and Baby (2019); they assert that an improved primary and secondary education in a country is a major driver of its FDI inflows. It can further be argued that a high level of technical skills is linked to a high level of educational attainment, which boosts workforce productivity.

Inflation also showed a statistically significant negative effect on foreign direct investment. From Table 7, when inflation increases 1 percent, FDI decreases by 0.0175 percent. The results indicate that higher general price levels serve as disincentives to individuals and corporation when they attempt to engage in foreign direct investments and its related activities. Kalirajan and Singh (2017) submit the same findings in their study when they mentioned that higher inflation rates reduce FDI inflows in developing economies. Majeed, Jiang, Ahmad, Khan, and Olah (2021) also share similar findings. From the result obtained, it could be said that lower inflation rate represents economic price stability and signals a robust economy which eventually attracts FDIs.

From Table 7, it was found that exchange rate had a significant positive effect on FDI inflow in Ghana. Specifically, it was observed that a 1 percent increase in exchange rate leads to 0.0141 increase in FDI inflows. The result indicates that when the value of the currency of Ghana (Cedi) measured against other currencies increases (appreciates), the currency becomes robust and strong on the international market. This makes trading with the local currency favourable therefore attracting FDI into Ghana. Depreciation of the exchange rate encourages FDI by reducing the price of domestic assets to overseas investors. A change in the exchange rate can make it convenient for foreign investors to use internal funding, bringing down the relative cost of investing, by expanding their relative wealth.

Trade openness and interest both demonstrated a negative but insignificant effect on FDI inflows. This seems to suggest that in Ghana, lending and borrowing rates determined in the financial market are unable to influence

the potential investment from overseas investors. The outcome of this findings has relevant implications for policy makers, managers and investors.

Bi-causality between FDI and selected macroeconomic variables

To examine the presence or otherwise of the bi-directional relationship between FDI and selected macroeconomic variables, Granger Causality test was adopted and the result obtained are presented in Table 8.

Table 8: Bi-directional Relationship between FDI and Selected Variables

Hypothesis	F-statistics	Prob
TO does not granger-cause FDI	2.3638	0.3067
FDI does not granger-cause TO	0.2321	0.8904
HC does not granger-cause FDI	5.0419**	0.0004
FDI does not granger-cause HC	6.1887*	0.0453
FD does not granger-cause FDI	13.5310**	0.0012
FDI does not granger-cause FD	24.4638**	0.0000
INF does not granger-cause FDI	2.9843	0.2249
FDI does not granger-cause INF	3.6780	0.1590
EXR does not granger-cause FDI	10.0034**	0.0025
FDI does not granger-cause EXR	2.7123	0.2576
IR does not granger-cause FDI	0.3601	0.8352
FDI does not granger-cause IR	0.4243	0.8088

** = Significant at $p < 0.05$, ** = significant at $p < 0.01$*

Source: Field survey, (2022)

The empirical results presented in Table 8 sought examine whether there is a two-way relationship, uni-directional causality or no causality between FDI and the selected variables in the short-run. The result obtained suggest that there

no causality in either direction between trade openness and FDI inflows in Ghana. The result contradicts the views of Majeed et al., (2021). HC and FDI also had a bi-directional relationship between themselves. This suggest that changes in human capital potentially cause changes in FDI, and in a similar way, changes in foreign direct investment cause changes in human capital.

On FD and FDI, the result suggested that there is a two-way causality between FDI and FD. This indicates that changes in foreign direct investment could alter financial development of Ghana and movements in financial development could also cause a change in foreign direct investment. The result is consistent with Saidi (2018). FDI influence FD through its absorptive capacity; it acts as an intermediate in financial systems (Yeboua, 2019). FDI attracts cash to a host country while also bringing sophisticated technology and management experience, boosting technological advancement and economic prosperity. On the other hand, a well-developed financial sector is required for FDI to have a favourable impact; as FDI inflows increase, financial activities expand and more funds become accessible.

Table 8 shows that, there is unidirectional relationship between EXR and FDI. More specifically, the direction of the relationship, according to the result, moves from exchange rate to FDI. This suggests that, movements in Ghana GHS/USD rates have a significant causal effect on the its FDI inflows. INF and FDI had no causality between them. The result indicates that the general prices levels do not cause the movement of FDI inflows in Ghana. Likewise, FDI inflows do no cause movement in inflation in Ghana. Equally, IR demonstrated no directional relationship with FDI in either way. This suggest

that there neither bi-directional relationship nor uni-directional causal link between interest rate in Ghana and FDI inflow into Ghana.

Chapter Summary

Chapter four focused on data analysis through the proposed methodological approaches in the previous chapter and discussion of the result that were obtained. It was revealed that trade openness had no interconnection with FDI inflows in Ghana. However, a positive relational effect was found between human capital development and FDI; between financial development and FDI, and between exchange rate and FDI. Interest rate, though statistically and significantly related to FDI, did not have a significant effect on FDI. The chapter also looked at the bi-causal linkages among the variables. It was found that human capital and financial development have a bidirectional relationship with FDI, and exchange rate had unidirectional causal effect on FDI.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter provides the summary, conclusions and recommendations of the study. Guided by the research objectives and the research questions, results obtained were analysed and discussed. Inferences drawn from the empirical findings with relevant supporting pieces of literature are made.

Summary of the Study

The study was examined the determinants of foreign direct investment inflows in Ghana. To achieve this overall objective, three specific objectives were formulated, the first objective was to assess the relationship between selected macroeconomic variables and foreign direct investment. The second objective also examined the effect of the selected macroeconomic variables on foreign direct investment. The last objective was to determine the bi-causal relationship between selected macroeconomic variables and foreign direct investment.

In addressing the above objectives, the research reviewed relevant theoretical and empirical literature to the research. The theoretical literature reviewed in the study included the Ownership-Location-Internationalisation (OLI) Paradigm and the Neoclassical Growth Theory. A number of macroeconomic variables were used to determine the extent to which they have a relationship with and affect the movements of foreign direct investment.

The research approved the quantitative research method. Pearson's Product-Moment correlations was employed to obtain a correlation matrix for objective one. Two-Stage Least Square (2SLS) was used to assess the effect of

the selected explanatory variables on FDI and lastly, Granger-Causality was used to examine the bi-causal relationships among the selected explanatory variables and the outcome variable. The data used for the study were mainly obtained from World Development Indicator and International Financial Statistics. The data was sampled for the period of 1990 to 2018. This period was chosen mainly because of the availability of the data.

Key Findings of the Study

Based on the empirical analysis and discussions, the following are provided as the summary of key findings:

Regarding research objective one, which employed a pairwise Pearson's correlation as the analytical technique, it was observed that human capital development has stable and moderate interconnection with foreign direct investment inflows in Ghana. This suggests that an increase in efficient and working human capital of Ghana will potentially increase its foreign direct investment inflows. The reverse true, that is a decrease in the human capital development of Ghana potentially decreases the foreign direct investments inflows. Similarly, it was revealed that increase financial development has positive relationship with foreign direct investment. This suggests that as the financial development of a nation increases to a desired level, inflows of foreign direct investment also increase.

On the other hand, inflation rate had a significant negative weak relationship with foreign direct investment suggesting that an increase in the inflation rate decreases foreign direct investment inflow into Ghana. Likewise, interest rate revealed a significant negative weak relationship with foreign direct investment. This also indicates that increases in interest rates potentially

decreases foreign direct investment inflows. The empirical findings also revealed that trade openness has no significant relationship with foreign direct investment whereas exchange rate has a significant positive relationship with foreign direct investment.

For research objective two, the study found that financial development, human capital development and favourable exchange rate have statistically significant positive effect on foreign direct investment inflows in Ghana whereas higher inflation rate decreases inflow of foreign direct investment in Ghana. interest rate and trade openness however had a negative effect on FDI but the effect was insignificant.

For research objective three, it was found that trade openness, inflation rate, and interest rate had no directional causal effect on the FDI inflows in Ghana in the short run. The study however found that exchange rate has a short run causal effect on FDI in a unidirectional approach. Also, human capital development and financial development exhibited a two-way directional causality with FDI.

Conclusions

Based on the empirical findings that emerged from the study, the study concludes the following:

For research objective one and two, it can be concluded that human capital development is a significant determinant of foreign direct investment in Ghana. To a great extent, investing in human capital would win more FDIs for Ghana.

Similarly, progressive and sustained financial development has the potential to attract more foreign direct investment into Ghana. On inflation, the

study concludes that continuous and persistent increase in the price levels unfavourably affects the general economic wellbeing and makes an economy unappealing for both domestic and foreign investment. Trade openness however has not significant relationship with or effect on FDIs in Ghana.

For objective three, it can be concluded that there is a short run bi-directional relationship between FDI and HC, between FDI and FD whereas a unidirectional short-run relationship emerged from EXR to FDI. In the short run however, the study concludes that TO, INF and IR have no causal links with FDI inflow in Ghana. On this premise, the study further concludes that to achieve economic growth through FDI inflows, the financial sector must adequately and meaningfully play its role of financial intermediation to make the grounds of investment attractive to investors. Similarly, school enrolment and human capital development must be on the checklist of government business to constantly make effort in developing its citizens' capacity through market-driven and society-focused education. In the light this, influx of FDI adjust to the economy's development agenda by equally influencing HC and FD.

Recommendations

The study makes the following recommendation which emerges from the findings of the study:

In line with the research objectives, it is recommended that the Ghana Investment Promotion Centre (GIPC) should make meaningful efforts to liaise with various stakeholders to institute economic policies that focus on making Ghana an attractive hub for foreign investment. In doing so, GIPC should consolidate financial sectors development arising from the actions of the sector

players such as the Bank of Ghana, the Ministry of Finance, and the Security and Exchange Commission.

Since human capital development promotes foreign direct investment, effort should be made at encouraging school enrolment and skill training that enhances the country's labour force and general knowledge level of the population. As more and more of the people are educated, the returns to education seem promising and the economy becomes a breeding ground for foreign investment. Additionally, as FDI goes to different sectors of the investment landscape of Ghana's economy, the GIPC should engage appropriate stakeholder to ensure adequate supply of human capital that is necessary for the development of the sector which will sustain and gain onward FDI inflows.

Also, policy makers in charge of price stability and exchange rate management; the Central Bank and the Ministry of Finance must work assiduously to maintain stable prices levels and favourable exchange rate regime for the currency so as to consolidate the gains that follows economic stability in the case of FDI inflows.

Suggestion for Further Research

Based on the findings, the scope and limitations of the study, it is suggested that further and future research should include more or other macroeconomic variables such as infrastructure development, market size, research and development, and natural resource availability, and determine how these variables affect FDI inflows. Further studies should also consider a panel approach to identifying determinants of FDI with comparative analysis among developing and developed economies.

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