

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
KUMASI, GHANA**

**THE EFFECT OF EXCHANGE RATE ON HUMAN DEVELOPMENT:
THE CASE OF GHANA**

By

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College of Humanities and Social Sciences
in partial fulfilment of the requirements for the degree of
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DECLARATION

I hereby declare that this submission is my own work towards the award of the Master of Business Administration (MBA). In Finance and that, to the best of my knowledge, it contains no material previously by another person or any material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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Prof. K. O Appiah

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Date

DEDICATION

With much gratitude to the Almighty God, this work is dedicated to my Beloved Family, Mad. Elizabeth Kwartemaa, Hannah Kwartemaa, Beatrice Owusu, Richard Adjei, Friends and all loved ones who supported and catered for me in diverse ways.

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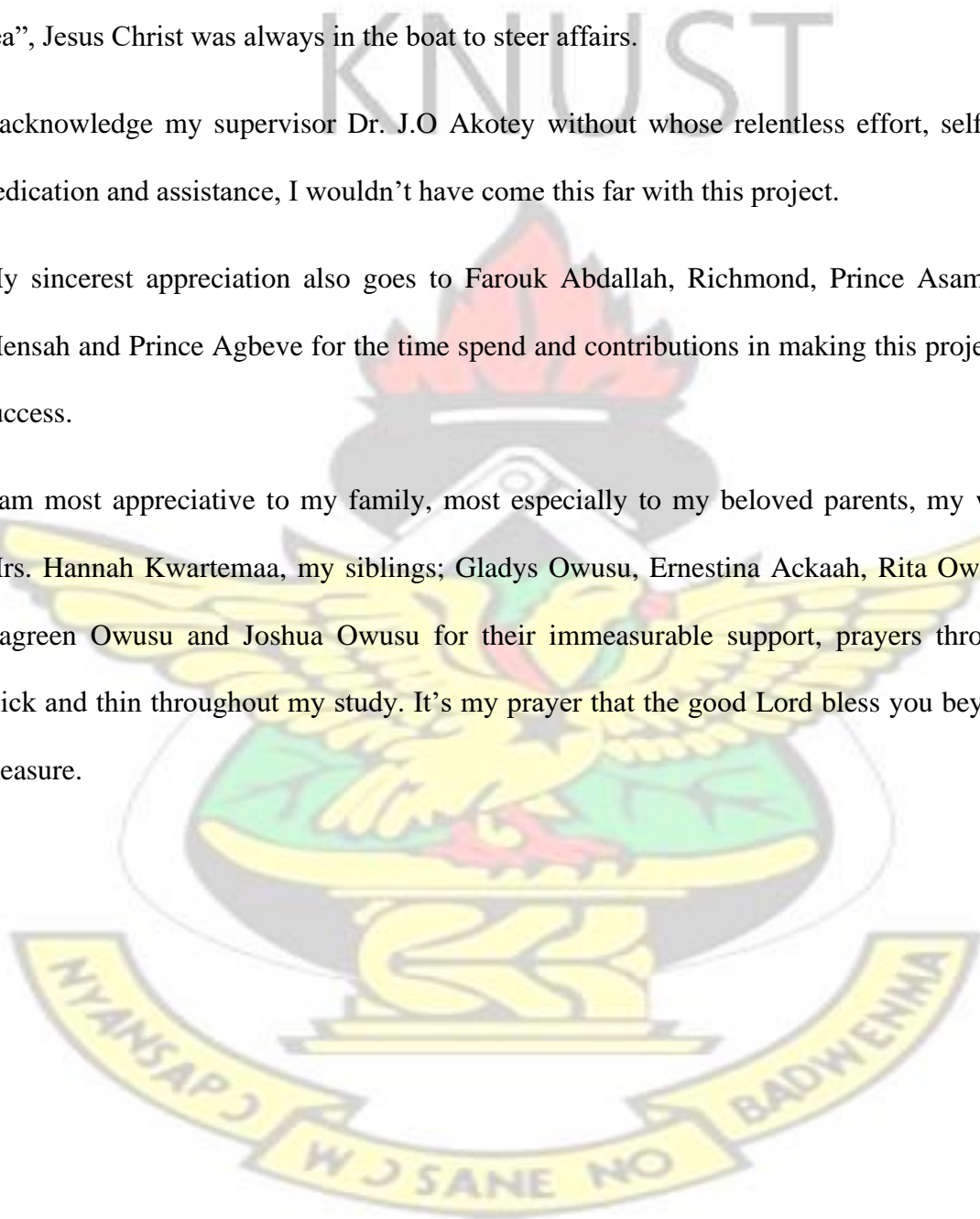
ACKNOWLEDGEMENT

Unless the Lord builds a house, those who build labored in vain. Unless the Lord watches over the city the watchman watches in vain. I am grateful to the Almighty God for his grace and mercy throughout this MBA. journey. Although it was not a “smooth sea”, Jesus Christ was always in the boat to steer affairs.

I acknowledge my supervisor Dr. J.O Akotey without whose relentless effort, selfless dedication and assistance, I wouldn't have come this far with this project.

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ABSTRACT

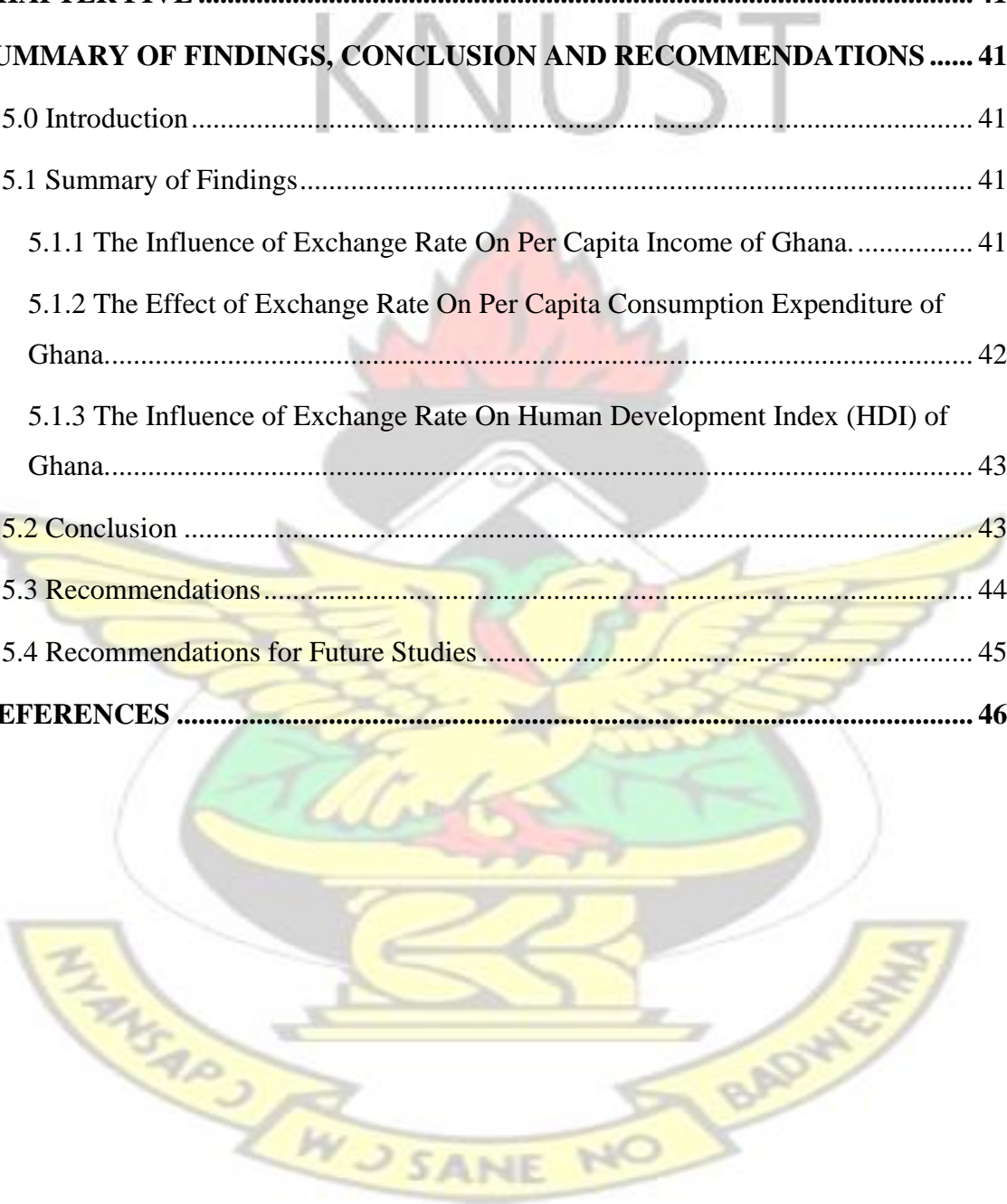
The overall objective of the study is to examine the interaction relationship between exchange rate, foreign direct investment and economic growth. To achieve the objective of the study, the quantitative research design was adopted in addition to the explanatory research method. The study used a sample of 2 African countries across a period of 22 years from 2000 to 2021. The study further used the random effect regression analysis to estimate the relationship between the variables in the study. From the analysis and findings obtained, it can be concluded that the inflows of foreign direct investment and exchange rate performances in Africa can help to boost their economic growth. Furthermore, by maintaining good performing exchange rate, African countries can attract more foreign investors due to the potential of making benefits from a good performing exchange rate which can subsequently lead to improving economic growth in Africa. Based on the findings, the study among other factors recommended that governments should work to create an environment that is conducive to investment, which can help to attract FDI to the country. This could include measures such as simplifying business registration processes, reducing red tape, and improving infrastructure. Governments can work to promote the country's strengths and investment opportunities to foreign investors through marketing campaigns, trade missions, and other outreach efforts. The study also recommend that future research should consider other robust estimation strategies such as the GMM estimations in order to ascertain if the findings of this study could be confirmed or rejected by their findings.

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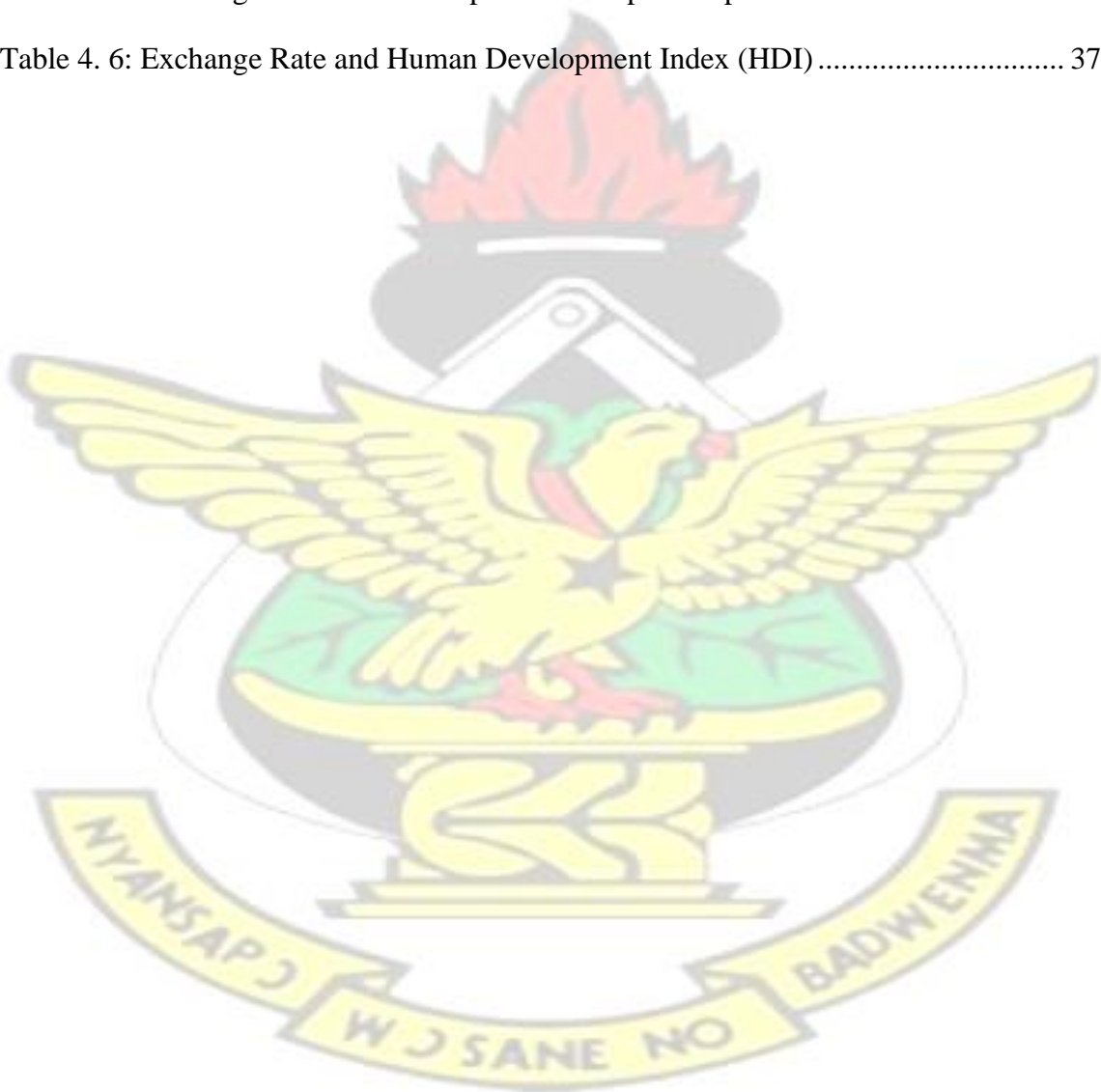
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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

That the economy and society are always evolving is reflected in the multifaceted idea of development (Kozarezenko et al., 2018). Education, life expectancy, and mortality are only a few of the social well-being indicators that can be influenced by this crucial procedure. Over the past two decades, Africa's emerging nations have accomplished remarkable economic development and a reduction in poverty (Mustafa, 2020). However, health, income, education, and skill development metrics from these countries fall well short of expectations. It is still a major problem for African countries to invest more in their people, especially young people (World Bank, 2019). The development pattern, institutional framework, and integration initiatives of each African country are strikingly similar to one another. These nations understand the importance of investing in their people and expanding their financial infrastructure. It has become clear that investing in human capital is the best way for African countries to future-proof their economy (World Bank, 2019).

The government budget and balance of payments deficits that plague other African and emerging economies are also an issue in Ghana (Barguelli et al., 2018). Due to their tiny size and high degree of openness, these economies have been coerced into embracing unsustainable development techniques, such as import substitution industrialization (ISI), in order to maintain some semblance of a presence in the global market (Karahan, 2020). Trade liberalization was encouraged by the implementation of free-market adjustment programmes, which allowed prices to be determined by the competition between buyers and sellers in an effort to encourage export-driven development. There has been a

resurgence of interest in the topic of currency depreciation and its impact on the trade balance of both developed and developing nations as a result of the adoption of a floating exchange rate system. Since then, nations have experimented with pursuing currency appreciation or depreciation as a means to achieve and maintain certain forms of domestic development (Ahmad et al., 2021).

Though studies are lacking on the direct effect of exchange rate on human development, there exists some studies on how exchange rate affects economic development another measure of human development that focuses entirely on gross domestic product. Research in this first volume examines the use of currency exchange rates as a tool of industrial strategy and highlights the importance of economic diversity to the sustained development of developing and emerging studies (Ocampo et al., 2009, Rodrik, 2007, Rodrik, 2013, Stiglitz and Greenwald, 2014). Several authors, including Ocampo (2005), Eichengreen (2007), Rodrik (2008), Araujo (2013), Vieira and Damasceno (2016), and Missio et al. (2017), have pointed out the favourable impact of exchange rate on development. The comparative advantage of economies may be altered by the use of a combination of exchange rate policies and other forms of industrial policies, which might have a beneficial influence on economic development. It is possible that well-planned interventions might spur development in industries that promote learning, allowing societies to generate more and better "social resources" and making better use of them over time.

As the actual exchange rate becomes increasingly "undervalued" (or competitive), the prices of traded products and services in terms of the domestic currency rise (Pramanik, 2021). In order to increase real wages and incomes in the long run, it is necessary to

accept lower real wages and incomes in the short run by adhering to a policy of a competitive real exchange rate. Therefore, the implementation of competitive real exchange rate policies needs social coordination, which is sometimes difficult to achieve. This is especially true in situations where the sectors that would lose buying power in the present feel that they will not share the possibly bigger purchasing power of the aggregate economy in the future (Dada, 2022). This study expands on the phenomenon being investigated by prior studies but focuses on a much broader view of development rather than economic growth which has been used by many researches.

1.2. Problem Statement

Ghana's currency has undergone its fair share of long-term devaluation throughout the years (Klutse et al., 2022). The rate of the exchange in countries like Zambia, Kenya, and Nigeria fluctuates. What makes this unique is that Ghana's domestic currency has been steadily depreciating over the years. In other words, the cedi was revalued by the Bank of Ghana in July 2007 to a level roughly equivalent to 1 USD = 0.90 GHS. According to the Bank of Ghana's quarterly economic report for 2019, one dollar will buy 5,4000 Ghanaian cedis in June of 2019. By June of 2022, that rate would rise to 8,1 000 GHS. Because the trade market plays such a crucial role in maintaining stable macroeconomic performance and economic growth, the cedi's persistent decline has caused serious anxiety among our policymakers (Tankia-Allou, 2021). With the goal of preventing or slowing cedi depreciation, the central bank has used a number of measures and policies and increased supply to the market in an effort to fulfil its primary responsibility of guaranteeing price stability. The cedi continues to devalue despite the central bank's best efforts.

Exchange rate has been found to affect different developmental areas of a country such as economic development (Ocampo, 2005; Eichengreen, 2007; Rodrik, 2008; Araujo, 2013; Vieira and Damasceno, 2016; Missio et al., 2017). Majority of the research conducted into the developmental effects of exchange rate to a country has focused on development being measured using GDP growth rate. Unlike Gross National Income (GNI), which measures a country's income and includes all income earned by residents, businesses, and earnings from foreign sources, Gross Domestic Product (GDP) measures the value of goods and services produced within a country and thus includes national output, expenditures, and income. GDP plus resident salary and property income earned both overseas and at home is the formula for GNI (Song, 2019). Therefore, using GDP only looks at a narrow aspect of development whereas GNI is considered a much broader measure of development. This study therefore adds to existing literature but then fills a gap but broadening the measure of development to human development which captures both economic development and social interventions by government.

1.3 Objectives of the Study

The overall objective of this study is to examine the effect of exchange rate on human development of Ghana. The following objectives are outlined to help with the above objective:

1. To examine the influence of exchange rate on per capita income of Ghana.
2. To examine the effect of exchange rate on per capita consumption expenditure of Ghana.
3. To evaluate the influence of exchange rate on human development index (HDI) of Ghana.

1.4. Research Questions

The following questions are asked to achieve the research objectives outlined:

1. What is the influence of exchange rate on per capita income of Ghana?
2. What is the effect of exchange rate on per capita consumption expenditure of Ghana?
3. What is the influence of exchange rate on human development index (HDI) of Ghana?

1.5. Significance of the Study

The overall objective of this study was to examine the effect of exchange rate on human development of Ghana. The findings of this study would provide many benefits to different stakeholders in the country. First of all, the findings of this study would help provide better insight and a much broader perspective to government and policy makers on the extent to which exchange rate helps to improve human development within the country. This insight can then be used for policy formulation to improve human development within the country in this hard time when the country is being faced with exchange rate depreciation and high interest rates. To foreign investors, the findings of this study would provide insight into the country's exchange rate performance and how the country benefits from it, this would help them to understand when to help with investments within the country. For literature also, the findings of this study would help to add to the literature on exchange rate, and human development literature and help future studies to expand on the knowledge gap.

1.6. Brief Literature Review

Depreciation of an exchange's purchasing power may have a positive or negative rate on an economy, and Paludo and Paiva (2021) investigated this relationship. To further understand the exporting firm's dilemma in this internationalization setting, a straightforward mathematical model was created. Companies using technology with diminishing returns to scale can benefit from exchange rate depreciations, according to theoretical research; companies using technologies with growing returns to scale, on the other hand, will have either no effect or a negative one. Moreover, the firm's choice was shown to be influenced by two distinct exchange rates: the minimum operational exchange rate (MOE) and the reverse exchange rate (RVER). Because of this, the current model clarifies how the returns to scale affect the correlation between the currency exchange rate and GDP growth. As a conclusion, this study has certain caveats that can be worked out in other studies. The following statements, for instance, can use them together: Allowing enterprises to set the exchange rate above the bare minimum required for operations; Taking into account new entrants into the markets under consideration; Considering additional input and output variables.

Exchange rate misalignment and exchange rate volatility were studied by Vieira and Damasceno (2016), who found that they were significant to Brazil's economic expansion between 1995 and 2011. The degree of mismatch between the currency rate and the level predicted by full employment and a sustainable current account balance is the amount of misalignment. Considering the top twenty trade partners, we estimated the equilibrium real effective exchange rate and generated a time series that spans from the third quarter of 1994 to the fourth quarter of 2011. Since it has been shown empirically that an undervaluation of the exchange rate encourages economic development and an

overvaluation inhibits it, exchange rate misalignment has taken on more importance in the explanation of economic expansion. Therefore, lower levels of exchange rate volatility encourage economic expansion whereas higher levels of volatility inhibit it. Keeping the actual exchange rate at a competitive level (an undervalued exchange rate) and with little volatility is suggested based on the findings, particularly for developing economies.

This article by Sekkat (2016) aims to shed light on the rate of unfavorable exchange rates on export diversification. Since an undervalued currency raises the cost of importing some production inputs, Rodrik (2008) argued that it encourages export diversification from an institutionally weak country. Sekkat, on the other hand, argues that the inflated national currency actually benefits the corporation by lowering manufacturing costs and perhaps even encouraging a more diverse export portfolio.

Bresser-Pereira (2012) found that a somewhat depreciated exchange rate is necessary for economic growth because it encourages savings at home and domestic investment. Bilateral real exchange rate (appreciation of the national currency relative to strong currencies that can discourage exports) was attempted to be derived by Locatelli and da Silva (1991) by analyzing real exchange rate, incentives and disincentives to imports, growth of export costs, and calculation of exchange rate delays. Based on the study, it was determined that the parity index fluctuates widely across all of the factors considered, and that the exchange rate does not have a propensity to self-correct to a stable value.

1.7. Brief Methodology

The overall objective of this study was to examine the effect of exchange rate on human development of Ghana. To achieve the above objective, the study would use the quantitative research approach in addition to the explanatory research design. Furthermore, the focusses on Ghana as a case study and uses annual data from 1990 to 2022. The data covers both exchange rate and human development indicators selected for this study. Exchange rate in this study is measured using the rate between the home currency and the US dollars, human development in this study is measured using the per capita income and per capita consumption expenditure and human development index (HDI). Per capita income is the average annual income per person in a country or region, per capita consumption expenditure is a measure of a country's or region's standard of living, and the human development index is a composite index of life expectancy, education, and per capita income. The data for the study are obtained from the world bank database website which provides country level data for every country. The data would be analyzed using the linear regression analysis and in Stata V15.

1.8. Organization of the study

There are five main parts to the research. In the first chapter, titled "Introduction," the research problem is introduced, the subject to be studied is described, the study's objectives and methodology are outlined, research questions are posed, and the study's significance and scope are discussed. What follows is a discussion of the relevant literature. Both theoretical and empirical studies of the issue are treated here. In the third chapter, we get into the methodology used. The research methodology details the study's defined regression model, as well as its sampling approach, population, data, and data sources. In Chapter 4, we see the data laid out and examined. The research data collected

using the various approaches discussed in the introduction are presented and analyzed in this section. A summary, some closing remarks, and some ideas are included in the last part. After reviewing the collected information, the researcher makes some generalizations and recommendations. Those who will benefit from the recommendations include policymakers, government officials, investors, and those who may participate in the research.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The human chapter of this study examines the literature in a development to learn more about how fluctuations in the Ghanaian cedi exchange affect the country's rate of living. All three types of literature reviews (theoretical, conceptual, and empirical) are covered here.

2.1 Conceptual Literature

2.1.1 The Concept of Human Development (HDI)

Expanding people's potential and enhancing their happiness are two of the primary goals of human development. Freedom to choose one's identity, one's occupation, and one's lifestyle is important to human development. Human development is an umbrella term that encompasses every facet of the human experience. Access to a wide variety of products and services, as well as a long and healthy life expectancy, are all indicators of human development. Human development is focused on training and employment opportunities for people of all skill levels, as well as making use of the underutilized portion of the labour force. Investing in people makes it possible for them to receive the kind of education and training that raises their skill level, depth of knowledge, and breadth of ability (Meier, 1970). Human progress is the sum of one's schooling, health, and life experience; increased longevity is the result of development. A rise of 4% in production is the result of a year's worth of improvements in health, education, and labour productivity (Bloom et al., 2004). While the correlation between education and GDP is weak, the one between health and income is strong in both the developed and the least developed nations. The state of people's health is a crucial barometer of human and

economic development (Knowles and Owen, 1995). The two processes—human development and economic expansion—are mutually causal. In the same way that a rising economy allows for the purchase of HD with better resolution, a rising human development level is the key factor in determining the trajectory of economic growth. Though there are many facets of HD, the most important ones are health and education. Better education and longer life expectancy are outcomes of rising affluence and technological advancements. Increases in public spending on education and health care, as well as in enrollment, provide a skilled labour force that drives economic expansion. Putting money into the health care industry pays off in the form of vitality, strength, and longevity. Education, on-the-job training, apprenticeships, and other pathways to professional and human growth are emphasized as well (Suri et al., 2011, Schultz, 1961).

2.1.2 Measurement of Human Development (HDI)

Human Development Reports (HDRs) have been published annually since 1990 by the United Human Development Programme (UNDP) to explain the Human Development Index (HDI). Amartya Sen, Sudhir Anand, Meghnad Desai, Keith Griffin, Frances Stewart, Paul Streeten, and Gustav Ranis were among the group of economists formed by Mahbub ul Haq to create the index (Haq & Ponzio, 2008). Sen was first skeptical that a single index could adequately convey the myriad factors that contribute to human development. However, Haq argued that only a single figure, as opposed to a laundry list of statistics, would garner the full attention of policymakers and the general public (Fukuda-Parr, 2003).

"the Human Development Index (HDI) is a summary assessment of achievements in important areas of human development: a long and healthy life, access to education, and a reasonable quality of living," as stated in the technical notes of the 2015 Human

Development Report. The HDI is calculated as the geometric mean of the normalized indices for the three factors (United Nations Development Program, 2015). This technique of computation may be traced back to the theoretical writings of the academics who first put out the idea. "Longevity and education are plainly prized as parts of the happy life and also appreciated as constituents of the potential to perform other things," write Anand and Sen. Some talents that aren't captured by direct or indirect measurements of lifespan and education have been proxied by the income component of the HDI (Anand & Sen, 2000).

Critics have cast doubt on the HDI, calling it "another superfluous composite inter-country development indicator" (McGillivray, 1991). Furthermore, its "conceptual weakness and empirical unsoundness" has been criticized (Srinivasan, 1994). Klugman, Rodriguez, & Choi (2011) point out that the HDI has been criticized for its variables, its functional form, its redundancy, and its robustness. The Human Development Report revised its methodology in response to these concerns in 2010 (Rahi, 2011), but the revisions were met with renewed criticism. Some claim that the "2010 HDI is both more complicated and more problematic in its tradeoffs across core dimensions," arguing, for example, that the new HDI places too high a value on education relative to income and places too little value on life expectancy in low-income countries (Ravallion, 2012). There is little difference between the outcomes of the Chakravarty index and the new HDI, therefore this critique may not be warranted when it suggests this metric as an alternative (Zambrano, 2011).

The "Inequality adjusted HDI (IHDI)" was first presented in the 2010 Human Development Report to help address the issue of significant disparities in human development (Ayala, 2010). Researchers need to assess the degree of inequality in each dimension, modify the average value of each dimension, then compute the impairment of

HDI owing to inequality to produce this index (Alkire & Foster, 2010). The Gender Inequality Index (GII) is a comparable metric that, like HDI, incorporates measurements of economic and political engagement, educational attainment, and reproductive health, but also "represents a substantial advance on current worldwide metrics of gender equity" (Gaye, Klugman, Kovacevic, Twigg, & Zambrano, 2010). A method based on the axiom of association-sensitive inequality is employed (Seth, 2013).

At the outset of this study, we must agree with Klugman, Rodriguez, and Choi (2011) that "HDI is not and was never meant to be an overall definitive measure of development." The Human Development Index (HDI) is an imprecise indicator-based statistic that aims to paint a comprehensive picture of how far different countries have come in developing their capacities.

2.1.3 The Concept of Exchange Rate

The value of one currency expressed in terms of another is known as the exchange rate. Both the end-of-period rate and the average-of-the-period rate are possible representations. The IMF categorizes nations' exchange rates into one of three major groups based on the degree to which the government is engaged in establishing them or the number of various exchange rates that operate inside the country. There are three common terms used to describe different types of exchange rates: the official rate, which is created ('fixed') by authorities, the market rate, which represents exchange rates chosen largely by market forces (in which the rate 'floats'), and a freely floating exchange rate. International Monetary Fund (IMF) defines exchange rate arrangement as the way a country's currency functions (IMF 2008). The degree of government oversight over a country's currency is a major rate in establishing its exchange on the international market (Calvo and Reinhart 2002). There are two primary categories of exchange rate

arrangements: the fixed exchange rate and the variable exchange rate (IMF 2008). As an example, Owen (2005) proposes a system called a "floating exchange rate," in which currency pairs are permitted to fluctuate against one another based on market factors (free flow of demand and supply). An exchange rate that is fixed, or pegged, by the current government of a rate (Bautista 1982).

One or more currencies may have a predetermined exchange rate. The central government of the United States, for instance, can set the value of the dollar relative to another currency or a basket of currencies (Owen 2005). After the rate of Bretton Woods in the 1970s, the IMF let its members to establish their own systems for determining exchange rates. Most developing nations were urged to establish regulatory structures to oversee floating exchange rates, which would allow for price stability and stimulate greater exports (Musila and Newark 2003). Some policymakers, however, continue to reject the floating rate system by displaying an unwillingness to remove exchange rate regulations, notwithstanding the collapse of the Bretton Woods fixed rate regime (Dooley et al. 2004). Floating exchange rates subject a country's rate to unpredictable fluctuations in exchange rates owing to market factors, which likely contributes to the widespread "fear of floating" felt by many (Reinhart 2000; Millman 1990).

Furthermore, Reinhart (2000) reaffirmed that, in general, the "official labels" of a nation's exchange rate arrangements do not adequately depict the actual practice in that country. A country's subsequent adoption of an authorized exchange rate arrangement does not alter the validity of the country's prior agreements. De facto exchange rate arrangements provide a more accurate reflection of the situation regardless of whether or not a country has formally committed to a certain route for its currency's exchange rate. Edwards (2011) cites the work of various scholars who contend that a country's currency can be weakened (or "depreciated") by the setting of its de facto exchange rate.

According to Taylor (2015), during the 1970s and the 1990s, managing the exchange rate was one of the most active and demanding disciplines of financial studies. Explaining the academic community's interest in the efficiency of foreign exchange markets requires looking at claims about the substance of pricing information in the financial market and the effects on societal efficiency that result from this. To simplify Taylor's (2015) efficient market theory, we might assume that respondents in the foreign exchange business are, on the whole, rational and risk-averse. According to the risk-neutral theory of efficient economies, the opportunity cost of holding money rather than spending it must equal the anticipated monetary benefit (anticipated change in transaction rates) (interest price difference). However, in a perfect speculative market, price would be set to represent all the knowledge that could be known by the money, and the dealer would not be able to make any extra money by speculating.

2.1.4 Nominal and Real Exchange Rates

The real exchange rate is a metric for gauging how much one currency is worth in terms of another, compared to the cost of living at home. Between the years 1990 and 1992, the actual exchange rate of Ghana was extremely unstable. The real depreciation in exchange rate that occurred during this time period lowered the export-to-GDP ratio, which in turn lowered export performance. Additionally, the years 1993–1997 mirrored periods of actual exchange rate appreciation. The reason for this is because the volatility of the actual exchange rate has decreased below the slope. This meant that Ghana's exports increased relative to the country's GDP, which was already rising. However, the real exchange rate went worse in 2001. The percentage of exports to GDP peaked between 2000 and 2005, then began to decline. During the time frame of the study, the real

exchange rate increased, whereas exports as a percentage of GDP climbed in the outset but then fell.

When expressing the value of one commodity or service in a different currency, the official exchange rate is also related to the nominal exchange rate. Nominal rate also misrepresents the true value of a currency since it does not take inflation into account (Colander 2010). The actual exchange rate, on the other hand, is a measure of a currency's value since it factors in changes in both price and inflation levels (Colander 2010). When a decline in the nominal exchange rate is matched by a rise in domestic price inflation, the real exchange rate remains unaffected (Bird 1983). Thus, domestic price inflation mitigates the competitive edge in export prices afforded by a weaker currency (Bird 1983). Burstein, Eichenbaum, and Rebelo (2007) and Owen (2005) argue that the real exchange rate, which takes into account buying power, is a more accurate estimate of the effective exchange rate.

2.2 Theoretical Literature Review

2.2.1 Growth Theory

One of the most well-known models for examining the factors that contribute to economic development is the Solow growth model (Solow, 1956). Long-term growth or per-capita production growth cannot be explained by physical capital alone, according to the Solow growth model (Romer, 2012). This study tests the hypothesis that exchange rate variations dampen GDP growth, as predicted by the Solow growth model. The regression study also incorporates human capital, gross capital creation per worker, and commerce as control variables.

Physical capital is crucial to production since an increase in capital often results in an increase in resources. The quantity and quality of a country's capital also affects its ability to produce goods and services (Romer, 2012). According to the theory of economic growth (Choe, 2003), foreign direct investments (FDI) provide an especially revealing sign of the connection between economic progress and investment in a country. More foreign investors would be attracted to a country with faster economic growth, driving up demand for the currency and helping to maintain the exchange rate stable. Capital flight is another manner in which currency fluctuations may drain a country's resources (Tavlas, 2003). Because of this, it should be used as a control variable in the regression analyses conducted here.

Assuming that a worker's human capital is directly proportional to the amount of years they have spent in school, David Romer's (2012) presentation of a Solow growth model that integrates human capital relies on a flawed premise. The more educated a worker is, the higher his or her human capital will be (Romer, 2012). Incorporating human capital as a growth-controlling variable in the regression studies is driven by these factors. The literature on human capital, however, may be divisive. Benhabib and Spiegel (1994) claim that human capital may have a larger link with capital accumulation than economic growth, and hence may have a bigger influence on economic growth via affecting the development of per capita income than economic growth does.

The inability of importers to invest in R&D to find new goods and markets is hindered by a weakening exchange rate, which raises their development costs. To put it another way, a country's economic growth is stunted when it fails to keep up with the cutting edge of technology development, product development, and consumer demand. While a weakening exchange might have a negative development on importers, it can have a positive rate on exporters by freeing up capital for R&D into uncharted areas.

Conversely, a stronger exchange rate is excellent for importers since lower prices mean more money saved, which can then be put into R&D to speed up the pace of market-driven innovation and development. On the other hand, exporting enterprises lose out when the domestic currency appreciates because their cash flow is impacted. This has a negative effect on endogenous growth theory since it slows the rate at which exporting firms innovate. In conclusion, according to the endogenous growth theory, economic development over the long run is dependent on the market's rate of innovation, which in turn is governed by the country's economic conditions. Thus, changes in the exchange rate impact the economy's innovation process, and the development of the economy reacts correspondingly. Thus, the idea of endogenous growth is used to examine both the short-term and long-term connection between exchange rate volatility and human development in Ghana.

2.2.2 Human Capital Theory

Human capital theorists (such as Becker, 1993; Schultz, 1961; Mincer, 1974) argue that funding for higher education (HE) should be a shared responsibility of citizens and their governments. The primary justification for public investment in education is the long-term advantages, such as higher salaries, lower crime rates, and better health. On the other hand, education is a prudent private investment since it increases lifetime earnings for the educated, opens doors to higher-paying positions, shortens the duration of the job-hunting process, and eases the transfer to more stable work.

According to this theory, investment in human capital (such as education and health care) can increase productivity and raise the quality of life for individuals, which, in turn, can lead to improvements in the overall Human Development Index. Currency

depreciation can provide the government with additional resources to invest in these areas, thereby contributing to improvements in the Human Development Index over the long-term.

2.3 Empirical Literature

In the study of Iyke and Ho (2017), an inquiry into the connection between exchange rate volatility and domestic consumption was done in Ghana. The study, which used data from 1980 to 2015, found that fluctuations in the exchange rate dampen household spending, which in turn slows domestic expansion. This study shows that excessive volatility raises the price of importing products for domestic consumption and promotes the export of items that would have been consumed at home. Low output and lower salaries for workers are two results of high volatility, which also limits the import of industrial raw materials. Finally, increased volatility impacts the cost of locally manufactured items, leading to less demand and less consumption. Long-term economic growth, which is heavily dependent on the manufacturing sector, decreases when consumption declines.

Mwinlaaru and Ofiori's (2017) study of the rate of exchange rate on development found a strong correlation between exchange values and GDP expansion over the long term. To put it another way, a stronger local currency relative to major trading currencies is good for business. Investment and the import of raw materials into the domestic country are bolstered, for instance, when it is believed that the local currency will rise or remain steady versus the foreign currency in the future. Despite the fact that this may be done in the short term, in the long run, the result may be the increased capital investment and the increase in the gross domestic product, which does raise the growth of the economy.

After collecting data on 45 emerging nations from 1985 to 2015, Barguelli, Ben-Salha, and Zmami (2018) studied the impact of exchange rate volatility on GDP growth. Using the general approach of moment estimators, they concluded that fluctuations in exchange rates have a negative influence on economic development in the short term and that the amount of trade openness increases the depth of the openness. This study confirms previous findings that more volatility is associated with greater risk and reduces the benefits of economic development. All of the aforementioned research shows that fluctuations in the rate of one exchange over another can have negative studies on the value of other currencies and on the risk associated with buying and selling goods and providing services. The study's premise is that there is a negative association between exchange rate volatilities and economic growth in Ghana because exchange volatility raises the rate of doing business internationally.

Using the GARCH model, Mpofu (2016) analyzed data for the South African economy from 1986 to 2013 to determine what factors cause fluctuations in the rand/dollar exchange rate. Mpofu (2016) found that commodities prices, money supply, and foreign reserve significantly influenced the study of South African exchange rate volatilities. Mpofu's (2016) conclusion provides a starting point for comprehending the pass through of exchange rate volatility to economic development by shedding light on the factors that influence the exchange rate.

Promotion of economic development through real exchange rate (RER) policies is the subject of Guzman et al (2018) research. When it comes to industries with learning spillovers, market allocation falls short. We demonstrate that this externality, along with associated market failures, may be amenable to correction by a stable and competitive RER policy. As a result, these industries thrive and contribute to quicker economic development as a whole. When the spillover effects between tradable sectors vary, a

system that allows for effectively numerous exchange rates is necessary. RER policies have a greater impact when combined with conventional industrial policies that raise the aggregate supply's elasticity to the RER. Foreign exchange market interventions and restriction of capital flows are among the tools needed to create a stable and competitive RER.

Rapetti (2019) provides a comprehensive review of current studies assessing the effect of the level and volatility of the real exchange rate (RER) on economic development. In particular, for emerging nations, the existing empirical data reveals a favorable relationship between RER levels and economic growth. It appears that overvaluation hinders growth and undervaluation helps it. In turn, RER volatility stunts development. In addition to a thorough literature analysis, we also conduct panel growth regressions using the Penn World Table database, version 9.0, to assess the validity of our findings. The publication also provides a literature review on how the RER contributes to growth. One of them highlights that an undervalued RER decreases macroeconomic instability, supporting capital accumulation and expansion. One more highlights the fact that a competitive RER encourages capital accumulation in cutting-edge tradable industries, which in turn paves the way for structural transformation and economic development.

Using time series data from 1990 to 2020, Khan (2021) digs deeper into the role that inflation, nominal exchange rate, FDI, and shock events play in Bangladesh's economic development. Augmented In order to find unit-roots and ensure that variables are stationary, the Dickey-Fuller and Phillips-Perron Unit Root Tests are applied. To analyze the connection between the dependent and independent variables, the Ordinary Least Squares technique is used. A close examination of the data uncovered a strong correlation between the growth of the country's economy and both the exchange rate and FDI. Bangladesh's economy benefits from inflation, foreign direct development, and a

stable exchange rate, but it suffers when unanticipated events, such as Covid-19 and natural catastrophes, occur.

China's exchange rate, foreign direct investment (FDI), and economic development are all studied by Ahmad et al. (2019). From 1981 to 2013, they used aggregate data to put the bound testing method to the test. The findings indicated that a weaker yuan during this rate period was beneficial to the Chinese economy and that foreign direct exchange (FDI) inflows were directly related to overall economic development. Granger causality analysis revealed both a long- and short-term relationship between the variables under question. Moreover, the growth-promoting effects of the RMB exchange rate and FDI inflows were validated by GMM estimates including dummies for financial crises and RMB exchange rate policy variations.

The relationship between GDP, exports, and exchange rates in Asian nations was studied by Zhu et al. (2022) using panel data from 1981 to 2016. The findings are consistent with both the Exchange Rate-Led Growth (ELG) and the Growth-Led Exports (GLE) hypotheses. Potential associations between the variables of interest were investigated using a fixed effects model with control variables and a Wald test inside the Vector Error Correction Model (VECM). Results show that a lower currency boosts exports and contributes significantly to GDP expansion. The robustness of the estimates was confirmed by the outcomes of a Fully Modified Ordinary Least Squares (FMOLS) model that included a dummy variable for financial crises.

2.4 Conceptual Framework

The framework below shows the relationship between the variables:

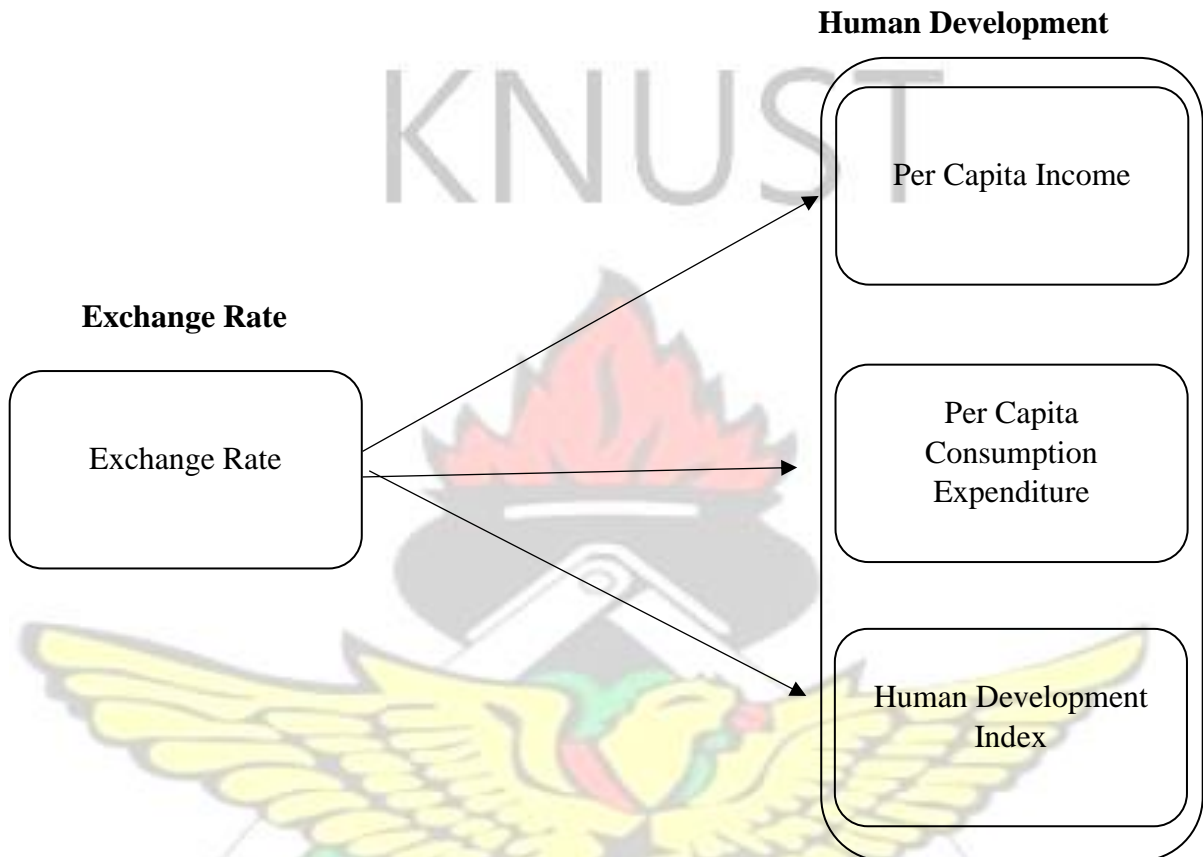


Figure 2. 1: Conceptual Framework

Source: Author's Construct, 2022

It has long been of interest to policymakers to mitigate the negative impacts of exchange rate volatility on the economy as a whole and on individual businesses and households. However, once Bretton Woods fell, both rich and developing nations were vulnerable to big swings in exchange rates due to growing financial liberalization and capital market integration. Changes in the value of a country's exchange will always have an effect on its GDP and employment rate. Depreciation may promote economic activity, resulting in surplus demand for domestic items, through the initial increase in the price of imported

goods. So, then inflation and domestic growth both rise. On the other hand, an upward trend in prices might hurt the economy. Multiple empirical studies have found a strong association between flexible exchange rates and the economic development of underdeveloped nations. The investment to GDP ratio, degree of trade openness, and development of the stock market are all obvious macroeconomic characteristics that have affected emerging market economies (Naik & Padhi, 2015; Razmi et al., 2012).

Greece's GDP growth rate has dropped sharply due to the euro's high value, while Turkey's industrial sector has seen the effects of exchange rate fluctuations (Demir, 2013; Papanikos, 2015). According to a previous study by Kandil and Dincer (2008), the Turkish industrial sector has suffered greatly from the consequences of projected appreciation. Additionally, the growth of exports is dampened by the expectation of an increase in the value of the currency's exchange rate. The real development of production, consumption, and exports in Egypt is negatively impacted, according to studies, by variations in the value of the Egyptian pound. In Malaysia, a depreciation of the ringgit helps economic growth, whereas an appreciation of the ringgit slows it down (Wong, 2013). According to data on US manufacturing output (Kandil & Mirzaie, 2002), a rising dollar has no net impact on industrial real output growth because of its expansionary and contractionary effects.

Contrary to common belief, the real exchange rate (RER) does not have an innate correlation with long-term growth. The weakening Yuan exchange rate has not helped China's economy. Boosting exports and bringing in more money from outside are two key factors that have helped China's economy. Currency strength and foreign investment have been more important than rising exports to prop up the yuan's value since the 2008 financial crisis (Tang, 2015). Using a tri-variate model, Elbadawi et al. (2012) looked at the relationships between foreign aid, currency rate misalignment, and economic

development in Sub-Saharan Africa (SSA). It was discovered that aid does not significantly contribute to exchange rate overvaluation, which runs counter to popular belief.

Elbadawi et al. (2012) added to these results by arguing that while aid does promote growth, the impact is smaller in countries with overvalued exchange rates; while overvaluation does limit growth, financial development mitigates its negative effect. Draz et al. (2019) looked at the factors that affect exchange values in South Asian economies and found that macroeconomic variables had a big study on the exchange rates of the sample countries. However, they didn't find any study linking exports to economic expansion, which is an important factor. Although Ullah and Ozturk's (2020) study found a rate between exchange fluctuations and carbon emissions, it was limited to a single economy and didn't account for exports or GDP growth. Long-run co-integration among the selected variables was discovered in the research of Azam et al. (2021) on the expansion and exports of Central Asian economies; however, the study only included five countries in the region and did not factor in exchange rates. Recent research has demonstrated that currency exchange rates may influence economic development. Based on these arguments, the following hypothesis are drawn:

H1: Exchange rate has a positive and significant effect on per capita income.

H2: Exchange rate has a positive and significant effect on per capita consumption expenditure.

H3: Exchange rate has a positive and significant effect on human development (HDI).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter contains the strategy used by the researcher for this study. It describes the methods and instruments used in achieving the objectives of the research. This chapter of the research is essential in order to ensure validity, reliability and generalization of the research results.

3.1 Research Design

The overall objective of this study is to examine the effect of exchange rate on human development of Ghana. The study examines the exchange between fluctuations in the Ghanaian cedi and the country's rate in terms of human development using an explanatory research design. The explanatory research design, sometimes called causal research, shows how one or more variables cause changes in another (Zikmund, Babin, Carr, & Griffin, 2012). The goal of an explanatory design is to provide light on the nature of the interactions between different factors by analysing a given scenario or problem. To achieve the above objective, the study also used the quantitative research approach in addition to the explanatory research design. The quantitative approach helps to use numerical and statistical data to explore the relationship between the variables, thereby providing a more conclusive finding.

3.2 Population of the Study

The main focus of this study is Ghana; hence the study's defined population is Ghana. Ghana, officially the Republic of Ghana, is a country in West Africa. It abuts the Gulf of Guinea and the Atlantic Ocean to the south, sharing borders with Ivory Coast in the west, Burkina Faso in the north, and Togo in the east.

3.3 Sample and Sample Selection Method of the Study

As indicated earlier, this study is focused primarily on Ghana as a country. The key reason is to help provide information through this research towards the development of the Ghanaian economy. The country was purposely selected due to it being the key focus of the researcher. As an emerging economy in Africa, evidence from Ghana can serve as a guide for other countries that wishes to attain the same level of development.

3.4 Data and Sources of Data for the Study

The main source of data for this research was the secondary data. The data covers both exchange rate and human development indicators selected for this study. These are annual data that spans over a period of 32 years from 1990 to 2021. The data were all obtained from the world bank database. The table below provides a summary of the variables, their definitions, sources and measurements.

Table 3. 1: Variables, Definitions, Measurement and Sources

Variable	Definition	Measurement and Source
Human Development Index (HDI)	The Human Development Index (HDI) is a composite statistic that is used to measure the level of human development in a country. It was developed by the United Nations Development Programme (UNDP) in 1990 as an alternative to traditional measures of economic growth, such as Gross Domestic Product (GDP) per capita.	This is measured using the HDI index provided by the UNDP. The HDI data is regularly published by the United Nations Development Programme hence its sourced from the UNDP.
Per Capita Income	Per capita income refers to the average income earned by each person in a given population, usually a country.	This is measured using the per capita income data provided by the world bank. The data is sourced from the world bank database.
Per Capita Consumption Expenditure	Per capita consumption expenditure refers to the average amount of money spent by individuals in a population on goods and services.	This is measured using the Household final consumption expenditure per capita. The data is sourced from the world bank database.
Exchange Rate	An exchange rate is the value of a nation's currency in terms of the currency of another nation or economic zone.	Exchange rate in this study is measured using the rate between the home currency and the US dollars
FDI inflows	Value of foreign direct investment (including earnings reinvested and intracompany loans) made by non-resident investors in the economy reporting for which data is being compiled, less any capital or loan repayments made back to the investors' home countries.	This is measured using the Foreign direct investment, net inflows from The World Bank
Inflation	Inflation is a decrease in the purchasing power of money, reflected in a general increase in the prices of goods and services in an economy.	This is measured using the consumer price index (CPI) obtained from the world bank.
Population Growth	Population growth is the increase in the number of people in a population or dispersed group.	This is measured using the population growth rate as a percentage of GDP and obtained from the world bank.

Source: Arthur's Construct, 2022

3.5 Model Specification

Based on the research objectives, the models below are used to guide the analysis and estimation strategy:

$$Y (PCI)t = \beta_0 + \beta_1 (ER)t + \beta_2 (Inf.)t + \beta_3 (Pop.)t + \beta_4 (FDI)t + \varepsilon \dots$$

(Model 1)

$$Y (PCCE)t = \beta_0 + \beta_1 (ER)t + \beta_2 (Inf.)t + \beta_3 (Pop.)t + \beta_4 (FDI)t + \varepsilon \dots$$

(Model 2)

$$Y (HDI)t = \beta_0 + \beta_1 (ER)t + \beta_2 (Inf.)t + \beta_3 (Pop.)t + \beta_4 (FDI)t + \varepsilon \dots$$

(Model 3)

Where, PCI represents per capita income, PCCE represents per capita consumption expenditure and HDI represents the independent variable human development index, ER, represents exchange rate, Inf, represents inflation, FDI, represents foreign direct investment, and Pop, represents population growth. β_0 represents the regression constant where as $\beta_1 + \beta_6$ represents the coefficients of the independent and control variables with ε being the error terms of the regression model.

3.7 Data Analysis Method

The data would be analyzed using Stata V.15. The study would analyze the data using the linear regression analysis.

3.8 Preliminary/Diagnostics Tests

In time series data analysis, before the data is used for the study, some diagnostics testing is conducted to ensure that the data being used would be free from some factors that could affect the overall predictive power of the research model. The test conducted is the multicollinearity test in which the Pearson correlation analysis confirm the existence of multicollinearity between the explanatory variables of the study.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.0 Introduction

This chapter of the study focuses on the presentation of the data, its analysis and subsequent discussion. The chapter has four key sections, the first section deals with the descriptive statistics while the second section focuses on the preliminary tests such as the correlation and multicollinearity. Furthermore, the third section presents the analysis of the data which is followed by the discussion of the findings.

4.1 Descriptive Statistics

Table 4.1 presents the descriptive statistics on the variables being used in the study:

Table 4. 1: Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
Per Capita Income	32	976.25	717.0718	270	2280
Per Capita Consumption Expenditure	32	21.6Bil	18.1Bil	4.02Bil	54.4Bil
Human Capital Index	32	0.5443438	0.0571843	0.46	0.632
Exchange Rates	32	1.660067	1.813257	0.0326156	5.8057
FDI inflows	32	3.898591	2.733599	0.2513086	9.466664
Inflation	32	19.39645	13.03061	4.865398	59.46155
Population	32	2.43717	0.1896818	2.007745	2.74838

Source: Field Study, 2023

From Table 4.1, it can be observed that the first variable being per capita income, recorded a minimum of \$270 and a maximum of \$2,280. The mean per capita income was \$976.25 with a standard deviation of 717.07. This implies that on the average, Ghanaians earn \$976.25 annually within the periods of observation.

The Table 4.1 also shows that per capita consumption expenditure recorded a minimum of 4.02 billion with a maximum of 54.4 billion. The mean per capita consumption expenditure was 21.6 billion with a standard deviation of 18.1. This implies that on the average, per capita consumption expenditure in Ghana over the period of observation was 21.6 billion.

For human capital index (HDI), a minimum of 0.46 was recorded with a maximum of 0.632. The mean HDI was recorded to be 0.544 with a standard deviation of 0.057. This indicates that on the average, the HDI index for Ghana within the period of study was 0.544.

With respect to exchange rates, it was evident that the minimum was 0.032 Cedis to a dollar with a highest of 5.80 Cedis to a Dollar. The mean exchange rate was recorded to be 1.66 Cedis to the Dollar with a standard deviation of 1.81. This indicates that on the average and within the periods of study, the exchange rate between the Cedi and Dollar was 1.66 Cedis to a Dollar.

FDI inflows was shown to have a minimum of 0.25 percent of GDP with a maximum of 9.46 percent of GDP. The mean FDI inflows was 3.89 percent of GDP with a standard deviation of 2.73 percent. This implies that on the average, the FDI inflows to Ghana within the period of study was 3.89 percent of GDP growth rate.

With inflation rate, a minimum of 4.86 percent was recorded with a maximum of 59.46 percent. The mean inflation rate was 19.39 percent with a standard deviation of 13.03.

This implies that the average inflation rate in Ghana over the period of observation was 19.39 percent.

Finally, population growth rate recorded a minimum of 2.00 percent and a maximum of 2.74 percent. The mean population growth rate was 2.43 percent with a standard deviation of 0.18. This implies that on the average, between the 1990 to 2022, the population in Ghana grew by 2.4 percent.

4.2 Preliminary Tests

Before using the data for the analysis, some preliminary tests were first conducted to ascertain if the data was ok to be used for the analysis.

4.2.1 Correlation Analysis

The first test was the correlation analysis. The results of the correlation is presented in Table 4.2:

Table 4. 2: Correlation Analysis

Variables	Exchange Rate	FDI	Inflation	Population
Exchange Rate	1.0000			
FDI	0.3700	1.0000		
Inflation	-0.4501	-0.3790	1.0000	
Population	-0.7184	-0.1637	0.1383	1.0000

Source: Field Study, 2023

The strength and direction of an association between two variables may be measured with the help of correlation analysis. The magnitude and direction of this connection may be quantified with the use of a correlation coefficient, which takes the form of a number

between -1 and 1. If a positive correlation coefficient exists between two variables, it usually means that a rise in one will also lead to an increase in the other. A negative correlation coefficient indicates a trend toward a rise in one variable and a decline in the other. It is recommended that the correlation Matrix between the independent variables not go beyond 80% in order to prove that multicollinearity is not present. According to the data in Table 4.2, the largest connection is between population growth and the exchange rate, although at 0.7184, it falls short of the threshold value of 0.80.

4.2.2 Multicollinearity

It is challenging to quantify the relationship between the independent factors and the dependent variable when multicollinearity is present in the regression model. The existence of multicollinearity among the explanatory variables was tested for in this investigation using the variance inflation factor (VIF) test. As a rule of thumb, it is recommended that the individual and mean VIF should be less than 5 or 10 to show that multicollinearity does not exist. From the analysis in Table 4.3, it can be observed that the mean VIF and individual VIF are below 5 and hence it was concluded that multicollinearity does not exist in this study.

Table 4. 3: Multicollinearity Test

Variables	VIF	1/VIF
Exchange Rate	2.94	0.339906
FDI	1.25	0.800120
Inflation	1.45	0.690885
Population	2.29	0.437415
Mean VIF	1.98	

Source: Field Study, 2023

4.3 Data Analysis

The data is analyzed and results presented in this section of the study:

4.3.1 Exchange Rate and Per Capita Income

Summary of the OLS regression analysis is presented in Table 4.4. In the analysis, the study controls for the effects of FDI, inflation, and population growth in all the models. From the analysis, it can be observed that the model has a constant of 7.16 which was found to be significant ($t=8.23$) and indicates that holding all other variables constant, per capita income would be expected to increase by 7.16 units. With respect to the independent variable, exchange rate, a coefficient of 0.23 was recorded and found to be significant ($t=6.12$). This implies that exchange rate has a positive and significant influence on per capita income and a unit increase in the exchange rate would be expected to result in a 0.23-unit increase in per capita income. With the control variables, FDI recorded a coefficient of 0.12 which was found to be significant ($t=7.15$) and also indicates that FDI inflows has a positive and significant influence on per capita income. Furthermore, inflation recorded a coefficient of -0.0066 which was found to be insignificant and indicates that inflation has no significant influence on per capita income. In addition, population growth recorded a coefficient of -0.53 which was also found to be insignificant further indicating that population growth has no influence on per capita income. The r-squared for the model was 0.9118 which indicates that overall the model can explain up to 91.18 percent of the changes in per capita income. The results are presented in Table 4.4:

Table 4. 4: Exchange Rate and Per Capita Income

Variables/Per Capita Income	Coef.	Std. Err.	t-value	p-value
Exchange Rate	0.2386394	0.0389745	6.12	0.000
FDI	0.1204808	0.0168503	7.15	0.000
Inflation	-0.0066594	0.0038041	-1.75	0.091
Population	-0.5358755	0.3284335	-1.63	0.114
Constant	7.169975	0.8716888	8.23	0.000
No. of Obs	32			
F-statistics	81.16			
Prob>F	0.0000			
R-squared	0.9232			
Adjusted R-squared	0.9118			

Source: Field Study, 2023

4.3.2 Exchange Rate and Per Capita Consumption Expenditure

Summary of the OLS regression analysis is presented in Table 4.5. In the analysis, the study controls for the effects of FDI, inflation, and population growth in all the models.

The results are presented in Table 4.5:

Table 4.5: Exchange Rate and Per Capita Consumption Expenditure

Per Capita Consumption Expenditure	Coef.	Std. Err.	t-value	p-value
Exchange Rate	0.3445795	0.054332	6.34	0.000
FDI	0.1551396	0.02349	6.60	0.000
Inflation	-0.012199	0.0053031	-2.30	0.029
Population	0.1738563	0.4578489	0.38	0.707
Constant	21.99621	1.215168	18.10	0.000
No. of Obs	32			
F-statistics	68.02			
Prob>F	0.0000			
R-squared	0.9097			
Adjusted R-squared	0.8963			

Source: Field Study, 2023

From the analysis, it can be observed that the model has a constant of 21.99 which was found to be significant ($t=18.10$) and indicates that holding all other variables constant, per capita consumption expenditure would be expected to increase by 21.99 units. With respect to the independent variable, exchange rate, a coefficient of 0.344 was recorded and found to be significant ($t=6.34$). This implies that exchange rate has a positive and significant influence on per capita consumption expenditure and a unit increase in the exchange rate would be expected to result in a 0.344-unit increase in per capita consumption expenditure. With the control variables, FDI recorded a coefficient of 0.155 which was found to be significant ($t=6.60$) and also indicates that FDI inflows has a positive and significant influence on per capita consumption expenditure. Furthermore, inflation recorded a coefficient of -0.012 which was found to be significant and indicates that inflation has a negative and significant influence on per capita consumption expenditure. In addition, population growth recorded a coefficient of 0.173 which was also found to be insignificant further indicating that population growth has no influence on per capita consumption expenditure. The r-squared for the model was 0.8963 which indicates that overall the model can explain up to 89.63 percent of the changes in per capita consumption expenditure.

4.3.3 Exchange Rate and Human Development Index (HDI)

Summary of the OLS regression analysis is presented in Table 4.6. In the analysis, the study controls for the effects of FDI, inflation, and population growth in all the models.

The results are presented in Table 4.6:

Table 4. 6: Exchange Rate and Human Development Index (HDI)

Variables/Per Capita Income	Coef.	Std. Err.	t-value	p-value
Exchange Rate	0.0272758	0.0021422	12.73	0.000
FDI	0.007098	0.0009262	7.66	0.000
Inflation	-0.0002511	0.0002091	-1.20	0.240
Population	0.0458628	0.0180524	2.54	0.017
Constant	0.3644863	0.0479125	7.61	0.000
No. of Obs	32			
F-statistics	152.65			
Prob>F	0.0000			
R-squared	0.9577			
Adjusted R-squared	0.9514			

Source: Field Study, 2023

From the analysis, it can be observed that the model has a constant of 0.36 which was found to be significant ($t=7.61$) and indicates that holding all other variables constant, human development index (HDI) would be expected to increase by 0.36 units. With respect to the independent variable, exchange rate, a coefficient of 0.0272 was recorded and found to be significant ($t=12.73$). This implies that exchange rate has a positive and significant influence on HDI and a unit increase in the exchange rate would be expected to result in a 0.0272-unit increase in HDI. With the control variables, FDI recorded a coefficient of 0.007 which was found to be significant ($t=7.66$) and also indicates that FDI inflows has a positive and significant influence on HDI. Furthermore, inflation recorded a coefficient of -0.00025 which was found to be insignificant and indicates that

inflation has no significant influence on HDI. In addition, population growth recorded a coefficient of 0.045 which was found to be significant further indicating that population growth a positive and significant influence on HDI. The r-squared for the model was 0.9514 which indicates that overall the model can explain up to 95.14 percent of the changes in per capita consumption expenditure.

4.4 Discussion of Findings

The findings of the study are discussed in this section and in accordance with the objectives of the study as outlined in the Chapter 1:

4.4.1 The Influence of Exchange Rate On Per Capita Income of Ghana.

We first looked at how the currency exchange rate affected the average income in Ghana. According to the results, the exchange rate has a significant and constructive effect on the median income in Ghana. A rising exchange rate indicates a depreciation of the national currency relative to the U.S. dollar, and a positive impact signifies that this trend has led to improved standards of living in Ghana. Depreciation in the local currency can help to improve per capita income in Ghana because it makes exports more competitive and imports more expensive. When the local currency depreciates, the prices of goods produced in Ghana become relatively cheaper in foreign markets, making them more attractive to foreign buyers. This leads to an increase in demand for Ghanaian exports, which in turn increases the country's foreign exchange earnings. This is consistent with the findings of Zhu et al. (2022) who showed positive influence of exchange rate on development and also Khan (2021) who showed that nominal exchange rate improves the economic development.

4.4.2 The Effect of Exchange Rate On Per Capita Consumption Expenditure of Ghana.

The impact of the exchange rate on individual spending was investigated as the study's secondary aim. The research also found that the exchange rate significantly and positively affected individual spending. A depreciation of the local currency helps to improve per capita consumption expenditure in Ghana, as the exchange rate is measured as the rate of the local currency to the dollar, and an increase in the rate shows a depreciation of the local currency. This occurs because a depreciation of the domestic currency can make domestically produced goods and services relatively cheaper compared to imports, leading to an increase in demand for locally produced goods and services.

When domestic goods become relatively cheaper, the demand for imports decreases as the prices of imported goods and services become relatively more expensive. This can result in a decrease in the trade deficit and an increase in the availability of foreign currency reserves, which can in turn help to increase the availability of goods and services for domestic consumption. The positive effect of exchange rate on per capita consumption expenditure is also related to the increase in household income and employment opportunities that can result from the increase in demand for domestically produced goods and services. When the demand for domestically produced goods and services increases, the production of these goods and services also increases, leading to an increase in employment opportunities and household income. This confirms the findings of Iyke and Ho (2017), who enquired into the connection between exchange rate volatility and domestic consumption in Ghana and found that excessive volatility raises the price of importing products for domestic consumption and promotes the export of

items that would have been consumed at home same finding supported by Mwinlaaru and Ofiori's (2017) study.

4.4.3 The Influence of Exchange Rate On Human Development Index (HDI) of Ghana.

The study's ultimate goal was to analyze the impact of Ghana's exchange rate on HDI. The results showed that the exchange rate significantly impacted Ghana's HDI in a favorable way. It implies that a dollar-based devaluation of the indigenous currency may boost human development in the nation. The Human Development Index is a measure of a country's social and economic development, and includes indicators such as life expectancy, education, and income. One possible reason for the positive effect of exchange rate on HDI is that a depreciation of the domestic currency can lead to an increase in the competitiveness of exports, which can in turn increase the country's foreign exchange earnings. This can provide more resources for the government to invest in social and economic development programs, such as education, health care, and infrastructure, which can contribute to improvements in the Human Development Index. Additionally, a depreciation of the domestic currency can make domestically produced goods and services relatively cheaper compared to imports, leading to an increase in demand for locally produced goods and services. This can result in an increase in employment opportunities and household income, which can in turn contribute to improvements in the Human Development Index. This is consistent with the findings that Yolanda (2017) who showed that exchange rate was an important factor affecting human development index and poverty.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This is the final chapter of the study and it concerns itself with summarizing the findings of the study, it also makes conclusions based on these findings. The chapter follows with recommendations and also makes recommendations for future studies.

5.1 Summary of Findings

5.1.1 The Influence of Exchange Rate On Per Capita Income of Ghana.

The first objective of the study was to examine the influence of exchange rate on per capita income in Ghana. The analysis showed that exchange rate has a positive and significant influence on per capita income in Ghana. Since exchange rate was measured in the local currency rate to a dollar, an increase in the rate implies a depreciation in the local currency and hence the finding of a positive influence indicates that the depreciation in the local currency helps to improve per capita income in Ghana. Depreciation in the local currency can help to improve per capita income in Ghana because it makes exports more competitive and imports more expensive. When the local currency depreciates, the prices of goods produced in Ghana become relatively cheaper in foreign markets, making them more attractive to foreign buyers. This leads to an increase in demand for Ghanaian exports, which in turn increases the country's foreign exchange earnings.

5.1.2 The Effect of Exchange Rate On Per Capita Consumption Expenditure of Ghana.

The second objective of the study was to examine the effect of exchange rate on per capita consumption expenditure. The analysis indicated also that exchange rate had a positive and significant influence on per capita consumption expenditure. Just as previously, the exchange rate is measured as the rate of the local currency to the dollar hence and increase in the rate shows a depreciation of the local currency therefore it can be concluded that the above finding implies that a depreciation in the local currency helps to improve per capita consumption expenditure in Ghana. This occurs because a depreciation of the domestic currency can make domestically produced goods and services relatively cheaper compared to imports, leading to an increase in demand for locally produced goods and services. When domestic goods become relatively cheaper, the demand for imports decreases as the prices of imported goods and services become relatively more expensive. This can result in a decrease in the trade deficit and an increase in the availability of foreign currency reserves, which can in turn help to increase the availability of goods and services for domestic consumption. The positive effect of exchange rate on per capita consumption expenditure is also related to the increase in household income and employment opportunities that can result from the increase in demand for domestically produced goods and services. When the demand for domestically produced goods and services increases, the production of these goods and services also increases, leading to an increase in employment opportunities and household income.

5.1.3 The Influence of Exchange Rate On Human Development Index (HDI) of Ghana.

The final objective was to examine the influence of exchange rate of human development (HDI) in Ghana. The findings indicated that exchange rate had a positive and significant influence on HDI in Ghana. It suggests that a depreciation of the domestic currency, as measured in dollars, can lead to an increase in human development in the country. The Human Development Index is a measure of a country's social and economic development, and includes indicators such as life expectancy, education, and income. One possible reason for the positive effect of exchange rate on HDI is that a depreciation of the domestic currency can lead to an increase in the competitiveness of exports, which can in turn increase the country's foreign exchange earnings. This can provide more resources for the government to invest in social and economic development programs, such as education, health care, and infrastructure, which can contribute to improvements in the Human Development Index. Additionally, a depreciation of the domestic currency can make domestically produced goods and services relatively cheaper compared to imports, leading to an increase in demand for locally produced goods and services. This can result in an increase in employment opportunities and household income, which can in turn contribute to improvements in the Human Development Index.

5.2 Conclusion

The overall objective of this study is to examine the effect of exchange rate on human development of Ghana. To achieve the above objective, the study also used the quantitative research approach in addition to the explanatory research design. The study's focus was Ghana; the country was purposely selected due to it being the key focus of the researcher. As an emerging economy in Africa, evidence from Ghana can

serve as a guide for other countries that wishes to attain the same level of development. The main source of data for this research was the secondary data. The data covered both exchange rate and human development indicators selected for this study. These were annual data that spanned over a period of 32 years from 1990 to 2021. The data were all obtained from the world bank database. The data was analyzed using Stata V.15s. The analysis was conducted using the linear regression analysis. Based on the findings, it can be concluded that exchange rate has positive effects on different human development indicators such per capita income, per capita consumption expenditure and human development index.

5.3 Recommendations

The following recommendation are made based on the findings:

The study recommends that government of Ghana and policy makers should endeavor to consider exchange policy as tools to promote development. A depreciation of the domestic currency can increase the competitiveness of exports, which can lead to an increase in foreign exchange earnings and an improvement in the trade balance. This, in turn, can lead to an increase in the availability of goods and services for domestic consumption, which can contribute to improvements in per capita income and consumption expenditure.

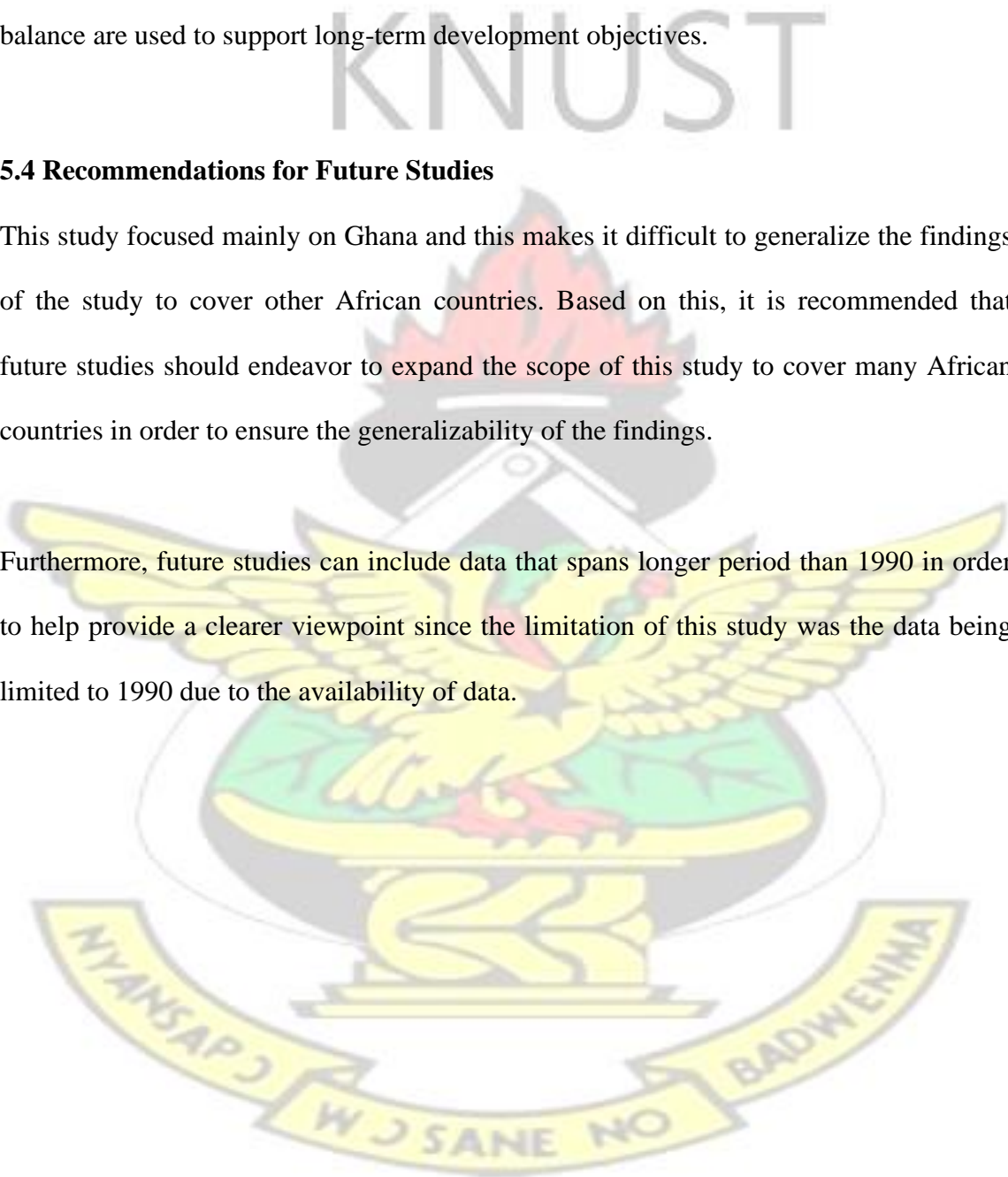
The study also recommends that policymakers should also prioritize macroeconomic stability when implementing exchange rate policies. This can help to prevent excessive volatility in the currency market, which can have negative impacts on inflation, interest rates, and overall economic stability.

Finally, the study recommends that government should invest in education and infrastructure. To ensure sustained improvements in the Human Development Index, policymakers should prioritize investment in education and infrastructure. This can help to ensure that the benefits of increased foreign exchange earnings and improved trade balance are used to support long-term development objectives.

5.4 Recommendations for Future Studies

This study focused mainly on Ghana and this makes it difficult to generalize the findings of the study to cover other African countries. Based on this, it is recommended that future studies should endeavor to expand the scope of this study to cover many African countries in order to ensure the generalizability of the findings.

Furthermore, future studies can include data that spans longer period than 1990 in order to help provide a clearer viewpoint since the limitation of this study was the data being limited to 1990 due to the availability of data.



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