ECONOMIC GROWTH, INFLATION AND EXCHANGE RATES IN NIGERIA

(1970-2018)

BY

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CERTIFICATION

I certify that this research project was conducted under my supervision by Olaniyi Olajumoke Esther (15020301009) at the Department of Economics, Mountain Top University, Ogun State, Nigeria.

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DEDICATION

This project is dedicated to the I AM THAT I AM, THE ALMIGHTY GOD.

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I thank the LORD for being there for me and seeing me through. He stood by me from the beginning of my programme and now He's still with me at the end. Without Him I am nothing.

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ABSTRACT

This study examined the effect of inflation on economic growth, it also analysed the effect of exchange rate on economic growth and assessed the degree of responsiveness of economic growth to inflation and exchange rate in Nigeria

The study made use of annual time series secondary data. Data on real GDP, inflation rate, exchange rate, gross domestic saving, financial deepening, import, export, foreign direct investment, employment and trade openness were sourced from World Development Indicators (2017), Central Bank of Nigeria Statistical Bulletin (2018), Penn World Table, version 9.0 (2016). The data collected were analysed using graphs, tables and econometric techniques, particularly, Autoregressive Distributed Lag (ARDL) Model. The analysis performed are unit root test, using both Augmented Dickey-Fuller (ADF) test and the Phillip and Perron (PP) test, the lag order of the ARDL models using VAR lag order selection criteria and bound test

The result showed that the variables have a long run relationship with real GDP, some have positive effect on real GDP (exchange rate, gross domestic saving, export and foreign direct investment) and others have a negative effect on real GDP (inflation, financial deepening, import employment and trade openness) and they are all insignificant.

The study concluded that inflation and exchange rate are not significant components for any short and long term development plan in Nigeria.

CHAPTER ONE

INTRODUCTION

1.1Background to the Study

High and sustained economic growth, combined with low inflation and exchange rates, is the common goal of global macroeconomic policy (Doguwa, 2012). But they can coexist? Could there be a trade-off between reducing inflation and attaining low exchange rates and continuing greater development? At operational level, it is recognized that economic growth depends on the level of inflation because inflation at low levels may favorably correlate with economic growth, but inflation at greater levels is likely to harm financial development (Doguwa, 2012). Knowing the concepts of inflation and exchange rates in Nigeria is essential to understand economic growth, inflation and exchange rates.

Inflation is frequently taught as the speed at which an economy's price increases and determines the value of cash in relation to offered products and services (Jhingan, 2002). Ekpenyong (2014) was of the view that not all increases in the cost of products and services in an economy can be described as inflation, but only increases in the rate of prices that are persistent, constant and affect all commodities in the economy. Inflation is often defined as a state in which "too much cash pursues too few products." The currency loses buying power when there is inflation. Over time, when the economy is inflated, the purchasing power of a specified quantity of naira will be lower. Most economists claim that low and stable inflation is compatible with financial activity growth. While elevated or unstable inflation and particularly unexpected inflation are detrimental (that is, inflation only becomes an issue in an economy when it is too big

and also unstable). Zero inflation rate rarely happens and it also highlights the deflation hazards that are a poor sign for an economy.

Some scientists such as Samuelson, based on previous experience, indicate that the suitable and desirable limit of mild inflation is 1-2% inflation in advanced nations and 4-6% inflation in less advanced nations. It should be stressed that inflation can be managed when it is one digit, but not easily managed when it reaches double digit (Tobin, 1995). From the above-mentioned background, the economy of Nigeria can be defined as a extremely inflationary economy because the inflation rate is double digits for most years after independence (Masha, 2000). In Nigeria's inflation rate was in single digits from 1970 to 1973 but increased to double digits from 1974 to 1981 returned to single digit in 1982 and then increased back to double digits, mostly double numbers (Tobin, 1995).

The exchange rate refers to the value of the currency of one country in comparison to another currency, the present market price for which one national currency can be exchanged for another currency (Ikenna, Abeng, Is'mail, Uba and Balarebe, 2016). In addition, it is determined on the foreign exchange market, which is open to a broad spectrum of distinct kinds of buyers and sellers, where there is ongoing currency trading. It is a key factor in determining a country's true value of cash (Korkmaz, 2012). Countries can choose from distinct exchange rate regimes, ranging from fixed to freely floating exchange rates. Exchange rate arrangements can be classified into four categories according to the International Monetary Fund (IMF): hard pegs or fixed schemes, soft pegs or intermediate schemes, floating schemes and residuals (IMF, 2013). Local currency is either attached to another currency or many other currencies under set or difficult pegs exchange rates. The advantage of this scheme is that the currency does not fluctuate under market circumstances, thus creating a stable and predictable company climate for investment and trade

between two currencies (Thirlwall, 2003). Under a flexible exchange rate regime, monetary value can fluctuate on the basis of its supply and demand specific exchange-rate currency. One of the advantages of the floating system is the automatic balance of payments adjustment, whose deficit or surplus is fixed by monetary appreciation or depreciation (Ghosh, Gulde, & Wolf, 2002). Most nations embrace a range of fixed and floating regime combinations called intermediate regimes. The crawling peg, where a currency value can fluctuate within a certain limit, is one sort of intermediate regimes. (Jakob, 2015) Nigeria's exchange rate policy has experienced considerable transformation since the instant post-independence period when the nation had a fixed exchange rate system up to the early 1970s. The currency of Nigeria, not being a traded currency, was mainly subject to administrative leadership for its exchange rate. The exchange rate was largely inactive as dictated by the fortunes, or otherwise, of the British pound sterling or the U.S. dollar– the nominal exchange rate appreciated each year throughout the 1970s, except 1976 and 1977. The exchange rate motion shows that in 1985 $1.00 was N0.89, a year before the market-based second-tier Foreign Exchange Market SFEM, the exchange rate shifted to N2.02 for US$ 1.00 in 1986 and N17.30 for US$ 1.00 in 1992 (Obadan, 2006).

Increasing inflation and exchange rates in the economy presents the biggest challenge for any nation's economic growth prospects because it decreases the value of saving or investment by decreasing the real value of cash inflation. Such effect frustrates the planning of company and investment, thus destroying the economic wealth-generating ability. High inflation and exchange rates also have a negative effect on fixed income on low-wage earners in a country and others, leading to worsening poverty levels (Madesha, Chidoko and Zivanomoyo, 2013). Rising prices of products and services and foreign exchange are therefore two significant elements that are considered to be accountable for economic growth fluctuations. Exchange rates cannot therefore

be overlooked in the study of inflation, nor can inflation rates be ignored in the study of exchange rates, nor can both be ignored in the study of financial development (Lado, 2015).

1.2 Statement of research problem

Inflation and exchange rates are linked. The relationship tends to be direct and positive as high inflation leads to high exchange rates (Ewurum, Kalu and Nwankwo 2017). Nigeria's elevated exchange rates since the 1990s may have reflected the economy's inflationary trend. A close observation shows that instability in the exchange rate was high during periods of elevated inflation, which was reserved in a period of comparative stability (Nwaru and Eke, 2017). The inflation rate rose from 7.5% in 1990 to 57.2% and 72.8% in 1993 and 1995, respectively, and the exchange rate rose from N8.04 per $1 in 1990 to N22.05 in 1993 and N81.65 in 1995 (Akpan and Atan, 2011). When the inflation rate fell from 72.85 percent in 1995 to 29.3 percent and 8.5 percent respectively in 1996 and 1997 and subsequently grew to 10.0 percent in 1998 and averaged 12.5 percent in 2000-2009, the exchange rate fell in the same direction (Akpan and Atan, 2011).

A research by Pattnaik and Mitra 2001 shows a high correlation between inflation rate and exchange rate. The exchange rate is the real exchange rate in both nations of interest adjusted for inflationary impacts. It was discovered by (Kiptoo, 2007) that the real exchange rate (RER) is achieved by changing the nominal exchange rate (NER) with the inflation differential between the national economy and the partner countries of foreign trade. Therefore, the (RER) derivation needs that national inflation (NER) and international inflation information be acquired (Sifunjo, 2011). With the depreciation of the exchange rate, domestic inflation will increase and the impact of overseas inflation will reduce with the appreciation of the exchange rate. Evidence from empirical research (Smyth, 1992; Faria and Carneiro, 2001) shows a adverse correlation between

elevated inflation and exchange rates and economic growth. Economic growth is usually small in nations where inflation and exchange rates are high (Tanjil, 2007). For many central banks, the main goal is to keep low inflation and exchange rates at elevated rates of development. As inflation and exchange rates boost savings and investment decreases, leading in a decrease in financial development (Ruzima, 2016).

Since 1970, the instability of inflation and exchange rates has seen a rise in empirical literature examining the link between inflation rate, exchange rate and economic growth over the past four centuries. Earlier surveys on inflation rates, exchange rates and economic growth concentrated on either inflation or exchange rates that failed to look at them simultaneously while other surveys that looked at them concentrated primarily on how exchange rates affect inflation and how inflation impacts exchange rates and the connection between inflation, exchange rates and economic growth. In Nigeria, therefore, the identification of the relationship between inflation, exchange rate and economic growth that is essential to define how inflation impacts exchange and how both impact the economy of the country was not obviously discussed. Although the literature contains a reservoir of significant empirical contributions on the topic, aside from the reality that there is restricted or complete absence of empirical research on less advanced and developing countries as the majority of accessible empirical evidence focuses on advanced economics, a few current studies are cross-country / cross section studies. The issue with such discourse is the country-wide homogeneous assumption that is impractical due to cultural, institutional, economic and social differences. There is still a lack of country-specific research as such.

Therefore, this research aims to explore empirically the effects of inflation and exchange rates on economic growth in Nigeria. Therefore, this research–Nigeria's financial growth,

inflation, and exchange rates will attempt to discover the effect of exchange rates and inflation on Nigeria's financial development and how they influence financial development separately.

1.3 Research Question

The following questions will direct the course of this study.

1. What is the effect of inflation on economic growth?
2. What is the effect of exchange rate on economic growth?
3. What is the effect of inflation and exchange rate on economic growth?

1.4 Objective of the study

The broad objective of this study is to examine the relationship between economic growth, exchange and inflation rates in Nigeria. The specific objectives of this study include to determine the:

1. effect of inflation rate on economic growth.
2. effect of exchange rate on economic growth.
3. degree of responsiveness of the economic growth to inflation and exchange rates.

1.5 Research hypothesis

In this research the following hypotheses were tested for validation or rejection.

Hypothesis 1: H_0 there is no significant relationship between inflation rate and economic growth in Nigeria.

H_1 there is a significant relationship between inflation rate and economic growth in Nigeria.

Hypothesis 2: H_0 there is no significant relationship between exchange rate and economic growth in Nigeria.

H_1 there is a significant relationship between exchange rate and economic growth in Nigeria.

Hypothesis 3: H_0 there is no significant relationship between inflation, exchange rate and economic growth in Nigeria.

H_1 there is a significant relationship between inflation, exchange rate and economic growth in Nigeria.

1.6 Significance of the study

Nigeria is currently experiencing a double-digit inflation rate that suggests it is high and dangerous, the present exchange rate is 360naira per dollar($), which is also high, and Nigeria is not enjoying strong and stable development. However, there is less consensus on the accurate impact of exchange rate inflation and its impact on financial activity. In Nigeria's economy, the still present issue of elevated inflation and exchange rates contributes to the need to create a survey aimed at finding their connection. The information to be gathered and concluded through this initiative will provide the opportunity for checking the importance of low and steady exchange rate inflation and how the economy will respond to it. The research will benefit government agencies in knowing how the economy and exchange rate will respond if inflation is induced or not curbed. Commercial bodies will also be helpful as they will be able to create excellent exchange rate prediction provided the required data about the country's inflation status. Future researchers conducting similar studies will also benefit from the study and learn more about the relationship between inflation exchange rate and economic growth and specifically how inflation rate affects the exchange rate and come up with different studies to provide more information on the topic as needed.

1.7 Scope and limitation of the study

This study is a macro analysis that covers the period from 1970 to 2018. The selection of this period is based on the accessibility of information and also on the reality that some significant changes in the Nigerian economy have occurred within the specified era.

1.8 Organization of the Research

This study is arranged in five sections. Chapter one consists of the research's introductory element. Chapter two provides insight into appropriate theoretical and empirical literature on economic growth, inflation, and the rate of return. The study methodology specifying the models to be used for the evaluation is provided in chapter three. While section four comprises of the estimated effects of inflation on financial development, the impact of exchange rates on financial development, and the degree of responsiveness of financial development to inflation and exchange rates in Nigeria as well. In relation to conclusions and policy recommendations, the main results from the study were summarized in chapter five.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is broken down into four parts. Section 2.2 presents Nigeria's trend analysis of inflation, exchange rates and economic growth. Section 2.3 provides some appropriate conceptual clarification for the research, the third chapter focuses on the theoretical and empirical literature on the exchange rate of inflation and economic growth as described in chapter 2.4. Finally, chapter 2.5 of the fourth segment shows the research gap.

2.2 Trend analysis

In this section an assessment of the trend of inflation rate, exchange rate and economic growth in Nigeria is presented.

2.2.1 Trend of Inflation in Nigeria

Since the 1970s, Nigeria has seen elevated and volatile inflation rates. Nigeria had a single digit low inflation before 1970, which was not big enough to cause financial instability. However, after the 1970 civil war and the discovery of crude oil the country's inflation rate grew to double digits with the exception of 1972,1973 and 1982. In 1975, the impact of the 1974 rise in money supply through the Udoji Salary Awards in the face of insufficient supply of goods was reported at 33.7%. it amounted to 11.4% in 1980, 21% in 1981, 7.7% in 1982, 23.3% in 1983 and 40% in 1984. Adenekan and Nwanna (2004) stated that inflation suddenly risen to over 50% in Nigeria in 1988 and 1989. In addition, Bawa and Abdullahi (2012) indicated that, despite declining inflation to about 7.5% in 1990, it increased to 44.8, 57.0% in 1992, 1993 and 1994 respectively. In 1995, it achieved an all-time high of 72.8% and in 1997 it gradually decreased to a single digit (Gbadebo and Mohammed, 2015). According to Mordi (2007) the sudden rise was due to surplus

money supply, scare foreign exchange and serious commodity supply shortages, as well as ongoing labour and political unrest following the annulment of the elections in June 1993. Inflation was shortened in the late 1990s when in 1997 and 1999 the nation recorded a single figure of 8.5% and 6.6% respectively. Single digit inflation did not last long as inflation reached the two-digit variety between 2001 and 2004 when18.9, 13.2,14 and 15% respectively in 2001,2002,2003 and 2004. The rate peaked at 17.9% in 2005, however and subsequently decreased to 8.4% in 2006, followed by 5.4% in 2007. The advent of the 2008-2009 worldwide economic crisis further boosted the level of inflation by 11.6% and12.0% respectively. It dropped marginally to 11.8%, 12.3% and 9.6% in 2010, 2013 and 2014 respectively. it dropped marginally to 11.8%, 12.3% and 9 .6% respectively in 2010, 2013 and 2014. In 2015 inflation stood at 9.0% rising to 15.7% and 16.5% in 2016 and 2017 falling to 12.1% in 2018

2.2.2 Trend of Exchange Rate in Nigeria

Exchange rate policy in Nigeria has undergone many modifications. Due to the advent of a stronger US dollar, the parity exchange with the British Pound was suspended in 1972. In 1973, after the US dollars devaluation, Nigeria returned to affixed parity with the British pound. In 1974, Nigerian currency was weary to both the pond and the dollar to minimize the impact of devaluation of a single individual currency. The naira was attached in 1978 to 12 currencies comprising the main trading partners of Nigeria. In 1985, however the policy of 1978 was expelled in favour of citing the naira against the dollar. The prevailing exchange rate policies promoted before 1986. In September 1986, in the framework of the Structural Adjustment Programme Package, the naira was deregulated to solve the problems associated with the overvaluation. Due to the problem arising from the firs rans second tier market rates in July 1987, the FEM's scope. The fixed exchange rate system was re-established in 1994. A policy reversal

of guided deregulation called the Autonomous Foreign Exchange Market (AFEM) occurred in 1995.the interbank of foreign exchange market (IFEM) was reintroduced in 1999.This resulted in the merger of the dual exchange rate after the abolition of the formal exchange rate on 1 January 1999. In 2002, the Dutch Auction System (DAS) was re-established as a consequence of increased demand pressure on the foreign exchange market and persistence in the depletion of the country's internal reserves. In 2006, the introduction of wholesale DAS, which further liberalised the market in an effort to develop a realistic naira exchange rate.

2.2.3 Trend of Economic Growth in Nigeria

During Olusegun Obasanjo's army era, GDP per capita was around US$1804 on average between 1976 and 1979. The decreasing trend of average true GDP per capita was noted after the Obasanjo military regime. Before the country's 1986 Structural Adjustment Programme (SAP) was adopted, the average per capita between 1960 and 1985 was nearly US$1544. After the SAP age, however there was a decrease in real GDP per capita. On average, the actual GDP per capita stood at US$1446 when the nation was under military rule. There has been an improvement in real GDP per capita since the adoption of a democratic system in the country. Also Nigeria's highest annual per capita GDP growth rate has been observed between 1999 and 2007. The country's lowest growth rate has been attributed to the period before the democratic system of government. Since the adoption of a democratic system in the country, there was an improvement in the real GDP per capita. Also, the highest annual growth rate of Nigeria's GDP per capita was observed between 1999 and 2007. The least growth rate in the country was attributed to the period before the democratic system of government.

2.3 Conceptual Framework

2.3.1 Inflation Rate

Inflation is seen merely as a steady and quick price-level increase. It is called the tenacious and substantial increase in the general price point. Inflation is often defined as "too much cash purses too few products". An economy's price stability is evaluated using the rate of inflation. Inflation can be split into two sides; the supply side and the demand side. Inflation comes from national variables and factors from overseas for nations with open economy.

2.3.2 Exchange Rate

Exchange rate is the amount that can be exchanged for another currency. It is also considered as the value of the currency of one country in comparison to another currency, which is the present market price for which it is possible to exchange one national currency for another. There are two popular exchange rate ideas, namely nominal and actual exchange rates. The nominal exchange rate (NER) is a financial notion that estimates the relative price of the moneys or currencies of two nations. But the real exchange rate (RER) is a true notion that measures the relative price in relation to non-tradable goods of two commodities (Obadan, 2006). Nominal exchange rate is the foreign currency national currency price.

2.3.3 Economic growth

Economic development is the most significant measure of financial results. It usually involves a rise in an economy's quantity of products and services. The gross national product (GDP) is evaluated and the annual GDP change is measured. Growth is said to happen when Akpan (2008) increases the productive ability of a country

2.4 Theoretical review

This section contains various theories on inflation, exchange rate as well as theories on inflation and economic growth nexus.

2.4.1 Theories of Inflation

2.4.1.1 Quantity Theory of Inflation

The theory of quantities is one of the oldest financial teachings that survives (Totonchi, 2011). Sometimes it's also called the classical theory. The classic inflation theory attributes continuous price inflation to excessive development in the circulating amount of cash. For this reason, the classical theory is sometimes referred to as the "cash quantity theory," although it is an inflation theory, not a money theory. In particular, the classical inflation theory describes how the aggregate price level is determined by the interaction between money supply and demand for money. (2014, Ireland). It says that there is a direct percentage of money supply and price level in an economy. That is, there is a comparable change in the price level when there is a change in the money supply. It is also an inflation theory that attributes sustained price inflation to excessive growth in the circulating amount of money (Ireland, 2014). This theory says that there is a direct percentage of money supply and price level in an economy. There is a proportional change in price level and vice versa when there is a change in the supply of cash (Friedman, 2016). It states that changes in the overall price level are mainly determined by changes in the amount of cash in circulation (Totonchi, 2011). This theory describes how an interaction between money supply and demand determines the overall price level (Ireland, 2014). The quantity theory claims that overall prices (P) and complete cash supply (M) are linked according to the equation: where Y-true production and V-cash speed The quantity theory can be expressed as p= v+ m–y lowercases denote percentage change that is growth change, where p is inflation rate and y is output growth

rate, v is speed and m is cash inventory. A key hypothesis behind this assertion is that money velocity is continuous and money development has no impact on GDP (Wen, 2006). Most economists accept the hypothesis. However, the theory has been criticized by Keynesian economists and Monetarist economists. According to them, when prices are sticky, the theory fails in the brief run. In addition, it has been screened that money rates do not remain continuous over time. Despite all this, the theory is highly regarded and used to regulate market inflation (Friedman, 2016). The theory is based on the assumptions that the source of inflation is obtained mainly from the money offer's expansion rate. The theory related inflation and financial development by merely equating total financial expenditure to the total existing quantity of cash (Gokal, Hanif, 2004).

2.4.1.2 Monetary Theory of Inflation

Monetarism relates to M's supporters. Friedman (1912-2006) who holds that "it counts only money" (Totonchi, 2011). Inflation's monetary theory says that money supply has a significant inflationary impact. This implies that this generates an inflationary situation in an economy as money supply rises due to development in manufacturing and jobs (Nwaru and Eke, 2017). It is merely a continuous rise in a country's (or monetary area's) cash supply that is likely to result in price inflation. In this inflation theory, inflation is said to be driven by surplus money supply over its demand, where actual money supply is equal to true money demand in balance (Mbutor, 2013). Monetarists claim that while cash dominates short-term pricing and production levels, it can only determine the long-term price level. A steady rise in the pace of development in money supply would result in inflation. In order to contain inflation, monetarists frequently claim that declining money supply will raise nominal interest rates, thus slowing aggregate demand and reducing inflation (Totonchi, 2011 Mbutor, 2013). In other words, if the supply of

money increases quicker than the pace of national income development, then inflation will occur. If the supply of cash rises in line with actual production, then inflation will not occur (Cloonan, 2017). M.Friedman said: "Inflation is always and everywhere a financial phenomenon in the sense that it is and can only be generated by a lot of rapid rise in money than production." Consequently, an increase in the resources can lead to an increase in inflation.

2.4.1.3 Demand Pull Inflation Theory

John Maynard Keynes (1883-1946) was also known as the Keynesian inflation theory and his supporters emphasized the rise in aggregate demand as a source of demand-pull inflation (Totonchi, 2011). Inflation of demand-pull occurs if aggregate demand for a good or service exceeds aggregate supply (Amadeo, 2019). It may also happen when aggregate demand rises much faster than aggregate supply (Lado, 2015). It begins with a rise in consumer demand. With more demand, sellers fulfill such a rise. But sellers raise their costs once extra supply is untouchable. It is the most prevalent cause of inflation that results in demand-pull inflation (Amadeo,2019). Demand-pull is interpreted as an excess of aggregate money demand relative to the full employment output level of the economy (Lewis, Mizen, 2000). In other words, when the aggregate demand value exceeds the aggregate supply value at full employment level, the inflationary gap occurs. Inflation is the faster the gap between aggregate demand and aggregate supply (Totonchi, 2011). The core of this hypothesis is that inflation is caused by excess demand (expenditure) relative to the current price supply of products and services (Totonchi, 2011). This would result in demand-pull inflation as aggregate demand increases above aggregate supply (Mbutor, 2013). Excess demand in the economy is evolving due to large-scale investment spending in both the government and private sectors, thus surpassing total output. As a consequence of this excess demand, prices will rise and there will be excess demand inflation or

demand-pull inflation (Holzman, 1960). According to this demand-pull inflation theory, prices rise in reaction to a surplus of aggregate demand over the current supply of products and services created by an increase in the amount of cash leading to a drop in interest rates. But inflation in demand-pull can also be induced without increasing the supply of cash (Machlup, 1960). Because inflation is due to excess demand, demand that reduces currency and fiscal policies is regarded controllable (Amedeo, 2019).

2.4.1.4 Cost Push Inflation

Theory also became renowned as "New Inflation" during and after World War II (Totonchi, 2011). This theory holds that prices are also pushed up as a consequence of an increase in manufacturing costs rather than being pulled up by surplus demand (Holzman, 1960). Cost push inflation is inflation due to an increase in input expenses such as labor, raw material, etc. (Machlup, 1960). The theory argues that the fundamental explanation for inflation is the fact that some manufacturers, groups of employees or both, manage to raise prices for either their product or services above the quantity that may prevail below many competitive circumstances (Holzman, 1960). In other words, inflationary pressures arise from supply rather than demand and spread throughout the economy. Cost-push type inflation originates in sectors that are relatively targeted by square measurement and during which vendors exercise good discretion in formulating each cost and wage (Mehra 2000). Cost push inflation is triggered by shocks in supply which is a decline in overall supply (Lado, 2015). It is also triggered by enhanced union salaries and enhanced employers ' revenues, which were analyzed as the main reason for inflation in the 1950s and again in the 1970s (Totonchi, 2011). Cost-Push inflation's core cause is the rise in money wages faster than labor productivity, rising prices induce unions to demand even higher wages. Thus, wage-cost spiraling nations lead to cost-push inflation or wage-push. Cost-push inflation

can be further improved by adjusting salaries upwards to compensate for rising living costs. Thus, wage-push inflation in excessively few economic industries could now lead to inflationary price rises across the economy as a whole. In addition, an rise in the price of imported raw materials could lead to cost-push inflation as another reason for cost-push inflation is profit-push inflation.

2.4.2 Theories of Exchange rate

2.4.2.1 Purchasing Power Parity Theory (PPP)

Purchasing power parity is a theory of exchange rate determination and a way to compare the average cost between nations of products and services (Okoth, 2013). Swedish economist Gustav Cassel (1866-1945) launched the concept in 1921 (Kaji, 2013). PPP assumes that the exchange rate would be equivalent to the comparative domestic level rates between two nations (Udoye, 2009). An significant opinion of the exchange rate determinants is the theory that exchange rates move mainly as a consequence of price-level behavior variations between any two nations in such a manner as to preserve steady trade conditions between the two nations (Lado, 2015). In neoclassical economic theory, the PPP assumes that the exchange rate actually observed in the foreign exchange market between two currencies is the one used in purchasing power parity comparisons, so that the same amount of goods could actually be purchased in either currency with the same starting amount of funds. Buying power parity is assumed to hold either in the long run or, more strongly, in the short run, depending on the actual theory. Theories that invoke PPP suppose that under certain conditions a decline in the buying power of either currency (an increase in its price level) would result in a proportional decline in the foreign exchange market value of that currency. PPP indicates that a country's current account operations influence the foreign exchange market's exchange rate value (Okoth, 2013).

The PPP theory is based on a single price extension and variation of the law as applied to the aggregate economy (Devereux and Engel, 2003; Okoth, 2013). The PPP stems from the concept that there is "one-price legislation" in the globe. This law states that the same merchandise should be sold at the same cost. The one-price law means that exchange rates should be adjusted to compensate nations for price differentials (Hoontrakul, 1999; Udoye, 2009). PPP combines the proposals that the expected rate of exchange rate change between any two currencies is approximately equal (assuming approximate risk neutrality) with the difference between nominal interest rates on assets denominated in both currencies, nominal interest rates equal real interest rates plus expected domestic price inflation rates, and real inte interest rates. Together, these three proposals claim that the anticipated exchange rate shift is about equivalent to the difference between anticipated national price inflation rates. It is further stated that this version suggests that observed exchange rate levels alter approximate differences between observed national price inflation rates (Isard, 1978).

As stated above, PPP is about equality in the purchasing power of two currencies essentially when one country's inflation rate rises relative to another country's falling exports and rising imports depressing the currency of the country (Ebiringa and Anyaogu, 2014). The theory tries to quantify the connection between inflation and exchange rates by requiring that the inflation rate differentials cause changes in the exchange rate (Kara and Nelson, 2002, Ebiringa and Anyaogu, 2014).

2.4.2.2 Balance of payments

The concept of balances is the most contemporary and satisfactory form of exchange rate determination (Okoth, 2013). It is also called exchange rate demand and supply theory. According to this hypothesis, the foreign exchange rate is determined by the equilibrium of payments in the

market's sense of demand and foreign exchange supply (Okoth, 2013). If a country's demand for currency increases at a specified exchange rate, we can talk about surplus in its equilibrium of payments. A deficit balance of payments causes the internal value of the currency of the country to drop or depreciate. A balance of payments excess results in an rise or appreciation of the currency's internal value (Galí and Monacelli, 2005; Udoye, 2009). A country's payment balance deficit means that foreign exchange demand exceeds its supply (Udoye, 2009). This strategy to determining the exchange rate is that inner and external equilibrium exists. The internal balance assumes full employment, in which there is a natural rate of unemployment. The internal balance relates to balance of payments balance equilibrium (Udoye, 2009). The primary drawback with this strategy is that finding out what the precise natural rate of unemployment, or the exchange rate that is compatible with the balance of internal accounts, is generally very difficult (Okoth, 2013).

2.4.2.3 Monetary approach to exchange rates

The monetarist strategy emerged in the 1950s first as a financial approach to the equilibrium of payments and then reoriented towards exchange rates (Kilugala,2013). This strategy assumes that the exchange rates are determined by balancing the domestic currency's complete demand and supply in each nation. The demand for cash is the immediate function of real income and the level of prices, the monetary authorities of distinct nations determine the supply of cash. This merely indicates that if individuals demand more cash than the monetary authority provides, then the excess demand for cash would be met through the inflow of cash from overseas, thus improving the trade balance. On the contrary, if the monetary authority supplies more money than is required, the excess money supply will be eliminated by the outflow of money to the other countries and this will worsen the trade balance (Kilugala,2013). The

foreign exchange market is presumed to be in equilibrium at first. It is further presumed that the home country's currency authority improves the cash supply, which in the long run will result in a proportionate rise in the home country's price rate. The exchange rate adjusts without any change in reserves to clear the money markets in each nation. The nominal demand for cash is stable in the long run, favorably connected to the nominal national income level, but inversely linked to the interest rate, according to the financial strategy.

The money supply of the nation is equivalent to the multiplier's monetary base moments. The financial base of the nation is equivalent to its financial authorities ' national credit plus its global reserve. Unless domestically satisfied, an excess supply of cash in the country results in an outflow of funds or a balance of payment deficit under fixed exchange rates and a depreciation of the currency of the country (without any global reserve flow) under flexible exchange rates. The reverse is happening with the nation's surplus demand for cash (Lawal, Atunde, Ahmed, Abiola 2016). The exchange rate in each nation is influenced by the anticipated inflation rate. This strategy is a direct result of the parity of purchasing power and the theory of cash in quantities. This strategy includes two models: the flexible cost model and the sticky price (over-shooting) model. The flexible currency price model says that national commodity prices are presumed to be fully flexible, suggesting that the real exchange rate never changes and that PPP continually maintains (Levich, 2001).

For the home country, where P-price level, M-money supply, L-demand for money, Y-real income, I for the foreign country, the model predicts that if domestic money supply M increases, the domestic currency will decrease proportionately and if domestic real income Y increases or domestic interest decreases, the domestic currency will appreciate the increase in domestic money demand (Levich, 2001). The sticky currency model of value (overshooting) says

that the prices of products are presumed to be sticky-slow to adjust-relative to the prices of assets. Accordingly, asset prices must move more than in the flexible price situation so that markets can achieve a temporary balance. In the short run, the real exchange rate changes, but in the long run it returns to its original level. The exchange rate between two currencies, according to this strategy, is the proportion of their values determined on the grounds of the two countries ' cash supply and cash demand positions (Kilugala,2013).

2.4.3 Theories on inflation and economic growth Nexus

2.4.3.1 Classical theory

Classical economists set the groundwork for a number of theories of development. Adam Smith set the basis for the Classical growth model, suggesting a supply side-driven growth model. The classical theory of development claims that economic growth will decline or end due to population growth and restricted resources. Classical economists thought that a temporary rise in real GDP per individual would trigger an explosion in the population, resulting in a reduction in real GDP. Classical development theories did not specifically articulate the connection between the change in price levels (inflation) and its "tax" impacts on profit rates and production. However, it is implicitly suggested that the connection between the two factors is negative, as stated by the decrease in profit rates of companies through greater salary expenses. (Hanif, Gokal, 2004). Economic growth relies on capital stock, labor force, land, and the level of technology in the classical growth theory. While the theory does not explicitly integrate inflation into its model, it assumed inflation would negatively affect development. This is because inflation decreases savings and the process of capital accumulation by speeding up salary expenses due to competition and decreasing the profit of companies (Ashagrie 2015)

2.4.3.2 Keynesian Theory

The traditional Keynesian model includes the curves of aggregate demand and aggregate supply, which adequately shows the connection between inflation and growth. In the brief run, the aggregate supply curve is sloping upwards rather than vertically, which is its critical characteristic, according to this model. If the aggregate supply curve is vertical, modifications are only affecting prices on the demand side of the economy. But if it is sloping upward, changes in aggregate demand will influence both prices and production (Dornbusch, R., S. Fischer and C. Kearney, 1996, Gokal, Hanif, 2004). This is due to the fact that the inflation rate and output level are driven by many factors in the short run. The original favorable connection between production and inflation generally occurs because of the issue of' time inconsistency.' According to this notion, manufacturers feel that only their product prices have risen while the other manufacturers operate at the same rate of cost. In fact, however, prices have increased generally. Thus, more is produced by the producer and output continues to rise. Also, Blanchard and Kiyotaki (1987) think that the beneficial connection may be due to contracts made by some companies to supply products at an agreed cost at a later date. Thus, even if the prices of products in the economy have risen, production would not decrease as the producer has to meet the requirement of the customer with whom the contract has been created. It is also essential to note two additional characteristics of the adjustment method. First, there are moments when production is falling and inflation rate is rising, this adverse connection between inflation and development is crucial, as it happens quite often in practice. This phenomenon is stagflation when inflation increases as production drops or stabilizes. Second, the economy is not moving straight to a greater level of inflation, but is following a transitional route in which inflation increases and then falls. There is a short-run trade-off between output and inflation change under this model, but there is no

continuous trade-off between production and inflation. In order to keep inflation at any stage constant, production must be equivalent to the natural rate. Any level of inflation is sustainable; however, a period when production is below the natural rate must be in place for inflation to drop.

2.4.3.3 Money and Monetarism

Monetarism is an economic theory that the most significant determinant of economic growth is money supply, as money supply improves people's demand (Amadeo, 2018). Monetarists warn that raising the supply of cash only gives a temporary boost to economic growth and job creation and, in the long run, inflation increases as demand exceeds supply price rises (Amadeo, 2018). Milton Friedman, who invented the word "monetarism," suggested that inflation was the result of increased supply or speed of cash at a pace higher than economic development (Gokal, Hanif, 2004). However, a gradual rise is needed to avoid greater unemployment rates, but the inflation antidote is greater interest rates, which would decrease the prices of cash supply (Amadeo, 2018). Monetarists think the impact of inflation is neutral. Only the nominal variables are affected. Thus they thought that if prices doubled in an economy, nominal salaries doubled as well, maintaining the real wages constant. The same applies to all true variables. They endorsed the argument that cash has no true impacts in this manner. In the context of a completely optimizing general equilibrium structure and introducing cash into the utility function, early financial development models by Sidrausky (1967) and Brock (1975) explore a comparable issue. They discovered cash to be super neutral. The capital stock per worker is independent of the rate of growth of the money supply in the steady states. The Sidrausky-Brock model, with elastic labor supply, means that while capital per employee (and hence the real interest rate) is independent of the growth rate of the money supply, labor supply is not (Ashagrie 2015). Monetarists think in regulating the money supply flowing into the economy while enabling the remainder of the market

to solve themselves. They think that money supply controls the economy, controlling money supply directly affects inflation thereby combating inflation with money supply (Lioudis, 2019)

2.4.3.4 Endogenous growth theory

Endogenous growth theories portray economic growth produced by variables in the manufacturing system as compared to external (exogenous) variables such as population increase. The growth rate has relied on one variable in endogenous growth theory: the rate of return on assets. Variables, such as inflation, that lower the rate of exchange, which in turn lowers capital accumulation and lowers the rate of development. Some variants of the endogenous growth markets consider the impacts of inflation on growth to be low.

Another indication of various endogenous growth models is that inflation has a adverse impact on economic growth. Gregorio (1993) develops endogenous models of development that demonstrate various channels through which inflation impacts development. The first model focuses on the role of cash in the operation of companies and its impact on the rate of investment. Companies use cash in this model to purchase fresh machinery. Increasing inflation will induce companies to save on actual balances, thus growing transaction costs. Increasing transaction expenses will boost the installed capital's shadow value and depress investment. The return on assets, the rate of investment, and the rate of development decrease in the new balance.

The second model highlights the impacts of inflation on the behavior of capital productivity and families. The intuition for the adverse impacts of inflation on jobs is that side inflation of companies increases labor costs, reduces labor demand with a consequent drop in jobs and the marginal product of capital, and side inflation of families induces substitution from consumption to leisure, decreasing the supply of labor. Similarly, Jones and Manuelli (1995) created two models of endogenous growth that vary in their interpretation of the supply of

efficient labor provided by employees to companies. There is no human capital in the first, and as a result the supply of labor is asymptotically zero. In this model variant, inflation rate has no effect on the restricting interest rate paid on capital revenue and on the economy's asymptotic growth rate, but on the level of economic growth. In the second endogenous growth model, Jones and Manuelli (1995) showed that the constant government effort level (i.e. amount of hours delivered to the market) is determined by the relative rates of consumption and recreation and this margin is distorted by inflation. This has a direct impact on the economy's long-term growth pace through an impact on capital's marginal product (Ashagrie 2015).

2.4.4 Theoretical review summary

Inflation and exchange rates are key determinants of economic growth. They both have under them different theories. The theories mentioned above discuss inflation and exchange rate determinants and what they fed to remain alive. Although all this theory as distinct has distinct opinions on how to determine their valued variables, this research would focus on the concept of purchasing power parity (PPP) and endogenous development.

2.5 Empirical evidence

This section examines several studies done on exchange rate and inflation and their relationship with economic growth in developed countries, developing countries and Nigeria.

2.5.1 Studies in Developed Countries

Devereux and Engel (1988) examined directly how pricing impacts the exchange rate regime's ideal decision. They discovered that floating exchange rates always dominate fixed exchange rates when prices are set in consumer currency. There is a trade-off between floating and fixed exchange rates when prices are set in the currency of manufacturers. Exchange rate adjustment at floating prices enables a reduced consumption variance, but the volatility of the

exchange rate itself leads to a reduced average consumption level. The result of their study's easy assessment shows that, if exchange rates are unstable, setting exchange rates on both the US dollar and Japanese Yen is better than floating, as both US and Japanese exporters set the price in the currency of manufacturers.

Smyth (1992) verified a adverse US inflation-growth relationship and estimated that each percentage point rise in US inflation decreases the country's annual growth rate by 0.223%. Smyth (1994) showed in another research on the U.S. that enhanced inflation has a negative impact on development in the U.S. and estimated that each percentage point rise in inflation has caused a decrease of 0.158 percent in production development in America.

Klitgaard (1999) examined the impact of dollar / year exchange rate changes and pointed out that the US import cost of Japanese products rose below the exchange rate in the early 1990s as Japanese firms adopted reduced yen export rates.

In order to derive a structural inflation feature as an equilibrium correction model, Sekine (2001) tried a structural model-based prediction for Japan. In building a one-year inflation forecast for the economy, the research discovered surplus cash and output gap as the significant determinant of the inflation cycle.

Kang and Wang (2003) assessed the effect on import and consumer prices in Japan and Singapore of exchange rate changes. The writers discovered that in the post-crisis era (1998–2001) the transmission of exchange rate modifications to import and consumer prices was more than in the pre-crisis era (1991–1996).

Berben (2004) discovered that, during the run-up to the European Monetary Union (EMU), the degree of passage of the guilder-mark exchange rate into the price difference between the Netherlands and Germany improved, supporting the opinion that both nations became more

integrated during that era. The research also showed that reduced inflation was not necessarily connected with reduced cost-to-price passage.

Rafiq and Mallick (2006) conducted a survey using the fresh VAR identity technique on the effect of inflation on the production of Germany France and Italy. From 1981 to 2005, quarterly observations were used. The research results indicate that monetary policy innovations in Germany alone are at their most efficient. Besides Germany, it continues uncertain whether there will be a drop in production from an rise in interest rate ends, thus demonstrating a lack of homogeneity in response.

2.5.2 Studies in Developing Countries

In the era 1956-66, Cooper (1971) also assessed twenty-four experiences of devaluation involving 19 distinct developing countries. The research showed that devaluation enhanced the devaluing country's trade balance but that, in relation to an rise in short-term inflation, financial activity often reduced.

Kamas (1995) research on Colombia expanded the works of Montiel (1989) and Dornbusch, Sturzenbegger and Wolf (1990) found that exchange rates did not play a significant part in explaining inflation variability in Colombia and that inflation appeared to be mainly inertial in exchange rates but mainly determined by demand shocks.

Taylor (2000) placed forward the hypothesis that inflation strongly depends on price responsiveness to exchange rate changes. They also discovered that a lot of current studies is focused on the connection between nominal exchange rate movements and import prices. A narrower but equally significant strand of literature focuses on the pass-through aggregate price indices macroeconomic exchange rate.

From the view of an economy suffering from elevated and continuous inflation, Faria and Carneiro (2001) examined the inflation-growth nexus. He researched Brazil's case and discovered in the brief run empirical evidence that inflation had a adverse impact on production.

A survey by Mallik and Chowdhury (2001) on four South Asian nations (Sri Lanka, Pakistan, Bangladesh and India) to determine the presence for nations of a connection between inflation and GDP development. However, it was discovered that all four nations have a long-term beneficial connection between growth rate of GDP and inflation. It has also been discovered that mild inflation benefits economic growth, owing to important feedback from inflation and economic growth.

H Berument and M Pasaogullari (2003) evaluate the impacts of actual depreciation on Turkey's financial performance by taking into account quarterly information from 1987 to 2001. Using the Granger causality technique, empirical evidence suggests that, contrary to traditional wisdom, actual depreciation is contractionary even when internal variables such as world interest rates, international trade and capital f are contractionary. Furthermore, the findings collected from the analyzes show that actual depreciations of exchange rates are inflationary Isfahani and Yavari (2003) included an increase in money supply, an increase in exchange rates and inflation expectations as nominal factors in a VAR model between 1971 and 2001; as the real variable, they took the true gross national product deficit. Using the VAR model, all these variables influenced inflation.

Barden, Janson and Mymoen (2003) built an inflation targeting Norway's econometric model when the nation shifted from exchange rate targeting to inflation. Using a narrower parallel salary and price-setting model along with marginal models from the remainder of the economy, they discovered that inflation can be influenced by a change in the short-term exchange rate and

that the primary transmission routes are through production gaps and unemployment rates, while exchange rates can be used to offset shocks at GDP output Mubarik (2005) estimated limit levelo He has discovered that above-threshold inflation has a negative impact on economic growth. But inflation is conducive to economic growth below the projected rate.

Ahmed and Mortaza (2005) used an annual information set on actual GDP and CPI for the period 1980 to 2005 in their empirical research of the connection between inflation and economic growth in Bangladesh. The empirical evidence shows that a statistically significant long-term adverse connection exists for the nation between inflation and economic growth owing to the statistically significant long-term adverse connection between CPI (an inflation measure) and true GDP (an economic growth proxy).

From an "inflation targeting" viewpoint, Edwards (2006) analyzed the pass-through topic. Edwards researched the connection between pass-through and nominal exchange rate efficiency in regimes that target inflation. Results showed that nations targeting inflation encountered declining pass-through impacts of inflation adjustments in exchange rates.

Shintani, Akiko and Yabu (2009) showed that reduced inflation was associated with decreases in the U.S. ERPT during the 1980s and 1990s. Likewise, Sahaa and Zhanga (2011) checked the completion of the ERPT to import rates and estimated the pass-through to CPI. Their results suggested that exchange rates had less impact on increasing national prices in China and India, using the structural VAR model.

A adverse and substantial inflation development relationship exists in Pakistan's economy in another research by Ayyoub, Chaudhry and Farooq (2011). This research showed that present inflation, given a certain threshold level, is detrimental to financial development.

In researching Malaysia's economic growth and inflation, Datta (2011) showed that there is a short-term causality between inflation and economic growth, thus inflation influencing economic growth, but inflation has influenced long-term economic growth.

Study by Kogid (2012) tried to explore the impacts of exchange rates on Malaysia's economic growth using information from time series from 1971 to 2009. Both nominal and actual exchange rates were regarded as having comparable impacts on economic growth. ARDL bound test findings indicate that long-term co-integration exists between nominal and real exchange rates as well as economic growth with a substantial favourable coefficient for actual exchange rates. Furthermore, the findings of the ECM-based ARDL also disclosed that both exchange rates have a comparable causal impact on financial development Chaudhry, Qamber and Farooq (2012) examined the short-and long-term inflation, financial and economic development interactions in Pakistan from 1972 to 2010. The findings showed that real GDP can be stimulated in Pakistan by giving personal investment more credit, while real exchange rate and budget deficit are found to be elastic and substantial. In addition, there was bidirectional causality between real GDP and real exchange rates, whereas real GDP as well as real exchange rates existed as unidirectional causality between financial depth, domestic credit and budget deficit.

Khodeir (2012) performed a survey on' Egypt's inflation targeting: the exchange rate-inflation relationship,' using monthly information from January 1990 to April 2008. The research findings disclosed that in Egypt there was causality with feedback effects between the nominal exchange rate and inflation. It implies that a further depreciation of the exchange rate outcomes from the fresh point of inflation (Lado 2015).

Kasidi and Mwakanemela (2013) reviewed the 1990-2011 effect of inflation on Tanzania's economic growth. The level of GDP response to the level of price was evaluated by elasticity

coefficient, while the connection between the two factors was developed using coefficient of correlation and method of co-integration. Results indicate inflation as an adverse effect on economic growth. It was also shown that there was co-integration in Tanzania between them.

Madesha, Chidoko and Zivanomoyo (2013) examined that both economic and structural factors were deemed to be the root cause of inflation in Zimbabwe by Chhibber (1989) macroeconomic impacts of devaluation. Makochekamwa (2007) used annual time series data in Zimbabwe to use information from 1975 to 2006 to assess the connection between inflation and exchange rate. He discovered empirically that the causality of granger is bidirectional for the statistical significance of factors related to foreign exchange inflation.

Madesha (2013) conducted an empirical test of Zimbabwe's exchange-rate relationship with inflation. The research created the presence of bidirectional causality using the Granger-causality strategy for the annual information from 1980 to 2007. This implies feeding each other the two variables.

Mandizha (2014) performed a survey on the connection between inflation and depreciation of exchange rates in Zimbabwe using monthly information from time series using Granger causality method. The findings showed that causality ran from currency depreciation to inflation (prices) in the first two months. This implies that the causality of Granger was unidirectional from lag one to lag two. However, there was a Granger-causality feedback between inflation and exchange rate depreciation up to twelve in lag three (the third month). Maswana (2005) and Ahmed and Ali (1999) have created similar outcomes from two other research in separate nations.

Missio, Jayme, Britto and Oreiro (2015) analyzed the connection between real exchange rate (RER) and output growth rate empirically by first estimating the impact of the RER

undervaluation index on the rate of production development in two country samples from 1978 to 2007. The connection between the factors is non-linear, they provided fresh finding. They found that keeping a competitive RER level has beneficial impacts on the pace of development.

Gulay, Vedat and Pazarliogluour (2016) conducted studies on the long-term connection between GDP, exchange rates and oil prices to show a long-term connection between economic growth and actual exchange and crude oil prices. This study was carried out by integrating the fundamental impacts on the Turkish economy of structural breaks. Similarly, using co-integration methodology, Ciftci (2014) examined the connection between economic growth, real exchange rate and current account deficit and showed that the factors have a long-term connection.

Fetai, Koku, Caushi and Fetai (2016) tried to ask whether the fixed exchange rate plays an important part in inflation results or whether the flexible exchange rate should be implemented to serve as a shock absorber in the Western Balkans. The study's primary finding is that exchange rate changes will have a powerful impact on inflation in the nations of the Western Balkans. The outcome also disclosed that the exchange rate in Western Balkan countries is still the primary cause of inflationary pressures.

Musa, Yohanna (2017) investigated the connection between economic growth measured by real gross domestic product (GDP) log and true effective exchange rate using the Turkish economy's annual information from 1970 to 2015. Also included in the model was the inflation variable as an tool capturing macroeconomic stability. The research used non-causality of ARDL and TY-granger in the presence of structural break for empirical inquiry. It has created a long-term connection between economic growth and Turkey's true effective exchange rate.

Sanam Shojaeipour Monfared, Fetullah Akın (2017) used the Hendry technique to conduct a survey on the connection between exchange level and inflation in Iran. Inflation has

been impacted by one, two and three lagged values of its own. This scenario highlights the significance of the Iranian economy's inflationary expectations. As the exchange rate rises over the period, the rate of inflation rises. It can be seen that inflation was also influenced by the exchange rate of the one-period and six periods before the t-period.

2.5.3 Studies in Nigeria

Adetiloye, Kehinde Adekunle (2010) The article introduced correlation methods and found the meaning of the relationship between the consumer price index and Nigerian exchange rates using information from 1986 to 2007. It discovered that there is a greater beneficial connection between the import ratio and the index compared to the parallel and official prices. The coefficient between independent exchange rates and the customer price index (CPI) is lower than the formal rate, whereas the economy's import ratio demonstrates a nearly two-way causality with the consumer price index.

B Imimole, A Enoma (2011) used the Auto Regressive Distributed Lag (ARDL) Co-integration Procedure to examine the effect of exchange rate depreciation on inflation in Nigeria for the period 1986–2008. The study discovered that the primary inflation determinants in Nigeria are exchange rate depreciation, money supply and real gross domestic product, and that the depreciation of Naira is positive and has a major long-term impact on Nigeria's inflation. This means that depreciation of the exchange rate can lead to an rise in Nigeria's inflation rate.

Umaru and Zubairu (2012) researched the effect of inflation between 1970-2010 on Nigeria's economic growth and development. Unit root and Granger Causality tests were performed to understand respectively the stationary status of variables and causation direction. All variables, however, have been discovered to be stationary and GDP is causing inflation, but inflation is not causing GDP. Furthermore, by promoting productivity plus the evolution of total

factor productivity, inflation has a beneficial effect on economic growth. The research then found that by improving productivity, policymakers should make efforts to improve Nigeria's production level. This will assist lower products and services prices to boost development.

The threshold effect of inflation on Nigeria's economic growth was examined by Bawa and Abdullahi (2012). In order to attain the inflation limit in Nigeria, they used quarterly time series information covering 1981–2009. A threshold amount of 13 percent was estimated for Nigeria based on a threshold model created by Khan and Senhadji (2001). Inflation is therefore small below this point; whereas it is extremely important above the adverse magnitude.

Ude and Anochie (2014) examined the connection between pass-through exchange rates, monetary policy, and price stability in Nigeria in another research. The research embraced the method of multi-linear regression. It can be reasonably concluded from their results that the overall price level in Nigeria is volatile vis a nominal exchange rate that inhibits pass-through one-to - one exchange rate. The general lesson that emerged from the study, however, was that the pass-through and implementation capacity of the exchange rate is important, particularly in determining the effectiveness of the pass-through exchange rate on monetary policy and price stability in Nigeria.

In Chuba's job (2015), he studied the use of recursive vector self-regressive model to determine the impact of exchange rate modifications on consumer prices in Nigeria. From the first quarter of 2000 to the fourth quarter of 2013 he used information. The study's results showed that the fluctuation of the exchange rate had a beneficial and negligible impact on consumer prices, and the rise in consumer prices was primarily due to its own shocks and the long-term rise in money supply. He thought that stable monetary policy with a low inflationary setting would lower the pressure on consumer prices from exchange rate modifications.

In their job, Fatai and Akinbobola (2015) also explored the effect of the Pass-through exchange rate on Nigeria's import rates, inflation, and monetary policy. Secondary information have been used. The information covered the 1986-2012 period. They used annual information from the Central Bank of Nigeria (CBN) publication on the Nominal Effective Exchange Rate Index, Import Prices, Interest Rate, Money Supply and Inflation, and the World Bank released World Development Indicators on the Oil Price Index. The research applied autoregressive model of the six-variable vector to assess the function of the impulse reaction and the decomposition of variance. In their research, they discovered that the exchange rate in Nigeria was moderate, substantial and continuous in the event of import prices during the period they studied, and low and short lived in the event of inflation. They also discovered that the pass-through exchange rate was incomplete and had a helpful impact on policymakers, particularly in designing and implementing exchange rate and monetary policy.

2.5.4 Summary of empirical review

Exchange rates and inflation measures are important instruments in financial leadership and the process of stability and adjustment in developing nations where low inflation and elevated exchange rates have become important policy objectives. The above studies stated that the exchange rate is an inflation measure while inflation is predominantly based on monetary expansion, currency devaluation and other structural variables. Through the above-mentioned inflation and exchange rate studies, this study aims to determine the effect of inflation on Nigeria's exchange rate, the study will help the Nigerian stock exchange understand the relationship between rare inflation and exchange rate and acquire more strategies on how to control rates.

2.6 Gap the Literature

The assessment of the current literature on inflation and exchange rates from developing nations, and specifically from the Nigerian economy, revealed that comprehensive research on the topic had been carried out, but the following point was noted in the review: most studies such as Chuba (2015), Ude and Anochie (2014) Sanam Shojaeipour Monfared, Fetullah A. Others such as Madesha (2013) Madesha, Chidoko and Zivanomoyo (2013) Ndungu (1993) examined how inflation and exchange rates feed each other off. Although there have been many studies on exchange rates and inflation that determine distinct interactions between the two policies in developing and developed nations, the relationship that determines how inflation rate impacts exchange rates and how this impact impacts Nigeria's economy is restricted. This research therefore aims to find out how inflation impacts the exchange rate and the connection between Nigeria's exchange rate, inflation, and economic growth.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology used in this study. It covers the research design, theoretical framework, model specification, sources of data and the estimation technique

3.2 Research Design

Research design relates to the activity layout or specification of the techniques and strategies to be followed in order to achieve the most valid responses to the study issues. Three kinds of study models are generally available: quantitative design, qualitative design, and blended design methods. In this study, which uses qualitative research, the studies was regarded suitable for this study because it will also be able to determine the connection between economic growth, inflation and exchange rate to clarify differences between them.

3.3 Theoretical framework

3.3.1 Purchasing power parity

The exchange rate impact of inflation can be described by the concept of Purchasing Power Parity (Dornbusch and Fisher, 1994; Greenaway and Show, 1991; Mishkin, 2001; Vaish, 2011). Exchange rate determinants are the theory that exchange rates move mainly as a consequence of price-level behavior variations between any two nations in such a manner as to preserve steady trade conditions between the two nations. In other words, the PPP theory claims that exchange rate movements mainly reflect distinct inflation rates between distinct nations. The theory virtually says that where Pf is overseas price level, P is national price level and e is exchange rate (Lado, 2015) given the terms of trade. The theory tries to quantify the connection between inflation and exchange rates by requiring that the inflation rate differentials cause

changes in the exchange rate (Kara and Nelson, 2002; Ebiringa and Anyaogu, 2014). In absolute terms, the principle of PPP states that the exchange rate between two countries ' currencies is equal to the proportion between the prices of products in those nations (Ndungu, 1997; Ebiringa and Anyaogu, 2014), suggesting that the exchange rate must shift in order to adjust to the shift in the prices of products in both nations. As stated above, the shift between currencies of two nations is determined by the change in their relative price levels that inflation affects. Generally speaking, it is agreed that theory is thus largely true in the long run, but economists have discovered that it can endure short-term misrepresentation because trade and investment obstacles, local taxation and other variables can be expected to weaken currencies with greater inflation rates over time, while low-inflation currencies tend to reinforce. The anticipated difference in inflation, however, is equal to the present spot rate and the anticipated difference in spot rate (Kamin, 1997). The PPP in its easiest form states that changes in exchange rates between nations tend to represent changes in relative price levels in the long run (Ebiringa and Anyaogu, 2014). In balance, a foreign currency's future spot rate will differ from the present spot rate by an amount equal to the difference in inflation between home and foreign nations. When the inflation rate of home nations increases relative to that of the foreign country, lower exports and higher imports decrease the elevated inflation of the currency of the nation. The absolute PPP is a one-price expansion of the law, which is that prices of the same products should be equivalent in separate nations. The comparative PPP illustrates that comparable price modifications should occur for market distortions (such as tariffs, taxes, quotas and cost of transportation). Assuming that the PPP holds the exchange rate adjustments occur as inflation to preserve the one-price law.

3.3.2 Endogenous growth theory

First and foremost, endogenous growth theory depicts economic growth produced by variables in the manufacturing cycle (scale economies, rising yields or technological change). This concept of development relied on one variable, the rate of capital return. Variables like inflation that lowers the rate of exchange that lowers the accumulation of assets and lowers the rate of development. The inflation rate reduces both the return on all assets and the growth rate when endogenous growth models are set within a currency exchange structure. Some variants of endogenous growth economies have discovered that inflation rate effects on growth are low, resulting in an rise in inflation rate resulting in job decrease. According to Gomme (1993), an rise in inflation decreases the marginal value of today's last consumption unit, resulting in less job for individuals (Gokal and Hanif, 2004). Various endogenous growth models point to the adverse impact of inflation on financial development. Gregorio (1993) built an endogenous model of development that shows different ways inflation impacts development. The first model pays attention to the role and impact of cash on investment in corporate activities. In this model, companies buy fresh machinery with cash when inflation rises companies will be triggered to save on actual balances, which will result in increased transaction costs. The rising transaction price will cause the installed capital's shadow value to increase and decrease investment. Return to assets, investment rate and growth rate are falling in the new equilibrium. The second model focuses on inflation's impacts on capital productivity and family behaviour. The impact of inflation on jobs is that on the company's side inflation increases labor costs, decreases labor demand resulting in a decrease in jobs and marginal capital output, and on the household side inflation creates substitution from consumption to leisure, decreasing labor supply (Demile, 2015).

3.4 Model Specification

The specification of the model expresses the mathematical relationship between the dependent variable and the model's independent variables. The model shows the connection between Nigeria's inflation, exchange rates, and financial development.

In order to achieve objective one, the study will estimate the following equation;

$$RGDP = f(INF, GDS, FDN, TOP) \quad (1)$$

Convert equation to econometric model we have

$$\ln RGDP_t = \beta_0 + \beta_1 \ln INF_t + \beta_2 \ln GDS_t + \beta_3 \ln FDN_t + \beta_4 \ln TOP_t + u_t \quad (2)$$

Convert equation to econometric model we have

To achieve objective two of this study, the wish to determine the effect of exchange rate on economic growth, which will be estimated in the following equation;

$$RGDP = f(EXC, EXP, IMP, FDI) \quad (3)$$

Covert equation to econometric model we have

$$\ln RGDP_t = \beta_0 + \beta_1 \ln EXC_t + \beta_2 \ln EXP_t + \beta_3 \ln IMP_t + \beta_4 \ln FDI_t + u_t \quad (4)$$

To achieve objective three of this study, the study wishes to determine the degree of responsiveness of the economic growth to inflation and exchange rates which will be estimated in the following equation;

$$RGDP = f(EXC, INF, EMP, TOP) \quad (5)$$

Convert equation to econometric model we have

$$\ln RGDP_t = \beta_0 + \beta_1 \ln EXC_t + \beta_2 \ln INF_t + \beta_3 \ln EMP + \beta_4 \ln TOP_t + u_t \quad (6)$$

Where: RGDP is the Real Gross Domestic Product which is a proxy for Economic Growth, INF is the Inflation rate, EXC represents Exchange rate, GDS is the Gross Domestic Savings, FDN represents Financial Deepening, TOP is the Trade Openness, EXP is the Export, IMP represents Import, FDI is Foreign Direct Investment, EMP is the Employment, $\beta 0, \beta 1, \beta 2, \beta 3, \beta 4$ are parameters of the models,μ is error term

3.5 Sources of Data Collection

The research used secondary data from the statistical journal of the Central Bank of Nigeria, World Development Indicators (WDI) and Penn World Table Version 9.0 3.6 Estimation Techniques In view of the three goals of Chapter 1, the research used quantitative analytical method. The goals one, two, and three were achieved through the estimation of Autoregressive Distributed Lag (ARDL). Much of the "classical" econometric theory was predicated on the assumption that the observed data came from a stationary process, which means a process with constant means and variances over time (Hendry and Juselius, 2001). Most macroeconomic factors, however, are at level non-stationary. Regression of non-stationary time series data results in invalid estimates, thus makes economic forecasts badly wrong. The first step in building dynamic econometric models, therefore, entails a thorough investigation of the characteristics of the individual time series variables involved. Such an analysis is essential because in modeling the data generation process of a system of potentially related variables, the properties of the individual series must be taken into account (Lutkepohl and Kratzig, 2004).

The need to test for the existence of unit roots to prevent the issue of spurious regression was stressed in the literature when debating stationary and non-stationary time series. If a variable is found to have a unit root, it is non-stationary, and if it does not combine to form a stationary

co-integration relationship with other non-stationary series, then regressions involving these series may falsely imply a meaningful economic relationship (Harris and Sollis, 2003). Therefore, unit root testing was performed to determine whether or not individual variables are stationary. The Augmented Dickey-Fuller (ADF) and the Phillips Perron (PP) tests have been applied for this purpose. The fact that both experiments control for higher-order autocorrelation informs the decision of these two test statistics. Both test statistics were conducted at a meaning rate of 5 percent for two alternative requirements. It was first studied with intercept, but no trend, and then tested with intercept as well as trend. The test's null hypothesis (both in ADF and PP) states the information sequence under review has unit root while the alternative hypothesis says the series is stationary.

Furthermore, determining the lag length of the ARDL model is a vital element in the specification of ARDL models. Braun and Mittnik (1993) showed that the functions of the impulse response and the variance decompositions derived from the estimated VAR are inconsistent when the lag length differs from the true length. Furthermore, Lutkepohl (1993) suggests that overfitting (selecting a higher order lag length than the true lag length) leads to an increase in the VAR's mean-square forecast errors and that under fitting the lag length often leads to autocorrelated errors leading to inconsistent estimates. In order to select the appropriate lag length, the information criteria such as the Hannan-Quinn Information Criteria (HQ), the Akaike Information Criteria (AIC), the Schwarz Information Criteria (SIC), the Log Likelihood (LL) and the Final Prediction Error (FPE) were therefore considered following the literature.

In addition, the study used the recently developed ARDL (Auto Regressive Distributed Lag) bound testing technique, which was initially introduced by Pesaran and Shin (1998) and further extended by Pesaran et al (2001), to investigate whether or not the variables are co-

integrated or possess a long-term equilibrium relationship. Compared to other cointegration procedures, this method has certain econometric advantages. First, it is relevant regardless of the degree of inclusion of the factors (i.e. whether the underlying factors are solely I(0), I(1) or mix of the two) and thus prevents pre-testing the order of inclusion of the factors. Second, the model's long-run and short-run parameters are estimated at the same time as it takes into account the lagged period of error correction.

Third, for tiny sample sizes, the ARDL strategy is more robust and works better. Fourth, this method usually offers unbiased long-run model estimates and valid t-statistics even if some regressors are endogenous (Harris and Sollis, 2003). Inder (1993) and Pesaran and Pesaran (1997) have shown that endogeneity bias can be corrected by the incorporation of dynamics. Fifth, once the order of the lags in the ARDL model has been appropriately selected, a simple Ordinary Least Square (OLS) method can be used to estimate the cointegration relationship.

In view of the above advantages, for objective one the augmented ARDL-UECM version of the model, equation (2) if further expressed as

$$\Delta \ln RGDP_t = \alpha_0 + \sum_{i=1}^{a} \alpha_{1i} \Delta \ln RGDP_{t-i} + \sum_{i=0}^{b} \alpha_{2i} \Delta \ln INF_{t-i} + \sum_{i=0}^{c} \alpha_{3i} \Delta \ln GDS_{t-i} + \sum_{i=0}^{d} \alpha_{4i} \Delta \ln FDN_{t-i} + \sum_{i=0}^{e} \alpha_{5i} \Delta \ln TOP_{t-i} + \beta_1 (\ln RGDP)_{t-1} + \beta_2 \ln INF_{t-1} + \beta_3 \ln GDS_{t-1} + \beta_4 \ln FDN_{t-1} + \beta_5 \ln TOP_{t-1} + \mu_{1t} \quad (7)$$

where, Δ denotes the first difference operator, α_0 is the drift component and, u_t is white noise residual. The $\beta's$ correspond to the long run effects (elasticities) whereas $\alpha's$ capture the short-run dynamics (elasticities) of the model. Thus, from equation (7) in applying cointegration tests the study test the null hypothesis of no cointegration $H_0 : \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$ against the alternative hypothesis $H_1 : \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq 0$.

Furthermore, for objective two the augmented ARDL-UECM version model (4) is specified as

$$\Delta \ln RGDP_t = \theta_0 + \sum_{i=1}^{a} \theta_{1i} \Delta \ln RGDP_{t-i} + \sum_{i=0}^{b} \theta_{2i} \Delta \ln EXC_{t-i} + \sum_{i=0}^{c} \theta_{3i} \Delta \ln IMP_{t-i} + \sum_{i=0}^{d} \theta_{4i} \Delta \ln EXP_{t-i} + \sum_{i=0}^{e} \theta_{5i} \Delta \ln FDI_{t-i}$$
$$+ \lambda_1 (\ln RGDP)_{t-1} + \lambda_2 \ln EXC_{t-1} + \lambda_3 \ln IMP_{t-1} + \lambda_4 \ln EXP_{t-1} + \lambda_5 \ln FDI_{t-1} + \varepsilon_{1t} \quad (8)$$

where, Δ denotes the first difference operator, θ_0 is the intercept or drift component and ε_{1t} is white noise error term. The $\lambda's$ correspond to the long run effects (elasticities) whereas $\theta's$ capture the short-run dynamics (elasticities) of the model. Accordingly, from equation (8) in applying cointegration tests the study test the null hypothesis of no cointegration $H_0 : \lambda_1 = \lambda_2 = \lambda_3 = \lambda_4 = \lambda_5 = 0$ against the alternative hypothesis $H_1 : \lambda_1 \neq \lambda_2 \neq \lambda_3 \neq \lambda_4 \neq \lambda_5 \neq 0$

Conversely, for objective three, the augmented ARDL-UECM version model (6) is further expressed as:

$$\Delta \ln RGDP_t = \delta_0 + \sum_{i=1}^{a} \delta_{1i} \Delta \ln RGDP_{t-i} + \sum_{i=0}^{b} \delta_{2i} \Delta \ln EXC_{t-i} + \sum_{i=0}^{c} \delta_{3i} \Delta \ln INF_{t-i} + \sum_{i=0}^{d} \delta_{4i} \Delta \ln EMP_{t-i} + \sum_{i=0}^{e} \delta_{5i} \Delta \ln TOP_{t-i}$$
$$+ \phi_1 (\ln RGDP)_{t-1} + \phi_2 \ln EXC_{t-1} + \phi_3 \ln INF_{t-1} + \phi_4 \ln EMP_{t-1} + \phi_5 \ln TOP_{t-1} + \varepsilon_{2t} \quad (9)$$

where, Δ denotes the first difference operator, δ_0 is the intercept and ε_{2t} is the error term. The $\phi's$ correspond to the long run effects (elasticities) whereas $\delta's$ capture the short-run dynamics (elasticities) of the model. Again, from equation (9) in applying cointegration tests the study test the null hypothesis of no cointegration $H_0 : \phi_1 = \phi_2 = \phi_3 = \phi_4 = \phi_5 = 0$ against the alternative hypothesis $H_1 : \phi_1 \neq \phi_2 \neq \phi_3 \neq \phi_4 \neq \phi_5 \neq 0$

After estimating our unrestricted error correction ARDL models, the standard F-statistics-based Wald test was calculated to determine the co-integration relationship between the interest variables. Pesaran, Shin and Smith (2001) suggested two critical values (lower and upper bound) to examine the relationship because of the limitations of the conventional Wald-test F-statistic. Consequently, if the calculated F-statistic is less than the lower limit value, the null is not rejected. On the contrary, if the computed F-statistics exceed the upper limit value, it implies the existence of a long-run relationship between variables. Finally, if the computed F-statistics are between the lower bound and the upper bound, it becomes inconclusive to associate long-term variables.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS

4.1 Introduction

The analysis of this chapter is divided into six sections. Section 4.2 contains the results of the unit root test. Section 4.3 depicts the lag length of the objectives 1, 2 and 3 stated in chapter 1 using the VAR lag selection criteria. Section 4.4 reveals the test for cointegration among the variables using the bound test approach. Section 4.5 assesses the long and short run relationship of the variables in each objective. This chapter is rounded off with section 4.6 which presents the summary of the discussion of the finding.

4.2 Unit Root Test Results

The study applied the unit root test techniques to examine the time series of the concerned variables using both Augmented Dickey-Fuller (ADF) test and the Phillip and Perron (PP) test. This is important because most macroeconomics time series show a non-stationary behavior leading to false result of appropriate measures not taken. The ADF and PP results are presented in tables 4.1 and 4.2 reveals all the variables that were not stationary at level form, there by leading to the test of the first difference. The time series data is characterized with different orders of integration a mixture of I(0) and I(1). A closer look at table 4.1 shows that in the case of the Augmented Dickey-Fuller (ADF) test, for intercept only the all the variables are stationary at first difference (i.e lnexc, lnemp, lnfdn, lnimport, lngds) since their ADF values (test statistic) is less than the critical values at 5 percent for levels and greater than the critical values at 5 percent at first difference implying that they are integrated of order one I(1) while lnrgdp, lninf, lnfdi, lnexport and lntop were stationary at levels that is they are integrated of order zero I(0) which is similar to that of the Phillip and Perron (PP) for intercept only which can be seen in table 4.2. The result of the ADF test for trend and intercept, results from table 4.1 shows that all the variables (i.e lnexc, lnemp, lnfdn, lnimport, lnexport, lngds) were stationary at first difference which depicts

that they are integrated of order one I(1) while lnrgdp, lninf, lnfdi, and lntop are stationary at levels which shows that they are integrated of order zero I(0). As regards the PP test for trend and intercept, results from table 4.2 reveals that all the variables (i.e lninf lnexc, lnemp, lnfdn, lnimport, lnexport, lngds) were stationary at first difference meaning they are integrated of order one I(1) while lnrgdp, lnfdi, and lntop were stationary at levels which is they are integrated of order zero I(0)

Table 4.1: Result of the Augmented Dickey-Fuller (ADF) Test

Augmented Dickey-Fuller (ADF) Test with Intercept only												
Variable	Level						1st Diff					
	Test Statistic	Critical Values			P-Values	Remarks	Test Statistic	Critical Values			P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
lnRGDP	-5.437359	-3.574446	-2.92378	-2.599925	0.0000	I(0)	***	***	***	***	***	I(0)
lnINF	-3.411377	-3.574446	-2.92378	-2.599925	0.0153	I(0)	***	***	***	***	***	I(0)
lnEXC	-0.521852	-3.577723	-2.925169	-2.600658	0.8775	NS	-3.777616	-3.577723	-2.925169	-2.600658	0.0058	I(1)
lnEMP	-0.046001	-3.574446	-2.92378	-2.599925	0.9492	NS	-5.818681	-3.577723	-2.925169	-2.600658	0.0000	I(1)
lnFDI	-3.611065	-3.574446	-2.92378	-2.599925	0.0091	I(0)	***	***	***	***	***	I(0)
lnFDN	-2.030856	-3.574446	-2.92378	-2.599925	0.2731	NS	-7.510683	-3.577723	-2.925169	-2.600658	0.0000	I(1)
lnIMPORT	-2.65937	-3.574446	-2.92378	-2.599925	0.0886	NS	-8.287763	-3.577723	-2.925169	-2.600658	0.0000	I(1)
lnEXPORT	-3.318896	-3.574446	-2.92378	-2.599925	0.0194	I(0)	***	***	***	***	***	I(0)
lnTOP	-6.664118	-3.574446	-2.92378	-2.599925	0.0000	I(0)	***	***	***	***	***	I(0)
lnGDS	-1.839841	-3.574446	-2.92378	-2.599925	0.3573	NS	-7.25166	-3.577723	-2.925169	-2.600658	0.0000	I(1)

Augmented Dickey-Fuller (ADF) Test with Trend and Intercept												
Variable	Level						1st Diff					
	Test Statistic	Critical Values			P-Values	Remarks	Test Statistic	Critical Values			P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
lnRGDP	-5.443909	-4.161144	-3.506374	-3.183002	0.0002	I(0)	***	***	***	***	***	I(0)
lnINF	-3.977768	-4.165756	-3.508508	-3.18423	0.0163	I(0)	***	***	***	***	***	I(0)
lnEXC	-1.685363	-4.165756	-3.508508	-3.18423	0.7421	NS	-3.733534	-4.165756	-3.508508	-3.18423	0.0297	I(1)
lnEMP	-1.806643	-4.161144	-3.506374	-3.183002	0.686	NS	-5.751559	-4.165756	-3.508508	-3.18423	0.0001	I(1)
lnFDI	-3.585211	-4.161144	-3.506374	-3.183002	0.0418	I(0)	***	***	***	***	***	I(0)
lnFDN	-2.271306	-4.161144	-3.506374	-3.183002	0.4409	NS	-7.527235	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnIMPORT	-2.617357	-4.161144	-3.506374	-3.183002	0.2748	NS	-8.201256	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnEXPORT	-3.180965	-4.161144	-3.506374	-3.183002	0.1004	NS	-8.908764	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnTOP	-6.591816	-4.161144	-3.506374	-3.183002	0.0000	I(0)	***	***	***	***	***	I(0)
lnGDS	-1.490971	-4.161144	-3.506374	-3.183002	0.8191	NS	-7.60563	-4.165756	-3.508508	-3.18423	0.0000	I(1)

Source: Author's computation using E- view 10 (2019)

Table 4.2: Result of the Phillip and Perron (PP) Test

Philips-Peron (PP) Test with Intercept only												
Variable	Level						1st Diff					
	Test Statistic	Critical Values			P-Values	Remarks	Test Statistic	Critical Values			P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
lnRGDP	-5.459682	-3.574446	-2.92378	-2.599925	0.0000	I(0)	***	***	***	***	***	I(0)
lnINF	-3.245847	-3.574446	-2.92378	-2.599925	0.0233	I(0)	***	***	***	***	***	I(0)
lnEXC	-0.345117	-3.574446	-2.92378	-2.599925	0.9100	NS	-3.77064	-3.577723	-2.925169	-2.600658	0.0059	I(1)
lnEMP	-0.091052	-3.574446	-2.92378	-2.599925	0.9444	NS	-5.81868	-3.577723	-2.925169	-2.600658	0.0000	I(1)
lnFDI	-3.611065	-3.574446	-2.92378	-2.599925	0.0091	I(0)	***	***	***	***	***	I(0)
lnFDN	-2.094492	-3.574446	-2.92378	-2.599925	0.2477	NS	-7.50956	-3.577723	-2.925169	-2.600658	0.0000	I(1)
lnIMPORT	-2.65937	-3.574446	-2.92378	-2.599925	0.0886	NS	-8.29378	-3.577723	-2.925169	-2.600658	0.0000	I(1)
lnEXPORT	-3.325735	-3.574446	-2.92378	-2.599925	0.0191	I(0)	***	***	***	***	***	I(0)
lnTOP	-6.66411	-3.574446	-2.92378	-2.599925	0.0000	I(0)	***	***	***	***	***	I(0)
lnGDS	-1.839841	-3.574446	-2.92378	-2.599925	0.3573	NS	-7.25064	-3.577723	-2.925169	-2.600658	0.0000	I(1)

Philips-Peron (PP) Test with Trend and Intercept												
Variable	Level						1st Diff					
	Test Statistic	Critical Values			P-Values	Remarks	Test Statistic	Critical Values			P-Values	Remarks
		1%	5%	10%				1%	5%	10%		
lnRGDP	-5.445639	-4.161144	-3.506374	-3.183002	0.0002	I(0)	***	***	***	***	***	I(0)
lnINF	-3.233642	-4.161144	-3.506374	-3.183002	0.0902	NS	-15.0449	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnEXC	-1.59914	-4.161144	-3.506374	-3.183002	0.7787	NS	-3.72652	-4.165756	-3.508508	-3.18423	0.0302	I(1)
lnEMP	-1.96915	-4.161144	-3.506374	-3.183002	0.6029	NS	-5.75156	-4.165756	-3.508508	-3.18423	0.0001	I(1)
lnFDI	-3.585211	-4.161144	-3.506374	-3.183002	0.0418	I(0)	***	***	***	***	***	I(0)
lnFDN	-2.253231	-4.161144	-3.506374	-3.183002	0.4504	NS	-7.52724	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnIMPORT	-2.617357	-4.161144	-3.506374	-3.183002	0.2748	NS	-8.20812	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnEXPORT	-3.204765	-4.161144	-3.506374	-3.183002	0.0957	NS	-9.27715	-4.165756	-3.508508	-3.18423	0.0000	I(1)
lnTOP	-6.591808	-4.161144	-3.506374	-3.183002	0.0000	I(0)	***	***	***	***	***	I(0)
lnGDS	-1.419993	-4.161144	-3.506374	-3.183002	0.8423	NS	-7.94376	-4.165756	-3.508508	-3.18423	0.0000	I(1)

Source: Author's computation using E- view 10 (2019)

4.3 VAR Lag Order Selection Criteria

After the stationary conditions of the variables employed have been determined it is important to determine the lag length before the evaluation of the ARDL equations (7,8 and 9), it is necessary to determine the appropriate lag length so as to avoid problems of misspecification and loss of degrees of freedom. Following the literature, VAR lag order selection criteria attributed to Hannan-Quinn information criteria (HQ), Final Prediction Error (FPE), Log Likelihood (LL), Akaike information criteria (AIC) and the Schwarz information criteria (SC) were considered. The result presented in table 4.3 which shows the optimum lag structure for the VAR for objectives 1,2 and 3. As can be observed from table 4.3 the results show that all selection criteria selected the optimum lag length of 1 for ARDL model (7) and also selected the optimum lag length of 1 for ARDL model (8) and selected a similar optimum lag length of 1 for ARDL model (9). Therefore, the lag length order 1 were carefully chosen for the three models.

Table 4.3: Results Optimal VAR Lag Selection

Lag Length Selection Criteria Results for objective 1					
Lag	LR	FPE	AIC	SC	HQ
0	NA	4152560	26.59071	26.75131	26.65058
1	120.9435*	412674.5*	24.27824*	25.08120*	24.57757*
2	23.38124	4.47E+05	24.33987	25.7852	24.87867
Lag Length Selection Criteria Results for objective 2					
Lag	LR	FPE	AIC	SC	HQ
0	NA	201763.3	26.4042	26.60494	26.47903
1	267.2706*	652.5049*	20.66222*	21.86666*	21.11122*
2	23.14578	1047.013	21.09257	23.30071	21.91574
Lag Length Selection Criteria Results for objective 3					
Lag	LR	FPE	AIC	SC	HQ
0	NA	3.99E+09	36.29574	36.49648	36.37058
1	342.1018	1892888.*	28.63501	29.83945*	29.08402*
2	31.48334	2376809	28.82014	31.02829	29.64332

Source: Author's computation using E- view 10 (2019)

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

4.4 Bound Test Approach to Cointegration

Having determined the optimal lag length, the next step is to determine the cointegration relationship among the variables. The study applied bound F-statistics to equations 7,8 and 9 in order to establish the cointegration relationship among the variables. Due to the limitations of the conventional Wald-test F-statistics, Pesaran and Shin (1995, 1998) suggested two critical values (lower and upper bound) to examine the relationship. If the computed F-statistic is lower than the lower bound I(0) the null is not rejected but if the computed F-statistic is greater than the upper bound I(1) it implies that there exists a long run relationship among the variables. However, if the computed F-statistics lies between the lower bound and upper bound the long run association between the variables are inconclusive. The result of the bound test is shown in table 4.4. As can be seen from the table 4.4, at 5 percent level of significance the study rejects the null hypothesis of no long run relationship among the examined variables that is in objective one the F- statistics (6.950870) is greater than the upper bound value (3.49) at 5 percent level of significance, in objectives two the F-statistics (5.932326) is greater than the upper bound value (3.09), a similar result was computed for objective three the F- statistics (6.260990) is greater than the upper bound value (3.09). This empirical evidence rules out the possibility of estimated relationship being false. Therefore, the study accepts that there is cointegration which means there is a long run relationship among the variables.

Table 4.4: Results Bound Test to Cointegration

Results of Bound Test Approach to Cointegration for objective 1			
Significance	Critical Value Bonds		Computed F-Statistic
	Lower Bound I(0)	Upper Bond I(1)	
10%	2.2	3.09	***6.950870***
5%	2.56	3.49	
2.5%	2.88	3.87	
1%	3.29	4.37	
Results of Bound Test Approach to Cointegration for objective 2			
Significance	Critical Value Bonds		Computed F-Statistic
	Lower Bound I(0)	Upper Bond I(1)	
10%	2.2	3.09	***5.932326***
5%	2.56	3.49	
2.5%	2.88	3.87	
1%	3.29	4.37	
Results of Bound Test Approach to Cointegration for objective 3			
Significance	Critical Value Bonds		Computed F-Statistic
	Lower Bound I(0)	Upper Bond I(1)	
10%	2.2	3.09	***6.260990***
5%	2.56	3.49	
2.5%	2.88	3.87	
1%	3.29	4.37	
Source: Author's computation using E- view 10 (2019)			

4.5 Empirical Results on the Long Run and Short Run Effects

Having determined the existence of a long run equilibrium, the long run coefficients elasticities and short run coefficients elasticities are estimated. The estimated long-run dynamics of the selected ARDL (1,0,1,0,0) model along with the short-run coefficients for objective 1 are presented in tables 4.5 and 4.8 respectively. For objective two the estimated long-run dynamics of the selected ARDL (1,0,0,0,1) model along with the short-run coefficients are presented in tables 4.6 and 4.9 respectively. and for objective three the estimated long-run dynamics of the selected ARDL (1,0,0,0,0) model along with the short-run coefficients are presented in tables 4.7 and 4.10 respectively.

4.5.1 Empirical Results On the Long Run Effects

The result of the long run effects of objective 1 is presented in table 4.5, an examination of the result in table 4.5 shows that on the part of individual significance of each explanatory variables, as can be observed the long run equilibrium relationship between inflation and economic growth is negative (-0.062228), and the relationship between them is not statistical as shown by the t-statistic (-1.155403) and the prob. value (0.2546). As it were the coefficient of the gross domestic savings is positive (0.693491) but not statistical significant with prob. value (0.5303) which is greater than 0.05 and t-statistics (1.095775). Specifically, in the long run holding other things constant a one percent change in gross domestic savings will increase real GDP by 0.693491 percent. More so the financial deepening has a negative effect on economic growth, as revealed the coefficient (-0.224778) is statistically insignificant with the prob. value (0.0932) which is greater than 0.05 and t-statistic (0.13078) hence a unit increase in financial deepening will bring about -0.224778 decrease in economic growth.

Furthermore, the coefficient of trade openness (-0.000103) is statistically insignificant with prob. value (0.9922) which is greater than 0.05 and t-statistic (0.010566) and has a negative effect on economic growth. By implication none of the independent variables table 4.5 is statistically significant. Also the R^2, the adjusted R^2, the F-statistic and the Durbin-Watson statistic for the selected model is shown in panel B of the table 4.5. As observed from the result presented in table 4.5 the explanatory power (R^2) of the model is low (0.420191). In essence, the proportion of variation in economic growth measured by log of real GDP that is jointly explained by inflation, gross domestic saving, financial deepening and trade openness is about 42%. Moreover, the Adjusted R^2 that is the proportion of variation in economic growth measured by log of real GDP that is jointly explained by the explanatory variables after the effect of insignificant repressor has been removed is about 33%. Furthermore, the F-statistic which is used to measure the overall significance of the estimated model is significant at 4.952167 with probability value p = 0.000681. This indeed is a re-enforcement of the goodness of fit. These suggest that the rate of natural increase in are inflation, gross domestic saving, financial deepening and trade openness are insignificant determinants of economic growth in Nigeria. This further reinforces the fact that the results reported are of policy insignificance. Besides, the Durbin-Watson statistic which is used to test for autocorrelation of residuals in the model, in particular, the first order autocorrelation indicates the absence of serial autocorrelation at 2.137312.

The result of the long run effects of objective 2 is presented in table 4.6, an examination of the result in table 4.6 shows that on the part of individual significance of each explanatory variables, as can be observed the long run equilibrium relationship between exchange rate and economic growth is positive (0.100331), and the relationship between them is not statistical as shown by the t-statistic (0.293532) and the prob. value (0.7706). As it were the coefficient of the

import is negative (-0.138673) but not statistical significant with prob. value (0.4281) which is greater than 0.05 and t-statistics (-0.800319). Specifically, in the long run holding other things constant a one percent change in import will decrease real GDP by -0.138673 percent. More so the export has a positive effect on economic growth, as revealed the coefficient (0.245108) is statistically insignificant with the prob. value (0.0658) which is greater than 0.05 and t-statistic (1.890079) hence a unit increase in export will bring about 0.245108 increase in economic growth.

Additionally, the coefficient of foreign direct investment (0.49518) is statistically insignificant with prob. value (0.5166) which is greater than 0.05 and t-statistic (0.654246) and has a positive effect on economic growth. By implication none of the independent variables table 4.6 is statistically significant. Also the R^2, the adjusted R^2, the F-statistic and the Durbin-Watson statistic for the selected model is shown in panel B of the table 4.6. As observed from the result presented in table 4.6 the explanatory power (R^2) of the model is low (0.328408). In essence, the proportion of variation in economic growth measured by log of real GDP that is jointly explained by inflation, gross domestic saving, financial deepening and trade openness is about 32%. Moreover, the Adjusted R^2 that is the proportion of variation in economic growth measured by log of real GDP that is jointly explained by the explanatory variables after the effect of insignificant repressor has been removed is about 23%. Furthermore, the F-statistic which is used to measure the overall significance of the estimated model is significant at 3.341492 with probability value p = 0.008995. This indeed is a re-enforcement of the goodness of fit. These suggest that the rate of natural increase in are inflation, gross domestic saving, financial deepening and trade openness are insignificant determinants of economic growth in Nigeria. This further reinforces the fact that the results reported are of policy insignificance. Besides, the Durbin-

Watson statistic which is used to test for autocorrelation of residuals in the model, in particular, the first order autocorrelation indicates the absence of serial autocorrelation at 2.227702.

The result of the long run effects of objective 3 is presented in table 4.7, an examination of the result in table 4.7 shows that on the part of individual significance of each explanatory variables, as can be observed the long run equilibrium relationship between exchange rate and economic growth is positive (1.453815), and the relationship between them is not statistical as shown by the t-statistic (1.818345) and the prob. value (0.0761). As it were the coefficient of the inflation is negative (-0.121448) but not statistical significant with prob. value (0.0619) which is greater than 0.05 and t-statistics (-1.918092). Specifically, in the long run holding other things constant a one percent change in inflation will decrease real GDP by -0.121448 percent. More so the employment has a negative effect on economic growth, as revealed the coefficient (-0.268906) is statistically insignificant with the prob. value (0.1537) which is greater than 0.05 and t-statistic (-1.452973) hence a unit increase in employment will bring about -0.268906 decrease in economic growth.

Also, the coefficient of trade openness (-0.00717) is statistically insignificant with prob. value (0.52) which is greater than 0.05 and t-statistic (-0.648782) and has a positive effect on economic growth. By implication none of the independent variables table 4.7 is statistically significant. Also the R^2, the adjusted R^2, the F-statistic and the Durbin-Watson statistic for the selected model is shown in panel B of the table 4.7. As observed from the result presented in table 4.7 the explanatory power (R^2) of the model is low (0.252814). In essence, the proportion of variation in economic growth measured by log of real GDP that is jointly explained by inflation, gross domestic saving, financial deepening and trade openness is about 25%. Moreover, the Adjusted R^2 that is the proportion of variation in economic growth measured by log of real GDP

that is jointly explained by the explanatory variables after the effect of insignificant repressor has been removed is about 16%. Furthermore, the F-statistic which is used to measure the overall significance of the estimated model is significant at 2.842177 with probability value p = 0.026769. This indeed is a re-enforcement of the goodness of fit. These suggest that the rate of natural increase in are inflation, gross domestic saving, financial deepening and trade openness are insignificant determinants of economic growth in Nigeria. This further reinforces the fact that the results reported are of policy insignificance. Besides, the Durbin-Watson statistic which is used to test for autocorrelation of residuals in the model, in particular, the first order autocorrelation indicates the absence of serial autocorrelation at 2.15001.

Table 4.5 Estimated Long Run Dynamics Test Result for Objective One

LONG RUN FOR OBJECTIVE ONE

Regressand: DLNRGDP				
Panel A: Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNRGDP(-1)*	-0.742315	0.128006	-5.799069	0
LNINF**	-0.062228	0.053858	-1.155403	0.2546
LNGDS(-1)	0.693491	1.095775	1.095775	0.5303
LNFDN**	-0.224778	0.13078	0.13078	0.0932
LNTOP**	-0.000103	0.010566	0.010566	0.9922
D(LNGDS)	-5.826957	2.103539	-2.770073	0.0084
C	6.624198	3.926282	1.687143	0.0992
Panel B: Goodness-of-fit Measures				
R^2				0.420191
Adjusted R^2				0.335341
F-statistic				4.952167
Prob(F-statistic)				0.000681
Durbin-Watson stat				2.137312

Source: Author's computation using E- view 10 (2019)

Table 4.6 Estimated Long Run Dynamics Test Result for Objective Two

LONG RUN FOR OBJECTIVE TWO

Regressand: DLNRGDP				
Panel A: Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNRGDP(-1)*	-0.688648	0.125823	-5.473148	0
LNEXC**	0.100331	0.341806	0.293532	0.7706
LNIMP**	-0.138673	0.173272	-0.800319	0.4281
LNEXP**	0.245108	0.129681	1.890079	0.0658
LNFDI(-1)	0.49518	0.756871	0.654246	0.5166
D(LNFDI)	-0.93755	0.752889	-1.24527	0.2201
C	-1.69908	2.273957	-0.747191	0.4592
Panel B: Goodness-of-fit Measures				
R^2				0.328408
Adjusted R^2				0.230126
F-statistic				3.341492
Prob(F-statistic)				0.008995
Durbin-Watson stat				2.227702

Source: Author's computation using E- view 10 (2018)

Table 4.7 Estimated Long Run Dynamics Test Result for Objective Three

LONG RUN FOR OBJECTIVE THREE

Regressand: DLNRGDP				
Panel A: Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNRGDP(-1)*	-0.712321	0.12273	-5.803949	0
LNEXC**	1.453815	0.799526	1.818345	0.0761
LNINF**	-0.121448	0.063317	-1.918092	0.0619
LNEMP**	-0.268906	0.185073	-1.452973	0.1537
LNTOP**	-0.00717	0.011052	-0.648782	0.52
C	10.4347	5.587403	1.86754	0.0688
Panel B: Goodness-of-fit Measures				
R^2				0.252814
Adjusted R^2				0.163863
F-statistic				2.842177
Prob(F-statistic)				0.026769
Durbin-Watson stat				2.15001

Source: Author's computation using E- view 10 (2019)

4.5.2 Empirical Results for the Short Run Effects

In order to determine the short run effects of the variables used in equation 7 for objective 1, assess the short run adjustment mechanism to equilibrium as well as the speed of adjustment, the short-run dynamics of the equilibrium relationship were obtained directly as the estimated coefficients of the leveled and first-differenced variables in the ARDL model (1,0, 1, 0, 0) and the results are presented in table 4.8. As can be seen from the results presented in table 4.8 it is evident that the coefficient of the error correction term for the estimated equation is both statistically insignificant and positive with prob. value = 0.058 and t-statistic = 1.950134. In essence, the speed of adjustment implied by the coefficient of C suggests that the deviation from short run to long run is corrected by 8.93 units per each year. Therefore, there is no stable long run relationship among real GDP, inflation, gross domestic saving, financial deepening, and trade openness. Additionally, the estimated short-run model revealed that it is similar to its insignificant long run. Precisely, a unit increase in the rate of inflation will cause real GDP to decrease by -0.08383, ceteris paribus. Similarly, gross domestic savings is insignificant but has a positive impact on real GDP at 9 percent. Precisely a one present increase in gross domestic savings will cause real GDP to increase by 0.934228 percent, ceteris paribus. Also financial deepening has a negative insignificant short run impact on real GDP at 3 percent that is a one percent increase in financial deepening will cause rea GDP to decrease by -0.302807, ceteris paribus. Lastly, in the short run estimation of this equation, the impact of trade openness was found to be negative and statistically insignificant.

Similarly, in order to determine the short run effects of the variables used in equation 8 for objective 2, assess the short run adjustment mechanism to equilibrium as well as the speed of adjustment, the short-run dynamics of the equilibrium relationship were obtained directly as the

estimated coefficients of the levelled and first-differenced variables in the ARDL model (1,0, 0, 0, 1) and the results are presented in table 4.9. As can be seen from the results presented in table 4.9 it is evident that the coefficient of the error correction term for the estimated equation is both statistically insignificant and negative with prob. value = 0.4529 and t-statistic = -0.757782. In essence, the speed of adjustment implied by the coefficient of C suggests that the deviation from short run to long run is corrected by -2.467268 percent per each year. Therefore, there is no stable long run relationship among real GDP, exchange rate, import, export and foreign direct investment. Additionally, the estimated short-run model revealed that it is similar to its insignificant long run. Precisely, a unit increase in the rate of exchange rate will cause real GDP to increase by 0.145693, ceteris paribus. Similarly, import is insignificant but has a negative impact on real GDP at 2 percent. Precisely a one present increase in import will cause real GDP to decrease by -0.20137 percent, ceteris paribus. Also export has a positive insignificant short run impact on real GDP at 3 percent that is a one percent increase in export will cause real GDP to increase by 0.355926, ceteris paribus. Lastly, in the short run estimation of this equation, the impact of foreign direct investment was found to be positive at 7 percent but statistically insignificant.

Furthermore, in order to determine the short run effects of the variables used in equation 9 for objective 3, assess the short run adjustment mechanism to equilibrium as well as the speed of adjustment, the short-run dynamics of the equilibrium relationship were obtained directly as the estimated coefficients of the levelled and first-differenced variables in the ARDL model (1,0, 0, 0, 0) and the results are presented in table 4.10. As can be seen from the results presented in table 4.10 it is evident that the coefficient of the error correction term for the estimated equation is both statistically insignificant but positive with prob. value = 0.0678 and t-statistic = 1.874743.

In essence, the speed of adjustment implied by the coefficient of C suggests that the deviation from short run to long run is corrected by 14.64887 percent per each year. Therefore, there is no stable long run relationship among real GDP, exchange rate, rate of inflation, employment and trade openness. Additionally, the estimated short-run model revealed that it is similar to its insignificant long run. Precisely, a unit increase in the rate of exchange rate will cause real GDP to increase by 2.040953, ceteris paribus. Similarly, inflation rate is insignificant but has a negative impact on real GDP at 1 percent. Precisely a one present increase in inflation rate will cause real GDP to decrease by -0.170496 percent, ceteris paribus. Also employment has a negative insignificant short run impact on real GDP at 3 percent that is a one percent increase in employment will cause real GDP to increase by -0.377506, ceteris paribus. Lastly, in the short run estimation of this equation, the impact of trade openness was found to be negative at -0.010066 percent but statistically insignificant. In summary this results indicates that there is no significant relationship between the variables even though they have positive and negative effect on real GDP

Table 4.8 Estimated Short Run Dynamics Test Result for Objective One

Regressand: DLNRGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNINF	-0.08383	0.075192	-1.114877	0.2714
LNGDS	0.934228	1.509665	0.618831	0.5395
LNFDN	-0.302807	0.161846	-1.870956	0.0685
LNTOP	-0.000139	0.014241	-0.009769	0.9923
C	8.923707	4.575947	1.950134	0.058
EC = LNRGDP - (-0.0838*LNINF + 0.9342*LNGDS - 0.3O28*LNFDN-0.00018*LNTOP+8.9237)				

Source: Author's computation using E- view 10 (2019)

Table 4.9 Estimated Short Run Dynamics Test Result for Objective Two

Regressand: DLNRGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNEXC	0.145693	0.496625	0.293365	0.7707
LNIMP	-0.20137	0.262551	-0.766972	0.4475
LNEXP	0.355926	0.194753	1.827572	0.0749
LNFDI	0.719061	1.092783	0.65801	0.5142
C	-2.467268	3.255906	-0.757782	0.4529
EC = LNRGDP - (0.1457*LNEXC - 0.2014*LNIMP + 0.3559*LNEXP+0.7191*LNFDI-2.4673)				

Source: Author's computation using E- view 10 (2019)

Table 4.10 Estimated Short Run Dynamics Test Result for Objective Three

Regressand: DLNRGDP				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNEXC	2.040953	1.124901	1.81434	0.0768
LNINF	-0.170496	0.091302	-1.867379	0.0688
LNEMP	-0.377506	0.261248	-1.445008	0.1559
LNTOP	-0.010066	0.015831	-0.635859	0.5283
C	14.64887	7.813798	1.874743	0.0678
EC = LNRGDP - (2.0410*LNEXC - 0.1705*LNINF - 0.3775*LNEMP-0.0101*LNTOP+14.6489)				

Source: Author's computation using E- view 10 (2019)

4.6 Summary of Discussion of Results

This chapter of the research addressed assessment outcomes in line with the study's goals. In this empirical job, there are three particular goals. The three goals of examining the impact of inflation on Nigerian economic growth, examining the impact of the exchange rate on economic growth and determining the degree of responsiveness of economic growth to inflation and exchange rates in Nigeria have been accomplished through econometric analytical methods. The analysis of the effect of inflation on economic growth in Nigeria, the effect of the exchange rate on economic growth and the degree of responsiveness of economic growth to inflation and exchange rates in Nigeria showed that inflation has a negative and insignificant effect on economic growth and that the exchange rate has a positive and insignificant effect on economic growth in both the short and the long run. Consequently, the implication of the above results indicates that inflation is not a significant determinant of Nigeria's economic growth, hence the situation where inflation rate does not need to be prioritized and the favourable exchange rate is not an significant determinant of economic growth.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings. It outlines the policy conclusions and recommendations premised on the results of the study. The main contributions to the knowledge as well as the limitations of the study together with the suggestions for future research were also discussed.

5.2 Summary of the findings

The primary goal of this project job was to examine the connection between Nigeria's economic growth, inflation, and exchange rates for 1970 to 2018. The impact of inflation rate on Nigeria's economic growth has been produced precisely. The research also examined the impact of the exchange rate on Nigeria's financial development. And finally, the impact on economic growth of inflation and exchange rates was created. The necessary background to the research was laid to accomplish these goals, the issues were recognized and justified accordingly. The research used econometric analytical methods. Using the Auto Regressive Distributed Lag Model (ARDL), specific goals 1, 2 and 3 were achieved. The unit root test was estimated to determine the time series of variables included in the study using both the Augmented Dickey-Fuller (ADF) and the Phillip and Perron (PP) test before the ARDL test was conducted. The outcomes of the ADF and PP revealed all the variables that were not stationary in level form, leading to the first difference test. After the variables had been determined to be stationary at level or first difference. The ARDL models ' lag order was predicted using VAR lag order selection criteria that picked lag 1 for the three ARDL models (7, 8 and 9). The cointegration relationship between the variables was determined in each ARDL model using the bound sample strategy after the lag length was

selected, which means that there is a long-term connection between the variables. The research then proceeded to assess the long-term and short-term connection between factors using ARDL. The investigation shows no significance for the effect of inflation and exchange rate on economic growth.

5.3 Conclusion

This research aims to address the three primary problems of exchange rate of inflation and economic growth. The empirical findings presented in the research suggest the presence of a long-term inflation-economic partnership that exerts a adverse impact on economic growth that is trivial to short-term economic growth that has a comparable impact. The exchange rate has a beneficial and negligible impact on economic growth in Nigeria. The projected inflation-to-economic growth relationship does not provide the accurate channel through which inflation impacts development. That is the degree of responsiveness of economic growth to inflation and exchange in Nigeria, the findings further indicate that gross domestic savings, foreign direct investment and exports have a adverse and insignificant economic connection to Nigeria's economic growth and financial deepening, importation, jobs and trade openness.

5.4 Recommendations

The nature of the inflation, exchange rate and economic growth relationship in Nigeria. These findings have significant policy consequences for policymakers at home. It is not a necessary condition for encouraging economic growth to imply that controlling inflation and retaining or raising the exchange rate. This research only used inflation, exchange rates, economic deepening, gross national savings, imports, exports, foreign direct investment, jobs and trade openness as variables influencing Nigeria's true GDP that turned out to be irrelevant in both the brief and long term after inquiry. Further study may therefore add additional variables to

determine its connection and meaning. It is possible to extend samples and time scales to improve the accuracy of the results of the study.

5.5 Study Limitation

This research was subject to certain limitations. First, the research was not conclusive as it did not include some of the other elements influencing economic growth but focused solely on inflation and exchange rates as the main variables influencing the economy that were shown to be irrelevant after the empirical exams. Also found in the research were the restriction of time limitations and the collection of secondary data. It was a challenging task to develop the statistical presentation since the investigator was not acquainted with the E-view program. This needed some software training to allow adequate use of the software to obtain the required statistical data presentation.

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