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### **Impact of Floating Exchange Rate on Economic Development**

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#### **ABSTRACT**

Currency fluctuations are a natural outcome of the floating exchange rate system that is the norm for most major economies. There has been an ongoing debate on the appropriate exchange rate policy in developing countries. Fluctuations in the currency strength of major economic powers like United States drive considerably the impact of the global economy on budding economies like Nigeria. In recent years, these fluctuations have been enormous, volatile and frequently unrelated to underlying economic fundamentals. To this end, the study examined the impact of floating exchange rate on economic development based on the past studies. Findings from the study indicates that the Exchange rate have significant impact on the economic growth of Nigeria as represented by GDP. Based on the findings therefore, the study recommends that Nigerian government should be more serious about its economic reforms like the national Economic Empowerment and development Strategy (NEEDS), Small and Medium Enterprises Equity investment Scheme (SMEEIS) and others in order to boost the GDP internally so as to reduce pressure on imported goods which will automatically reduce the demand for dollar. This would lead to favorable exchange rate for the country and also, the government should try to make the economy investment friendly by putting in place political stability, security of lives and good economic climate to draw home foreign investors to boost the nation's productivity. This will also reduce capital flight plaguing the country.

**Key Words:** Exchange Rate, Inflation Rate, Economic Growth, Liberalization and Nigeria, currency fluctuation.

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#### **INTRODUCTION**

It has been a challenge to identify a direct correlation between exchange rate regimes and economic growth. One of the most important issues left unanswered in international finance is the debates over which type of exchange rate can best stimulate economic growth. Stable exchange rate systems are an important component to stable and prosperous economic growth. Stability is the main advantage of a fixed exchange rate, because the exchange rate between the currency and its peg does not fluctuate based on market conditions. Therefore, it can create a steady business climate favorable for trade and investments. On the other hand, floating exchange rate allows the central banks to exercise more independent monetary policy, which is crucial to control the economy.

However, past research projects have shown mixed results about the impact of exchange rate regimes on economic growth, partly because of the way each individual country's economic conditions interact with the chosen exchange rate regime [1].

The movement of goods and services across national frontiers in one direction involves the movement of foreign exchange in the opposite direction. This creates the needs for a rate of exchange between the currencies of two trading partners to settle indebtedness arising from trade involving them [2].

Exchange rate is a price at which a currency is regulated in the market, which varies at one time or the other. Also, Exchange rate is the price of one country's currency expressed in terms of some other currency. It determines the relative prices of domestic and foreign goods, as well as the strength of external sector participation in the international trade. Exchange rate regime and interest rate remain important issues of discourse in the International finance as well as in developing nations, with more economies embracing trade liberalization as a requisite for economic growth [3]. In Nigeria, exchange rate has changed within the time frame from regulated to deregulated regimes. Ewa, (2011) [4] agreed that the exchange rate of the naira was relatively stable between 1973 and 1979 during the oil boom era and when agricultural products accounted for more than 70% of the nation's gross domestic products (GDP).

Some factors which cause variations in the exchange rate are government policy, interaction of demand and supply, activities of the Nigerian Stock Exchange (NSE), international trade oil glut and recession. In the 70s and 80s, agricultural products like cocoa, palm oil, groundnut, rubber etc. contributed majorly to the foreign earnings in Nigeria. However, there were inadequacies in the exchange control system as a major control mechanism. This led to the introduction of the Second-Tier foreign exchange market (SFEM) in 1986. The SFEM was a market established by law for the buying and selling of foreign exchange at market determined rates.

According to Adeoye and Atanda (2012) [5], the objectives of the SFEM was to evolve a realistic market-oriented exchange rate for the naira, so as to reduce the demand for foreign exchange to the available supply, reduce the pressures on the balance of payments in order to stop further accumulation of trade debts, reduce imports, stimulate export and pave the way to a self-reliant and sustainable growth.

Unfortunately, the Nigeria foreign exchange market has not performed maximally, even with the introduction of various institutional reforms like Brooks (2014)[6], the Autonomous Foreign Exchange Market (AFEM) (1995), and the Inter-Bank Foreign Exchange Market (IFEM) (1999). The dividing foreign exchange earnings, according to Obadan (2006) [7] has been as a result of some factors like weak capital market, poor management of diversified risk and weakness on the part of Bureau De Change in earning a stable and efficient exchange rate in the Nigeria economy.

Exchange rate volatility also known as the persistent fluctuations of the exchange rate has dominated recent literature in international finance owing to its effects on developing economies. In both developed and developing economies, concerns about exchange rate

fluctuations have evolved in an astonishing manner largely on its impact on exports [8],[9],[10], employment growth [11],[12], trade [13],[14],[15],[16]; inflation [18],[19][20], and more generally economic activity [21] and growth[22],[23],[24],[25].

Currency fluctuations are a natural outcome of the floating exchange rate system that is the norm for most major economies. There has been an ongoing debate on the appropriate exchange rate policy in developing countries.

Exchange rate is the rate at which a unit of the currency of one country can be exchanged for a unit of the currency of another country. It determines the relative prices of domestic and foreign goods, as well as the strength of external sector participation in the international trade [1]. Exchange rate regime and interest rate remain important issues of discourse in the International finance as well as in developing nations [3] and the choice of exchange rate regime stands as perhaps the most contentious aspect of macroeconomic policy [26].

Exchange rate fluctuations in emerging markets, which has become more pronounced in the last two decades, have had significant impact on the economies of the affected countries. Empirical evidences have shown that exchange rate volatility in turn is caused by both real and financial aggregate shocks [27]. Danne (2006) [24] opined that these shocks are engendered largely from collapse of commodity prices in the world market, reduced foreign lending and increased cost of external borrowing. The volatility of exchange rates in developing countries is widely contended as being one of the main sources of economic instability around the world [25]. Conversely, fluctuations in the currency strength of major economic powers like United States drive considerably the impact of the global economy on budding economies like Nigeria. In recent years, these fluctuations have been enormous, volatile and frequently unrelated to underlying economic fundamentals [28].

Fluctuations in exchange rate has different implications on the economic growth as measured by key macroeconomic variables. The right choice of exchange rate regime will bring an economy back to the equilibrium and many economists claim that it is one of the factors for the positive economic development [28]. Previous research on the impact of exchange rate has reached contrasting results- currency depreciation could have expansionary or contractionary effect on economic growth. As demonstrated by Danne (2006)[24] and Holland (2011)[25], the success of currency depreciation in promoting trade balance largely depends on switching demand in the proper direction and amount, as well as on the capacity of the home economy to meet the additional demand by supplying more goods.

In Nigeria, the exchange rate policy has undergone substantial transformation from the immediate post-independence period when the country maintained a fixed parity with the British pound, through the oil boom of the 1970s, to the floating of the currency in 1986, following the near collapse of the economy between 1982 and 1985 period [28]. The exchange rate of the naira was relatively stable between 1973 and 1979 during the oil boom era, a period when agricultural products accounted for more than 70% of the nation's gross domestic products (GDP) [4]. However, as a result of the development in the petroleum oil

sector in 1970's, the share of agriculture in total exports declined significantly while that of oil increased.

However, from 1981 the world oil market started to deteriorate and its attendant economic crises were evident in Nigeria because of the country's heavy dependence on oil sales for export earnings. To underscore the central role of oil revenue to Nigerian economy, the nation's budgeted revenue and expenditure witnessed significant cuts when oil price fell from a peak of \$147 in 2008 to about \$37.81 per barrel [27].

Between 1978 and 1982, there was an upsurge of exchange rate which was due to the introduction of both managed float and dollar pegged systems of exchange rate policies in the country (Ettah *et al.*, 2011)[28]. Apart from this policy measures, the Central Bank of Nigeria (CBN) applied the basket of currencies approach from 1979 as the guide in determining the exchange rate. Exchange rate was determined by the relative strength of the currencies of the country's trading partner and the volume of trade with such countries. Specifically weights were attached to these countries with the American dollars and British pound sterling on the exchange rate mechanism [27].

The adoption of the International Monetary Fund (IMF) Structural Adjustment Programme (SAP) in 1986 resulted in the transition from fixed exchange rate regime to floating exchange rate regime in Nigeria [25]. Under this system, instead of determining exchange rates by market forces, a managed float system was adopted whereby monetary authorities intervened periodically in the foreign exchange market in order to attain some strategic objectives [2]. This inconsistency in policies and lack of continuity in exchange rate policies aggregated unstable nature of the naira rate [2]. Ever since, the exchange rate of naira vis-à-vis the U.S dollar has attained varying rates all through different time horizons. For example, exchange rate in Nigeria averaged 138.47 from 2003 to 2013, reaching an all time high of 230 in 2015 and a record low of 2.02 in 1986 [26].

Following the fluctuation of the Naira in 1986, a policy induced by the Structural Adjustment Programme (SAP), the subject of exchange rate fluctuations has become a topical issue in Nigeria. This is because it is the goal of every economy to have a stable rate of exchange with its trading partners. In Nigeria, this goal was not realized inspite of the fact that the country embarked on devaluation to promote export and stabilize the rate of exchange. The failure to realize this goal subjected the Nigerian manufacturing sector to the challenge of a constantly fluctuating exchange rate. This was not only necessitated by the devaluation of the naira but the weak and narrow productive base of the sector and the rising import bills also strengthened it. In order to stem this development and ensure a stable exchange rate, the monetary authority put in place a number of exchange rate policies. However, very little achievement was made in stabilizing the rate of exchange. As a consequence, the problem of exchange rate fluctuations persisted throughout the study period. In macroeconomic management, exchange rate policy as an important tool derives from the fact that changes in the rate of exchange have significant implications for a country's balance of payments position and even its income distribution and growth. It is not surprising since its behaviour is said to determine the behaviour of several other

macroeconomic variables [28]. It is even more so for Nigeria which had embarked on a course of rapid economic growth with attendant high import dependency.

In recent times, the fall in the exchange rate has been attributed to fall in oil price which resulted in a continuous and heavy depletion of the country's external reserve, a strategy employed by Central Bank of Nigeria (CBN) to defend the naira. The CBN governor, Mr Godwin Emefiele, revealed that Nigeria is being faced with a number of challenges which compelled the devaluation of naira. These factors include fall in the global oil prices, the end of the United States Quantitative Easing programme, the discovery of shale oil by the US and the global fall in the price of other export commodities apart from the crude oil [28].

The fall in the global oil prices has led to a decline in oil revenue from which the nation derives 95 per cent of its foreign exchange. Consequently, her external reserves had fallen by over 20 per cent from \$43bn a year ago to \$34.4bn by January 22, 2015 (Holland, 2011)[25]. It has also been observed that Nigeria had faced a simultaneous dwindling in the supply of the dollar and rise in its demand. Consequently, this has led to a rise in the price of the dollar at both the interbank and Bureau De Change segments of the market. All these have been observed to constitute to the low supply of the US dollars amid high demand for them.

Benson and Holland, (2012) and Vieira, (2011)[25] noted that despite various efforts by the government to maintain a stable exchange rate, the naira has depreciated throughout the 80's till date. It is against this backdrop that this study seeks to establish the effect of the unremitting exchange rate depreciation experienced in Nigeria on key macroeconomic variables over a period of 43 years (1970 - 2013). Thus the objective of this study is therefore to ascertain the impact of floating exchange rate on economic development.

#### REVIEW OF RELATED LITERATURE CONCEPTUAL REVIEW

Exchange rate is the rate at which a currency is exchanged for another currency. It is referred to as the ratio at which a unit of currency of one country is expressed in terms of another currency. According to Belke (2004)[12], the exchange rate between the dollar and the pound refers to the number of dollars required to purchase a pound. The rate is normally determined in the foreign exchange market.

The foreign exchange market is a market where currencies of different countries are bought and sold. It is a market where the values of local and foreign currencies are determined. As noted by Belke (2004)[12], the national currencies of all countries are the stock-in-trade of the foreign exchange market, and as such, it is the largest market to be found around the world which functions in every country.

Exchange rate is the price of one country's currency in relation to another country. It is the required amount of units of a currency that can buy another amount of units of another currency.

Ettah *et al.*, (2011)[28] asserted that appreciation of exchange rate results in increased imports and reduced export while depreciation would expand export and discourage import. Also, depreciation of exchange rate tends to cause a shift from foreign goods to domestic goods. Hence, it leads to diversion of income from importing countries to

countries exporting through a shift in terms of trade, and this tends to have impact on the exporting and importing countries' economic growth.

In the same vein, Mundell (1995)[22] agreed that exchange rate helps to connect the price systems of two different countries by making it possible for international trade and also effects on the volume of imports and exports, as well as country's balance of payments position. Bredin, Fountas and Murphy (2003)[15] also opined that developing countries are relatively better off in the choice of flexible exchange rate regimes.

### FOREIGN EXCHANGE RATE POLICY

#### (i) Fixed or Pegged Exchange Rates

The fixed exchange rate is a phenomenon which occurs when the rate of a currency against other currencies is fixed. Under the pegged exchanged rates, all exchange transactions take place at an exchange rate that is determined by the monetary authorities [23].

This connotes that the exchange rate of a currency to other currencies is stable. This allows for an increase in reserve of the country if there is a favourable balance of trade. International trade is encouraged because prices of goods are more predictable and long term capital flows in an orderly manner can be encouraged.

#### (ii) Flexible or Fluctuating Exchange Rates

This occurs when the currency of a country against other currencies is not stable. The rates are determined by market forces. This implies that the market is unpredictable, thus, leading to economic instability, high risk, possibility of incurring loss on investment in foreign exchange.

Under a regime of freely fluctuating exchange rates, if there is an excess supply of a currency, the value of that currency in foreign exchange market will fall. This will lead to depreciation of the exchange rate. For example, like we have in Nigeria at present, where the exchange rate of Nigeria naira to America dollar was N158 to \$1 as at December 2012 but has moved to N168 to \$1 by December 2013 in the open market and has been moving higher. This is as a result of high demand for dollar and excess supply of naira.

On the other hand, shortage of a currency will lead to the appreciation of exchange rate thereby leading to restoration of equilibrium in the exchange market. These market forces operate automatically without any actions on the part of monetary authorities[28].

### EXCHANGE RATE REGIMES

Countries have a wide scale of exchange rate regimes to choose from, ranging from fixed (conventional peg) to freely floating exchange rate. The regime type a country chooses should depend on the current economic situation, size of the economy, the types of exchange rates other countries are using, and the long term economic policy goal. For example, price stability with trade partners is crucial for an open economy that has a large portion of its GDP dependent on exports. Therefore, this country will be less likely to adopt a freely floating exchange rate where price volatility is potentially high and can discourage international trade.

According to IMF *de facto* classification, exchange rate arrangements can be classified into four categories: hard pegs or fixed regimes (such as currency board arrangements), soft pegs or intermediate regimes (such as crawling pegs, stabilized arrangements, and craw-

like arrangements), floating regimes (such as managed floating and free floating), and residuals (Central Bank of Nigeria, 2006)[27]. Under fixed exchange rate, local currency is either pegged against another currency or a basket of other currencies. The main goal of this system is to achieve stability in the value of currency through fixing it against a stronger and more stable currency (or currencies). The main advantage of this system is that the currency does not fluctuate according to market conditions, and therefore creates a stable and predictable business climate for investments and trade between the two currencies. However, the main drawback of pegged exchange rates is that it is very difficult for government to conduct independent monetary policy and to liberalize capital markets at the same time (Central Bank of Nigeria, 2006)[27]. For instance, capital outflows will result in currency depreciation. In order to tackle this, the central bank needs to raise domestic interest rates which eventually depresses the domestic economy. The reverse situation occurs with capital inflows.

Therefore, the only way for an economy to maintain domestic and external equilibrium is either to control capital movements or to allow the exchange rate to float.

Within flexible exchange rate regime, the value of currency is allowed to fluctuate based on the supply and demand of that particular currency in the exchange market. One of the advantages of floating regime is the automatic adjustment of balance of payments, whose deficit or surplus is corrected by appreciation or depreciation of the currency (Ettah, Akpan and Etim 2011)[28]. The main disadvantage of this system is the stability factor. Exchange rate can appreciate wildly and therefore be disruptive for tradable goods sector. When the currency depreciates, it can lead to extreme inflation by raising the domestic price of imports. Therefore, many countries that adopt floating exchange rate practice managed floating by intervening in some level in order to maintain their macroeconomic stability and minimize volatility impact. In reality, the implementations of exchange rate regimes are not always about choosing the other end of spectrum. Most countries adopt a variety of combinations of both fixed and floating regimes, which are called intermediate regimes. One type of intermediate regimes is the crawling peg, where a currency value is allowed to fluctuate within a certain limit.

So far, there has not been an agreement regarding which exchange rate regime is the most optimal for an economy because the view about the more preferred exchange rate, especially for the emerging economies, has changed over time. In the 1990s, fixing an exchange rate to a strong currency like the U.S. dollar contributed to low inflation and the sound fiscal position. The resulting stable expectations then promoted investment and boosted long-term growth, which has become known as the East Asian miracle (Petreski). This practice became popular, especially among countries who just transitioned into market economies and which were trying to stabilize their economy after price liberalizations (Holland, Vieira, Silva and Bottecchia, 2011)[25]. The formation of the Eurozone also contributed to this trend as the member countries started to use the Euro as their currency. However, the capital flight that triggered financial crisis in emerging economies in the late 1990s and resulted in collapsing currencies underlined the fragility of this pegged exchange rate [21].

After the crisis, a review done by the IMF suggested that bipolar prescription could be a better exchange rate choice to implement. Bipolar prescription is the idea that simple pegs were too prone to crisis, and that countries should instead adopt either hard pegs or a free floating system. Therefore, the exchange rate value is either pegged to another currency or purely determined by the market mechanism without government intervention [26]. However, even this prescription was changed several years later when the collapse of Argentina's currency board once again muddled the world's opinion on the presumably most optimal exchange rate regime.

### EXCHANGE RATE AND ECONOMIC GROWTH

There is no fixed agreement on choosing the most suitable exchange rate to maintain macroeconomic stability. The choice of an appropriate exchange rate system must depend on the particular features of each country. Free floating exchange rate regimes adopted by developed countries might not suit developing countries whose insurance markets are not so well developed and whose economy is not stable enough to absorb the risks from exchange rate volatility.

Therefore, in theory, if the right regime is adopted, it could facilitate better business climate and potentially enhance economic growth in the long run.

Economic theory does not clearly articulate how exchange rate regimes can affect economic growth, and there are a limited number of studies which investigate this relationship.

Most studies focus on how exchange rate impact international trade and investments. According to Levy-Yeyati and Sturzenegger (2002)[23], exploration in the topic of exchange rates and growth has induced less research, "probably due to the fact that nominal variables are considered to be unrelated to longer-term growth performance" (p.2). Their research explored the implications for macroeconomic variables of choosing a particular exchange rate arrangement by assessing the impact of exchange rate regimes on inflation, money growth, real interest rates, and real output growth. They found that the correlation between exchange rate and output growth existed, even though the influence might not be very clear.

Two interesting trends were found in a study conducted by Huang and Obadan (2006)[7] in 12 developing Asian countries and 18 advanced European countries over the period of 1976-2001.

Firstly, they discovered that the choice of exchange rate regimes did not have significant impact on economic growth in European nations, although more flexible regimes were associated with higher growth. Secondly, developing countries in Asia which adopted managed float seemed to outperform other countries in the area which adopted different regimes. Therefore, their study concluded that exchange rates do impact economic growth but may depend on how developed the economy is. Moreover, Serven, (2002)[18] found that there was a moderately weak connection between exchange rate regime and growth of output—one measure of economic growth. In his study, countries that maintained pegged exchange rate achieved higher investment, yet attained lower productivity compared to countries with floating exchange rates (Holland, Vieira, Silva and Bottecchia, 2011)[25]. Overall, per capita growth was slightly lower in countries with fixed exchange rates.

A different result presented by Levy-Yeyati and Sturzenegger (2002)[23], showed that higher output occurred under peg regimes in Central and Eastern Europe because of two main reasons. In addition to the eliminated exchange rate risk that stimulated international trade and international division of labor, fixed exchange rate promoted certainty which would lower interest rate, and eventually spur investment and economic growth.

#### EFFECT OF EXCHANGE RATE ON DEVELOPING NATIONS

The following have been adduced as the effect of exchange rate on economic growth of many developing nations from the research carried out by [16], [17].

(i). Increase in foreign exchange earnings - The foreign exchange reserve of a country is responsive to its exchange rate which has a multiplier effect on the economic growth of a country. When there is more export due to increase in value of a country's currency, this would increase the foreign exchange reserve of the country at the Central Bank. There is a possibility of the increase in export enhancing economic growth of the country. However, in Nigeria, the foreign exchange reserve has not translated to enhanced economic growth due to low exports and more imports.

(ii). Improvement in Technology - There is empirical evidence that most of the countries having high external reserves are countries with advanced technology. The increase in currency reserves would lead to advanced countries investing their capital in Nigeria.

(iii). Appreciation of National Currency - Increase in foreign exchange according to Doyle, (2001)[13], would strengthen the value of national currency in relation to the other currencies being traded in the foreign exchange market. This would also lead to increase in the confidence of investors to trade in the national currency. However, this has not worked out for Nigeria as the naira is being weakened day in day out due to high level of corruption and capital flight ravaging the economy.

(iv). Increase in the standard of living - In economies like China, Japan, USA and Switzerland with favourable external reserves, there is usually the positive effect on the people living or carrying on business in such countries. This was manifested in the Nigerian economy in the 1960s before the discovery of oil which has resulted into higher National income but lower standard of living at present. What a paradox!

(v). Inflation - Increase in external reserve was supposed to dampen the inflationary effect in the economy. Unfortunately, the reverse has been the case in Nigeria as more Nigerian naira is being spent on imported goods.

(vi). High cost of maintenance - foreign exchange rate management usually leads to a country procuring high debt through loans from the international monetary fund (IMF) or the World Bank to finance its projects. In Nigeria for example, when the naira becomes weak compared to other currencies like dollar or pound and there is the need to transact foreign trade with USA or any of European countries, Nigeria would require extra cost in floating these other currencies for effective trade deals. This has also led to exposure to transaction risk, commercial risk and political risk.

#### EMPIRICAL REVIEW

Previous research on the impact of currency fluctuation and economic growth shared different views about their relationship. While some believed currency fluctuation is

detrimental to growth through its harmful effect on consumption and investments others claimed it is beneficial and a necessary condition for growth as it aids competitiveness and growth of domestic production sector. However some researchers also claimed that currency fluctuation has no significant effect on economic growth.

Empirical evidence has showed that real exchange rate variations can affect growth outcomes. Faster economic growth and significant growth in agricultural exports (cocoa) in Nigeria is significantly associated with exchange rate fluctuations and therefore there should be a free market determination of exchange rate for export of cocoa in Nigeria (Ettah *et al.*, 2011)[28]. It has been found that exchange rate liberalization is good to Nigerian economy as it promote economic growth. Obansa *et al.*, (2013)[3] examined the relationship between exchange rate and economic growth in Nigeria between 1970 and 2010. The result indicated that exchange rate has a strong impact on economic growth.

On the contrary, some past studies showed that exchange rate has no significant effect on economic growth performance. From the literatures, it is particularly clear that this exchange rate uncertainty is having a negative effect on economic operators, curbing investment and slowing growth. The Commission of European Communities discovered that currency fluctuation and the sudden changes in current or anticipated profitability stemming from it have engendered uncertainty and a wait-and-see attitude among economic agents, leading to a slowdown in growth (Central Bank of Nigeria (2006)[26]. Similarly, both real exchange misalignment and volatility adversely affected growth of Nigerian non-oil exports in Nigeria [12].

Tenreyro, (2007)[16] found that for a varying degree of openness, exchange rate fluctuations generate adverse effects on economic performance in a variety of developing countries. These effects are evident by output contraction and price inflation in the face of currency depreciation. In same vein, anticipated appreciation of the exchange rate, current and lagged, has a negative effect on output growth in Turkey. Specifically, unanticipated exchange rate depreciation in 1994 and 2001 correlated with a reduction in real output growth [17].

Adeoye and Atanda (2012)[5], found no evidence of a strong direct relationship between changes in exchange rate and output growth. Rather, he concluded that Nigeria economic growth has been directly affected by monetary variables.

Following the liberalization of global foreign exchange markets, MacDonald and Nagayasu (1999) identify two compelling areas of particular interest for exchange rate dynamics: (i) significant long-run relationship between real exchange and fundamentals and (ii) relative significance of shocks in total exchange rate volatility. Generally, the causes of exchange rate volatility can be grouped into domestic real shocks affecting supply, domestic real shocks affecting demand, external real shocks and nominal shocks reflecting changes in money supply. In the standard Danne (2006)[24] model, unanticipated monetary policy shocks generate large variations in the exchange rate. Here, nominal shocks affect real exchange rate but only in the short-run. Because real exchange rate deviates from its long-run equilibrium path, extant studies on the cause of the deviations and results are largely

torn between two schools. The first documents significant relationship between real exchange rate fundamentals including supply and demand factors where the former largely relate to the level of output capacity and expected to follow the Balassa-Samuelson hypothesis. This hypothesis assumes that productivity increases tradable sectors hence pushing up sector wages. This in effect puts an upward pressure on wages in the non-tradable sector and the economy as a whole. Because productivity does not increase in response to wage rise, prices of non-tradable goods are expected to rise leading to increase in the relative price of non-tradable to tradable goods, hence, an appreciation of the domestic real exchange rate. The demand factors relate to the role of government expenditure while the external shocks reflect changes in terms of trade, trade openness and capital flows. The second strand identifies the effects of real shocks in exchange rate volatility.

Holland *et al.*, (2011)[25] examines the impact of real exchange rate volatility on long-run economic growth for advanced and emerging economies over the period 1970-2009 and found that, high (low) exchange rate volatility positively (negatively) affects real GDP growth rate. However, controlling for exchange rate volatility in a model containing levels of exchange rate and exchange rate misalignment renders the variables insignificant suggesting that exchange rate stability is more crucial in propelling long-run growth than exchange rate misalignment. However, while finding no significant link between exchange rate volatility and long-run productivity growth, Kiyota and Urata, (2002)[19] recent study reveal non-linearities between real exchange rate volatility and output volatility among emerging market economies. Their finding suggests that real exchange rate volatility aids in absorbing shock as well as limit output volatility but too much of volatility in exchange rate increases output volatility. Kiyota and Urata, (2002)[19] further examined the threshold effect in 15 sub-Saharan African countries and found that, volatility in exchange rate is deleterious to growth only when the ratio of domestic credit to GDP falls below 57%.

Regionally, Nzotta (2004)[2] investigates the effects of exchange rate volatility on output growth and inflation in the West African Monetary Zone (consisting of Ghana, The Gambia, Guinea, Liberia, Nigeria and Sierra Leone) following exchange rate regime shift. Results from their study reveal that while exchange rate volatility is inflationary across all the countries, its effect on output growth differ. Specifically, volatility and depreciation in particular negatively affects real GDP growth in Liberia and Sierra Leone but positively impacts on output in the other countries albeit weakly. The difference in direction and magnitude of effect is not far-fetched from the differences in macroeconomic conditions prevailing in each country.

Nzotta (2004) [2] examined the impact of exchange rate fluctuation on the Nigeria economic growth for period of 1980 - 2010. The result showed that real exchange rate has a positive effect on the economic growth. In a similar study Nzotta (2004)[2] investigated foreign exchange market and economic growth in an emerging petroleum based economy from 1970-2003 in Nigeria. He found that positive relationship exists between exchange rate and economic growth. Arize, Osang and Slottje (2000)[10] also examined the relationship between exchange rate and economic growth in Nigeria between 1970 - 2010. The result indicated that exchange rate has a strong impact on economic growth. They concluded that

exchange rate liberalization was good to Nigerian economy as it promote economic growth. Assery and Peel (1991)[9] also investigated the effect of exchange rate volatility on macroeconomic performance in Nigeria from 1986 - 2010. They discovered that exchange rate is positive related to Gross Domestic Product. Assery and Peel (1991)[9] using error correction model argued on the contrary that trade liberalization promoted growth in the Nigerian industrial sector and stabilized the exchange rate market between 1970 and 2006. To them, there was a positive and significant relationship between index of industrial production and real export. A one per cent rise in real export increases the index of industrial production by 12.2 per cent. By implication, it means that the policy of deregulation impacted positively on export through exchange rate depreciation. However, past studies also showed that exchange rate has no significant effect on economic growth performance. For example, Belke and Kaas, (2004)[12] provided evidence that in a large sample of industrial and developing countries, real exchange rate volatility hampers economic growth and reduces productivity growth. Doyle (2001)[13] examined the issues surrounding the implementation of SAP in Nigeria, and drew up a conclusion that the peculiar features of Nigerian economy reduced the efficacy of currency depreciation in producing desirable effects. From the study of the relationship between exchange rate variation and growth of the domestic output in Nigeria (1971-1995); he expressed growth of domestic output as a linear function of variations in the average nominal exchange rate. He further used dummy variables to capture the periods of currency depreciation. The empirical result showed that all coefficients of the major explanatory variables have negative signs. Bredin, Fountas, and Murphy (2003)[15] also examined the effect of exchange rate fluctuations on Nigerian manufacturing industry. They employed multiple regression econometric tools which revealed a negative relationship between exchange rate volatility and manufacturing sector performance.

Danne *et al.*, (2006)[24] found a similar result, but they also showed that the negative effect of real exchange rate volatility on economic growth shrinks in countries with higher levels of financial development. Servén (2003)[18] showed that real exchange rate volatility negatively affects investment in a large panel of developing countries. This negative impact is significantly larger in countries with highly open economies and less developed financial systems. He also found evidence of threshold effects, whereby uncertainty only matters when it is relatively high.

## THEORETICAL REVIEW

The theoretical literature on the effect of exchange rate volatility on the economy is still a matter of great debate among economist.

There are three main theories of the determination of foreign exchange rate. They are as follows:

(i) The Mint Parity Theory - This theory is associated with the working of the international gold standard. Under this system, the currency in use was made of gold or was convertible into gold at a fixed rate (Brooks 2014)[6]. Here, the value of the currency unit was defined in terms of certain weight of gold and the Central Bank of the country concerned was

always ready to buy and sell gold at the specified price. The rate at which the naira could be converted into gold is called the mint price of gold.

(ii) The Purchasing Power Parity Theory - This Theory states that spot exchange rate between currencies will change to the differential in inflation rate between countries. The theory states that the equilibrium exchange rate between two inconvertible paper currencies is determined by the equality of their purchasing power. That is, the exchange rate between two countries is determined by their relative price levels[7].

(iii) The Balance of Payment Theory - This theory stipulates that under free exchange rates, the exchange rate of the currency of a country depends upon its balance of payment. According to (Brooks 2014)[6], a favourable balance of payments raises the exchange rate, while an unfavourable balance of payments reduces the exchange rate. Thus the theory implies that the exchange rate is determined by the demand for and supply of foreign exchange.

### METHODOLOGY MODEL SPECIFICATION

The main aim of this study is to examine the Impact of floating exchange rate on Economic Growth in Nigeria. All data collection for the purpose of the study were evaluated, cross checked compared and critically analyzed. This study will adopt the classical Linear Regression Model according to Brooks(2014) stated thus:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + u \quad \text{----- EQ 1}$$

It will however be tailored to a simple open macroeconomic debt growth model employed by Boboye and Ojo (2012) represented thus:

$$GDP = \beta_0 + \beta_1 EXR + \beta_2 INFR + u \quad \text{----- EQ 2}$$

- GDP = Gross Domestic Product
- EXR = Exchange rate
- INTR = Infation Rate as a control variable
- u = error term
- $\beta_1, \beta_2,$  = coefficient of the parameter estimates
- $B_0$  = Intercept of the regression equation

The period to be covered in the analyses will be from 1985 to 2015 which are periods within which the floating exchange system has held sway in Nigeria.

<b>Table 1: Correlation Matrix of the Variables Under Study</b>			
<b>Date: 01/14/17 Time: 15:34</b>			
<b>Sample: 1985 2015</b>			
<b>Included observations: 31</b>			
<b>Correlation</b>			
<b>t-Statistic</b>			
<b>Probability</b>	<b>GDP</b>	<b>INFR</b>	<b>EXR</b>
<b>GDP</b>	1.000000		
	-----		
	-----		
<b>INFR</b>	-0.386707	1.000000	
	-2.258161	-----	
	0.0316	-----	
<b>EXR</b>	0.890656	-0.455170	1.000000
	10.54885	-2.752867	-----
	0.0000	0.0101	-----

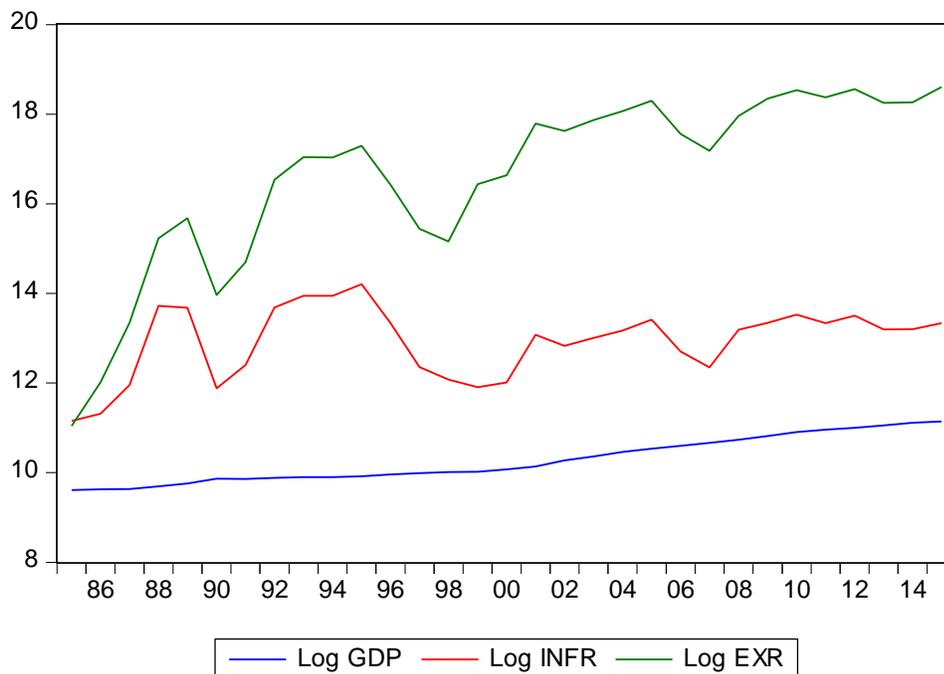
Table 1 above contains the correlational matrix of the variables under study. From the results there is a positive correlation between exchange rate and economic growth in Nigeria with a reasonably high correlation coefficient of 89%. This indicates that there is a strong positive linear association between economic growth and exchange rate in the devaluation period of 1985 to 2015.

**Table 2: Basic Descriptive Statistics of the Variables Under Study**

	<b>GDP</b>	<b>INFR</b>	<b>EXR</b>
Mean	23513.90	16.64422	44.96331
Median	19953.56	11.60000	4.277338
Maximum	69023.93	72.81000	193.2792
Minimum	2489.000	0.240000	0.546400
Std. Dev.	18096.73	16.49969	62.57461
Skewness	0.879551	1.724556	0.969526
Kurtosis	3.081241	5.260902	2.206456

Table 2 above contains the basic descriptive statistics of the variables under study. It shows aggregative averages like the mean, mode, median as well as measures of spread and variation like standard deviation, minimum and maximum. It also shows skewness which is a measure of the degree of symmetry and kurtosis which is a show of the degree of peakedness of the observation.

**Fig. 1 Line Graph of GDP, Inflation Rate and Exchange Rate**



To further illustrate the analytical relationship between exchange rate and economic growth in a deregulated environment, the line graph of the form shown in Fig. 1 is used. A positive relationship is seen from the slope between exchange rate and economic growth with a negative relationship between inflation and growth. This is consistent with the results shown by the correlation matrix.

**Table 3: Ordinary Least Squares Results**

Dependent Variable: GDP				
Method: Least Squares				
Date: 01/14/17 Time: 15:22				
Sample: 1985 2015				
Included observations: 31				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	431.7567	462.5829	0.933361	0.3589
INFR	-4.320177	9.401219	-0.459534	0.6495
EXR	15.34962	5.362908	2.862182	0.0080
GDP(-1)	1.006385	0.020586	48.88581	0.0000
R-squared	0.997695	Mean dependent var		32821.10
Adjusted R-squared	0.997439	S.D. dependent var		17311.75
S.E. of regression	876.0315	Akaike info criterion		16.50860
Sum squared resid	20720643	Schwarz criterion		16.69363
Log likelihood	-251.8832	Hannan-Quinn criter.		16.56891
F-statistic	3896.194	Durbin-Watson stat		1.462351
Prob(F-statistic)	0.000000			

From table 4 above, INFR is used as a control variable. EXR (the explanatory variable of interest) shows positive and significant effect on economic growth proxied by GDP. This is indicated by the t-value (2.86 with a p-value of 0.0080) and a coefficient value of 15.34. The  $R^2$  which is a show of the goodness of fit of the model is 99% which means that 99% of variation in GDP was explained by the independent variables and about 1% of the relationship is explained by factors outside the model. The F-statistics of (3896 P-value = 0.0000) at a critical value of 0.05 shows that the overall regression is significant and can be used for meaningful analyses. The Durbin Watson statistics (DW) value of 1.5 shows that

there is no evidence of a first order serial autocorrelation (AR(1)). By rule of thumb, if the DW statistics is approximately equal to 2, it is evidence against the existence of a first order serial correlation. This was enhanced by the use of the first lag of the regressand as one of the regressors. This made the model dynamic and eliminated the first order autocorrelation.

### CONCLUSION AND RECOMMENDATIONS

From the previous studies studied, it was found out that the Exchange rate and inflation rate individually and jointly have significance impact on the economic growth of Nigeria as represented by GDP. The inflation rate has positive correlation with GDP while the exchange rate of naira to dollar has negative correlation with the GDP. Though the Nigeria GDP keeps increasing every year, the negative effect of exchange rate has not allowed the GDP to grow maximally as expected. This is as a result of the naira being cheaper compared to the dollar. The demand for dollar has remained so high resulting to the increase in exchange rate and ultimately resulting to high cost of imported goods.

Based on the findings therefore, the following recommendations were made.

(1).Nigeria government should be more serious about its economic reforms like the national Economic Empowerment and development Strategy (NEEDS), Small and Medium Enterprises Equity investment Scheme (SMEEIS) and others in order to boost the GDP internally so as to reduce pressure on imported goods which will automatically reduce the demand for dollar. This would lead to favorable exchange rate for the country.

(ii). The government should try to make the economy investment friendly by putting in place political stability, security of lives and good economic climate to draw home foreign investors to boost the nation's productivity. This will also reduce capital flight plaguing the country.

(iii). Infrastructural development should be provided in order to reduce costs of production of some goods and services.

(iv). The government, as a matter of urgency, through the relevant agencies should reduce the interest rate prevailing in the economy. The current situation where investors have to borrow at 25% interest rate from the Nigerian Banks seems unpalatable for the economy.

Therefore, if the above itemized points, and solutions are considered and implemented, it will surely lead to buoyancy on the Gross Domestic Product (GDP) through the impact of favorable foreign exchange rate and sustainable inflation rate.

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