Exchange rate fluctuations and foreign private investments in Nigeria

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Abstract
The study intended to examine the impact of exchange rate fluctuations on foreign private investment in Nigeria. Giving what it takes to attract and retain foreign private investments in Nigeria, and the volatility of crude oil prices. The literature review took a conceptual, theoretical and empirical view of previous work done by scholars in the area. In the methodology of research, the design adopted was the ex-post facto research design. The data utilized were secondary in nature obtained from the Central of Nigeria Statistical Bulletin for the relevant periods. The model for the regression was specified in detail with the roles of the variables explained. The hypotheses stated will be tested using the two-stage least square (2LS). The statistical properties of the 2LS are contained in the popular Gauss- Markov theorem which sees the least squares estimators as unbiased linear estimator, having minimum variance. The model examines the relationship between a dependent variable and two or more regressor (independent variables). This suit the research since the intention of the researcher is to examine the impact of exchanges rate on these macro-economic variables on a variable by variable basis. The Granger Causality will also be employed to test the causal relationship between exchange rate and major macro-economic variables. The exchange rate fluctuations has negative and non-significant impact on Nigeria's foreign private investment (coefficient of EXR = -0.015, t-value = -0.267). This indicates that a one percent increase in foreign private investment into Nigeria may be due to 0.015 percent decrease in exchange rate fluctuations. The probability value of 0.792 > 0.05 confirms the non-significance of the result. The coefficient of determination which measures the goodness fit of the model as revealed by R-square (R^2) indicates that 83.6% of the variations observed in the dependent variable were explained by variations in the dependent variable. This is quite high could be attributed to the inclusion of control variables such export rate (EXPR) and import rate (IMPR). The test of goodness of fit as indicated by R^2 was properly adjusted by the Adjusted R-Square to 81.2%. The result of this study that exchange rate fluctuations has negative and non-significant impact on Nigeria's foreign private investment supports the above argument implying that FDI investment in Nigeria is not determine by exchange rate but on other motives such as technology, entrepreneurial skills, source of capital an overall motive to make profit irrespective of the exchange rate. Recommendations of study include examining the transmission mechanism of exchange rate on major macro-economic variables in Nigeria. The channels through which exchange rate impact on these major

macroeconomic variables will determine the appropriateness of policies. Secondly, another recommendation is for the inclusion of the parallel exchange rate market on major macro economic variables in Nigeria and also recommends an inclusion of the parallel exchange rate market on major macro economic variables in Nigeria.

1.0 Introduction

Many economic models have been used in attempts to finding out if economic growth can be achieved by increasing the amount of factors of production and the capacity. This is where investments come in and increase growth. Foreign private investment is vital to Nigerian economy as well as domestic private investment. The motivation for investment for foreign backed funds the motivation to commit their resources to the economy depends on the stability of the business climate whether political, market, regulatory or technological potentials. Feldstein (2000) emphasized that international flow of capital reduces the risk faced by owners of capital by allowing them to diversify their lending and investment. Also, the global integration of capital market can contribute to the spread of best practices in corporate governance, accounting rules and legal traditions. In addition, the global mobility of capital limits the ability of government to pursue bad policies. Furthermore, foreign investment through foreign direct investment allows for the transfer of technology particularly in the form of a new variety of capital inputs that cannot be achieved through financial investment or trade in goods and services.

There is scarcely any country that lives in absolute isolation in this globalised world. The economies of all the countries of the world are linked directly or indirectly through asset or/and goods markets, made possible through trade and foreign exchange. The price of foreign currencies in terms of a local currency (i.e. foreign exchange) is therefore important to understanding of the growth pattern of economies of the world. In macroeconomic management, exchange rate policy is an important tool. This is derived 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 aids international exchange of goods and services as well as achieving and maintaining international competitiveness and hence ensures viable balance of payment position.lt serves as an anchor for domestic prices and contributes to internal balance in price stability (CBN, 2011). It is not surprising therefore, that monetary authorities attach much importance to proper management of a country's foreign exchange since its behaviour is said to determine the behaviour of several other macroeconomic variables (Oyejide, 1989). It is even more so for Nigeria which had embarked on a course of rapid economic growth with its attendant high import dependency. An exchange rate, as a price of one country's money in terms of another's, is among the most important prices in an open economy. It influences the flow of goods, services, and capital in a country, and exerts strong pressure on the balance of payments, inflation and other macroeconomic variables. In this way, the choice and management of an exchange rate regime is a critical aspect of economic management to safeguard competitiveness, macroeconomic stability, and growth (Cooper, 1999).

The management of the Exchange Rate has been a critical issue for the economic policy and researchers, especially in developing countries. In the seminal paper of (Rose, 1991), he examined the empirical relation between real effective exchange rate and trade balance of major five OECD countries in the post-Bretton Woods era and found that the exchange rate as insignificant determinant of balance of trade.

The research done by Rose and Yellen (1989) could not reject the hypothesis that the real exchange rate was statistically insignificant determinant of trade flows. They examined the

bilateral trade flows between the United States and other OECD countries using quarterly data. Furthermore, the studies of (Singh, 2002) find that real exchange rate and domestic income explain a significant influence while foreign income shows an insignificant impact on trade balance, this result for Indian data. Singh's study also demonstrates a very significant effect (+2.33) of real exchange rate and domestic income (-1.87) on Indian trade balance (Singh, 2002).

1.1 Statement of problem

Nigeria major foreign earning is from oil; hence, volatility of crude oil prices in the world market has made the Nigerian economy highly susceptible to the ever changing exchange rates thus affecting the prices of goods and services in the Nigerian economy. Nzekwe (2006) states that Nigeria's failure to diversify its economy which would have helped cushion the effect of the constant changes in oil prices stems in part from weaknesses in the nation's small and insular private sector. This has had a heavy toll on our foreign reserves and invariably, our balance of trade and balance of payment.

1.2 Research objective

Examine the impact of exchange rate fluctuations on foreign private investment in Nigeria.

1.3 Research hypothesis

Exchange rate fluctuations in Nigeria do not have positive and significant impact on foreign private investment in Nigeria.

2.0 Literature Review

According to Oni, Imolehin, Adelowo and Adejumo (2014) Nigeria is one of the few countries that have benefitted from the inflow of foreign private investment to Africa. Nigeria's share of foreign private investment inflow to Africa average around 10% from 24.19% in 1990 to a low level of 5.88% in 2001 up to 11.65% in 2002 (CBN, 2004). UNCTAD (2004) showed Nigeria as the continent's second top foreign private investment recipient after Angola in 2001 and 2002. Foreign private investment forms a small percentage of the nation's GDP, however, making up to 2.47% in 1970, -0.81% in 1980, 6.24% in 1989 and 3.93% in 2002 (CBN). Nigeria's economic growth has not measured up tp expectations of policy makers despite all these huge inflow of capital into the country. This study therefore is an attempt to find out if exchange rate fluctuations had significant long-term impact on foreign private investment, to ascertain the viability of foreign private investment given the exchange rate swings over time. Borensztein, DE Gregrio and Lee (1998) utilized panel data in studying sixty nine developing countries over two periods, 1970-79 and 1980-89 with the aim of investigating the impact of FDI on economic growth. They found that FDI has a positive impact on growth because the measure of schooling is above some critical level (estimated at 0.52). Neanidios and Varvarigos (2005) in examining the impact of foreign aids on economic growth for seventy four recipient countries, they used Generalized Method of Moment (GMM) by using panel data over the period of 1972-1992. Their results showed that there was a positive growth in the economy since their study established that foreign aid is used productively.

Fedderke and Romm (2005) studied the South African economy to find the growth impact and the determinants of foreign direct investment. They concluded that there was a positive technological spillover from foreign to domestic capital having found complementing relationship between the foreign and domestic capital in the long run. Their estimation is in terms of a standard spillover model of investment, and in terms of a new model of locational

choice in FDI between domestic capital and foreign alternatives.
In Nigeria, Akinlo (2004) used Error Correction Model (ECM) to investigate the impact of FDI on economic growth in Nigeria for the period 1970-2001. The result established a positive and significant impact of export on growth. Eke et al. (2003) used causality test to analyze the impact of FDI on economic growth in Nigeria. The result indicated that causality runs in both directions. They concluded that foreign direct investment is relevant and also significant in determining the real development in Nigeria. Ayashagba and Abachi (2002) also carried out an empirical investigation on the effects of foreign direct investment on economic growth in Nigeria from 1980-1997. The result showed that foreign direct investment had significant impact on growth in Nigeria. This study is an improvement on the previous works on the relationship between foreign private investment and economic growth in Nigeria for two reasons. Firstly, the study considers inflation rate as an important variable that affects economic growth. Most studies like Akinlo (2004), Eke et al. (2003) did not include inflation rate as a variable in their models. Secondly, this research work covers up to period 2010.

Ofurum and Torbira (2011) were of the opinion that as the main engine of globalization, international finance relies heavily on the operations of the foreign exchange market. This operation includes the buying and selling of foreign goods, services or financing assets that leads to the exchange of domestic currency or bank deposit for foreign currency or bank deposit denominated in different currencies. Like any good or asset in a free market, the trading of currency and bank deposit denominated in particular currencies is determined by the interaction of supply and demand.

Investment refers to accumulation of real capital goods. It is the process of incremental change in capital stock whereby an economic agent (individuals, firms and government) put in its resources to acquire capital assets to enhance future stream of earnings, increase productivity and efficiency and improve the living standard of the people. Fakiyesi (1998) described investment as "the process on incremental change in capital stock whereby a society set aside part of its current productive resources to create material and human capital. This incremental change is usually purposive in the sense that it is designed to enhance the future stream of earnings. For investment to take place, certain amount of wealth must be transferred from one ownership or employment to another.

It involves trading off of present consumption for the future. Investment requires commitment of resources which could have been used for present consumption. Investment encompasses, among other things, the acquisition of new plants, machineries, equipment and tools, construction of new factory and offices, provision of educational and health-care facilities, public works such as dams, roads, railways, drainages and parks, real estate activities and any other activities that support improvement in the real sector of the economy. It takes individuals, firms and the government to invest. Investment can be classified into public and private investment. Private investment is generally conceptualized in terms of physical capital formation. It comprises investment in physical capital, usually undertaken by firms and individuals to accumulate, overtime, real capital goods, which will yield a future flow of goods and services. The real capital goods is classified into business fixed capital goods like new machinery and equipment, new factories and offices, other durable goods, investing in new techniques and product with the aim of improving the quality and quantity of firm's output; and working capital such as cash, stock of raw materials and inventories (Soludo, 1998).

The pioneer theoretical framework on investment theory could be traced to Keynes landmark work in 1936. He posited that investment depends on the marginal efficiency of capital (MEC) and interest rate. MEC is the rate of profit which an addition of an extra unit of capital goods to economy's stock of capital is expected to yield. It is determined by the supply price and the prospective yields during the whole life of a capital asset. Interest rate is the opportunity cost of the invested funds. Investment is regarded as profitable when the expected rate of profit is greater than the current market rate of interest. Keynes further stressed the volatility of private investment because of uncertainty of return on investment (Ahuja, 2011). After Keynes, other major theories of investment include the Neoclassical Theory; the Accelerator Theory; the Liquidity Theory; Expected Profits Theory, Tobins Q theory and the Debt Overhang Hypothesis (Oshikoya, 1994 and Bogunjoko, 1998). According to the Neoclassical Theory, addition to the stock of capital in an economy depends on marginal product of capital and user cost of capital. The user cost of capital is determined by nominal interest rate, expected rate of inflation, rate of depreciation, corporate income taxes and investment tax credit. The flexible accelerator theory is one of the most popular among the theories of investment.

Empirical test of this model in developing countries, Nigeria inclusive, is rather difficult because of institutional and data constraints. The restrictive assumption of this model such as perfect capital markets and little or no public investment is hardly satisfied by the developing countries, including Nigeria. In addition to traditional determinants of investment mentioned above, the works of Green and Villanuera (1991); Serven and Solimano (1992); show that private investment can be significantly affected by factors such as macroeconomic instability, macroeconomic policy (monetary, fiscal and exchange rates policies), the incentive structure and the response to it, uncertainty and irreversibility of investment, and creditability of policy reforms. Martin and Wasom (1992) in an econometric study of the determinants of private investment in Kenya using the real exchange rate, foreign exchange reserves, credit to private sector, public investment, interest rate and income as arguments found that all the coefficients were significant except those for interest rate and income. In the same vein, Oshikoya (1994) investigated the determinants of private investment activity in eight African countries (Malawi, Tanania, Kenya, Zimbabwe, Cameroon, Morocco, Mauritus and Tanisia).
He classified Malawi, Tanzania, Kenya, and Zimbabwe as low-income African countries while middle-income African countries were Cameroon, Morocco, Mauritius and Tunisia. The findings show that large debt service ratio, domestic inflation rate, public investment rates had the most relative impact on the private investment rate in middle-income countries. Journal of Economics and Sustainable Development www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.7, No.11, 2016 82 For low income countries, credit to the private sector, domestic inflation rate, GDP growth rate, and debt service ratio were found to have large impact on private investment rates. Institutional factors like corruption, bureaucratic red-tapes, weak judicial system and frequent government interference in business also affect private investment. In view of this, Pfeffermann and Madarassy (1992) have argued that investment can flow in response to the elimination of these institutional factors only when investors believe that such trend of positive change is permanent.

Private investment is also affected by the degree of social and political stability, income distribution, the level of aggregate demand and the rate of profit. In Nigeria, Ariyo and Raheem (1991) investigated the determinants of private investment and found that public investment, rate of GDP growth, domestic credit to private sector and interest rate impacted positively on private investment. Chete and Akpokodji (1998) findings show that private investment in Nigeria is influenced by public investment, inflation rate, real exchange rate,

and domestic credit to the private sector in addition to the private foreign capital inflow. Obaseki and Onwioduokit (1998) assessed the relative contributions of the private and public sectors to long-run growth in Nigeria. The result showed that private investment, public investment and imports are important determinants of output growth in Nigeria. Their results further revealed that public and private investment were complementary in Nigeria; public investment contributed more to total output than private investment and public sector feeds the private sector. The assertion that public investment contributed more to total output in Nigeria than private investment was in order, considering long history of dominance of public sector, reliance of private sector on public sector for survival and the low level of private investment in Nigeria. Iyoha (1998), in an attempt to identify and discuss the macroeconomic issues germane to rekindling investment for economic development in Nigeria, found that private investment in Nigeria depends significantly on public investment, return on investment, foreign exchange premium and a debt overhang variables. Stressing the critical role of uncertainty and external debt in depressing investment in Nigeria, he proffers ways to encourage private investment in Nigeria to include appropriate macroeconomic policies, reduction of uncertainty in the macroeconomic terrain, management of the debt overhang problem, deregulation of financial environment, openness and integration into the global economy, and reduction of social and political instability.

Lindauer and Velenchik (1992) examined the consequences of government spending in developing countries and found that government investment may provide social infrastructure such as education and health care services that enter directly into private sector production and enhance private sector output. Government spending also may indirectly influence the efficiency of private sector allocation of inputs. Whenever government spending helps to correct market failures, guarantee property rights and the enforcement of contracts, and provides essential public goods, then it's effect on private investment will be positive. On the other hand, government spending may distort private incentives if government involves in economic activities like manufacturing and commercial activities which private sector could profitably handles or government spending leads to high taxes and borrowing to finance it. If the financing of government investment projects bids up interest rates or reduce lendable funds available for private sector to borrow, private investment may be crowded-out. Conversely, if public capital formation and private capital formation are truly complementary, public investment may stimulate private entrepreneur's initiative and enhance private investment. Only recently, Onoh et al (2017) insisted that regardless of the poor implementation of monetary policies in Nigeria there is enough evidence to support inflation targeting under a free float exchange regime than under a tightly fixed regime. Given the assumptions of the monetarist school of thought and its theoretical relevance to economic policies in Nigeria over the years the study recommends that interest rate regime should be flexible enough to adopt to market based realities.

Ekpo (1995) examined the relationship between public expenditures and economic growth via links with private investment in Nigeria. The results indicated that public expenditures on transport, communication and agriculture crowd-in private investment while public spending on manufacturing and construction crowd-out private investment. Also, expenditure on education and health was found to have positive influence of private sector investment. Theoretically, there is inverse relationship between fiscal deficits and private investment. This link is anchored on the potential crowding-out effect of fiscal deficits, especially when financed through public sector borrowing from banking sector, as had been the case in Nigeria for some years. In a study on the relationship between government budget deficits and private investment in Nigeria, Ekpo (1999) found that budget deficits crowd-out private

investment in Nigeria. Other available evidences point to the fact that budget deficits profile has been inhibiting the performance of the private sector as well as causing the near-extinction of real sector of the Nigerian economy (Ariyo and Raheem, 1991).

Issues on Private Investment in Nigeria Nigerian economy is often described as a mixed economy. A mixed economy connotes a framework in which allocative mechanism in respect of what is to be saved, invested, produced and at what prices, is left to the forces of the market and not to any planning authority or government. The existence of the state is merely to buttress the mechanism and improve its efficiency (Aromoloran, 1998). It means that in a mixed economy, private sector should play the leading role while the public sector provides the enabling economic environment. According to Ekpo (2014), conducive economic environment could be created by the government through the formulation and implementation of appropriate, effective and sound macroeconomic policies and programmes which, among other things, will facilitate the availability of required resources, stimulate saving and investment, and ensure macroeconomic stability (low inflation rate, exchange rate stability and low interest rate) as well as the provision Journal of Economics and Sustainable Development www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.7, No.11, 2016 83 of adequate infrastructural facilities in the economy. During the colonial government era up to the Nigeria's First Development Plan of 1964, there was commitment to the promotion of private investment.

The interventionist role of the colonial government in the local economy concentrated mostly in the provision of physical infrastructures such as ports, roads and railways, the enforcement of law and order, and access to credits which private enterprise development critically needs. For example, a state- owned financial enterprise, the Nigerian Local Development Board (NLDB) which was later transformed into the Federal Loans Board (FLB) on the suggestion of the World Bank Mission to Nigeria in 1953, was established in 1946 to organise credit for the private entrepreneurs; and by 1949, a total loans of £100,342, about 22.3% of the total loans approved by the board for the period 1946-49 were obtained by the private sector enterprises (Medupin, 1991). At Nigeria's independence, the nationalists who took over the management of the Nigerian economy from the colonialists had strong support for private sector development. This belief in private sector led economy was affirmed in the First National Development Plan thus: "it has always been the aim of government policy to stimulate the rigorous growth of the private sector" (Federal Republic of Nigeria, 1964:8).

For this reason, inflow of foreign private capital was highly solicited and warmly received. Following the relative non-performance of the private sector in general and the disappointing inflow of expected foreign capital during the First National Development Plan in particular, the need for greater public sector initiative and involvement in economic activities in Nigeria was spurred. From the 1970s through the early 1980s there was unprecedented increase in crude oil earnings and this became a great stimulus to public sector participation in the "commanding heights of the economy" and the establishment of many state owned enterprises. This shift in developmental paradigm was expressed as a quest for purposeful national development and as the basis for the promotion of public interests (Medupin, 1991). In the Second National Development plan of 1970- 74, it was explained thus: "government cannot plan effectively what it does not control". In addition, the intervention of public sector in the Nigerian economy was seen as the outcome of long rooted belief that the private sector in developing countries, including Nigeria, lacked the means (financial and entrepreneurial skills) to undertake the task of development.

Okonkwo (1986) affirmed this by stressing that among disincentives to economic development by indigenous private enterprises in Nigeria include the unwillingness shown by Nigerian businessmen to invest the available domestic capital in the productive enterprises, the lack of entrepreneurial ability, skilled labour and sound financial strength, and the habit of always expecting the government to provide everything. With unprecedented increase in government revenue caused by oil boom of the 1970s through the early 1980s, public sector moved in gradually and dominated the scene in Nigerian economy, with a small and weak private sector. The result of which was the preponderance of public investment and low level of private investment. The quest for rapid economic development coupled with the existence of market failure and weak institutional arrangements in the domestic economy and faith in Keynesian techniques of economic management propelled successive Nigerian governments to invest in almost all spheres of human endeavour, including areas traditionally reserved for the private sector. Ojo (1992) asserted that by the early 1980's public sector became the prime mover of economic activities through its huge capital investments in social, physical and economic infrastructure. Public sector accounted for about 50% of GDP and 60% of employment in the modern sectors. Public sector out-stepped it's bound by encroaching even into area such as manufacturing and commercial activities which would have been profitably handled by private sector, given the enabling environment.

By 1980, available data indicate that the Federal Government of Nigeria alone owned nearly 200 parastatals (with about 90 non-commercial and 110 commercial). Usman (1991) asserted that there was an unprecedented mushrooming of public enterprises in Nigeria such that by 1986 their number had grown to over 500, with government investment in them worth over N36 billion in the form of equity, loans guarantees and subventions, with less than 2.0% annual rate of returns. The above scenario was inimical to private investment growth in Nigeria. It weakened private sector and diminished private investment. What was experienced in Nigeria tarried with Diamond (1989) assertion that any increase in government expenditure by increasing the share of productive resources used by the government, would slow economic growth in the economy as a whole and may impede the accumulation of human and physical capital and the pace of innovation in the private sector.

Most of the public investment discouraged private sector initiative, in that, instead of boosting the expected rate of return on private investment, it imposed burdens on private sector. Some of the public investments were in the production of goods and services which competed with private sector production, and crushed actual private investment in the country. Private sector was forced into becoming an appendage of public sector and was fed by the public sector. Many operators in the private sector rely almost entirely on the government. Rather than work to generate real economic growth within the framework of a free enterprise system of economic management, most private enterprises in Nigeria depended on public resources and government patronage whereas their performances and activities have no value added whatsoever. A large part of what was perceived as private sector profits were essentially transfers, through various gimmicks, from the public sector organizations (Ajakaiye, 1998). Journal of Economics and Sustainable Development www.iiste.org ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online) Vol.7, No.11, 2016 84 The expansive trend of public investment led to rapid increase in government expenditure and in most of the years, in excess of it's revenue. This together with other internal and external factors plunge Nigerian economy into serious and persistent economic crisis which manifested itself in different perspectives such as persistent macroeconomic imbalances, widening saving-investment gap, high rates of inflation, chronic balance of payment problems and huge budget deficits (Akpokodje, 1998), which further worsened the level of

private investment.

Most of the deficit spending was financed through domestic borrowing and this resulted in high interest rate and reduction in lendable fund available to private investors. Following the domestic and global realities, a change emerged on the role of government in the development process leading to a growing recognition of private sector as the engine of sustainable growth and development. This change was prompted by evidences and data indicating high level of growth for economies with dominant private sector, and growing difficulties with government budget. In addition, changes in the international environment has also play significant role. Multinational and bilateral institutions have developed new initiatives with priorities for private sector development. In 1989, the International Finance Corporation, an affiliate of the World Bank established the African Enterprise Fund, and the US Overseas Private Investment Corporation launched the African growth fund. In 1991, the African Development Bank initiated a new strategy for direct financial assistance to private sector operations (Oshikoya, 1994; Obaseki and Onwioduokit, 1998). Nigeria was not left out in the wind of change. Of recent, there had been much yearning for greater participation of the private sector where prices and private entrepreneurial initiatives determine the direction and pattern of investment programmes. On this note, a package of economic reforms measures and other sectoral reforms have been introduced into the Nigerian economy. The policy thrust of the economic reform was downsizing of public sector, privatization of public enterprises and general deregulation of the economy to create more appropriate incentives and a framework for private sector development as the basis for achieving sustainable economic growth and development.

3.0 Research Methodology

3.1 Research Design

A research design is a kind of blue print that guides the researcher in his or her investigation and analysis (Onwumere, 2009). It is a kind of format which the researcher employs in order to systematically apply the scientific method in the investigation of problems. The research design adopted in this research is the *ex-post facto* research design. This is the type of research involving events that have already taken place, data exists as no attempt is made to control or manipulate relevant independent variables apparently because these variables are not manipulatable. Also, as described by Kerlinger (1970), the *ex-post facto* research design also called causal comparative research is used when the researcher intends to determine cause-effect relationship between the independent and dependent variables with a view to establishing a causal link between them. Hence, the justification for the adoption of this research design hinges on the unmaniputability of data and the intention of the researcher to determine cause-effect relationship of the impact of exchange rate on macro-economic variables in Nigeria from 1987-2011.

3.2 Nature and Sources of Data

The issue of data is at the very centre of research and also the nature of data for any study depends entirely on the objectives of the research and the type of research undertaken (Onwumere, 2005). Consistent with the above therefore and in line with researches conducted in this area of finance in Nigeria where most data utilized were obtained from the Central of Nigeria Statistical Bulletin for the relevant periods the nature and sources of data for this type of research will be secondary data. Hence, secondary data will be used in this research and are data already processed and collated.

3.3 Model Specification

3.3.1 Model

This study will adopt Ofurum and Torbira (2011) ordinary regression model in line the works of Bakare (2011), Accam (1997), Serven and Solimano (1992) and Akpan (2009) to examine the impact of exchange rate on macro-economic variables such as gross domestic product growth rate, balance of trade positions of Nigeria, consumer price index, foreign private investment in Nigeria. Ofurum and Tobira (2011) model is represented as;

For the research hypothesis which states that exchange rate in Nigeria does not have positive and significant impact on foreign private investment in Nigeria.

FPI = $a + b_1ER + b_2EX + b_3IMP +$…………………………………… (v)

where;

FPI	=	Foreign Private Investment
ER	=	Exchange rate
a	=	Constant of the regression function
b_1-b_3	=	Coefficient of the independent variables
EX	=	Export rate
IMP	=	Import rate
µ	=	Error term

3.3.2 Assumptions

A model according to Yomere and Aghonifoh (1999) is a simplified view of reality designed to enable the researcher describe the essence and inter-relationship within the system or phenomenon it depicts. The underlying assumptions for the modified Ofurum and Tobira (2011) model to be used in this study are:

i. It is a linear function of a random variable
ii. It is unbiased. Thus its average or expected value are equivalent to its true value
iii. It has minimum variance, i.e, it is an efficient estimator, given an unbiased estimator with the least variance (See Onwumere, 2009).

3.4 Description of Explanatory Variables

3.4.1 Dependent Variables

Gross Domestic Product Growth Rate (GDPGR)

Gross Domestic Product (GDP) is the total value of goods and services produced in a country over a specified period. It equals the total income of everyone in the economy, and the total expenditure on the economy's output of goods and services (Mankiw, 1994). GDP is a gauge of economic of economic performance because it measures something people care about their incomes. Similarly, an economy with a large output of goods and services can better satisfy the demands of households, firms and the government. In line with the works of Ofurum and Torbira, (2011), Farkas-Fekete and Judit (2005), Yougbare (2006), this research will adopt the gross domestic product growth rate as proxy for the productivity of the Nigerian economy.

GDPGR = (GDP2-GDP1)/GDP1*100…………………………………… (vi)

Foreign Private Investment (FPI)

Foreign private investment could be described as the total value of private foreign investment in a nation. Results with respect to the impact of different exchange rate regimes on macroeconomic performance particularly on private domestic investment has not been

conclusive (Russ, 2003; Bakare 2011), However, literature agree that exchange rate has a relationship with foreign private investment (Russ, 2003; Bakare 2011). This study will adopt the quotient of foreign private inflow to gross domestic as proxy for FPIR in line with the works of Bakare (2011). This ratio depicts the ratio of foreign private investment that enhances the gross domestic product of the Nigerian economy.

FPIR = FPI/GDP……. (viii)

3.4.2 Independent Variable

Exchange Rate

The exchange rate is the rate at which a country's currency trades with the currency of other countries. Literature seems to suggest that keeping the real exchange rate at competitive levels and avoiding excessive volatility are important for growth though the statistical evidence is not overwhelming. But this fact, in and of itself, conveys an important message. A stable and competitive real exchange rate should be thought of as a facilitating condition for economic growth (Onwumere, 2009). Keeping it at competitive levels and avoiding excessive volatility facilitate efforts to capitalize on economic growth enhancing fundamentals: human capital, savings and investment, and the institutional capacity to assimilate and generate organizational and technological knowledge. Therefore, adopting works of Aguirrea and Calderon (2006) and Herve, Shen and Amed (2010), the annualized real exchange rate will be adopted as a measure of exchange rate.

3.4.3 Control Variables

Export Rate

An export of a good occurs when there is a change of ownership from a resident to a non-resident; this does not necessarily imply that the good in question physically crosses the frontier. Export of goods is a major source of foreign exchange to any nation. It determine the volume of foreign exchange available to that country hence a major determinant of exchange rate. In this study, total export ratio will be measure by Nigeria's total export divided gross domestic product by (Singh, 2002).

EX = Total Export/GDP…….. (ix)

Import Rate

An import of a good occurs when there is a change of ownership from a non-resident to a resident; this does not necessarily imply that the good in question physically crosses the frontier. Importation of goods and services is a major source of depletion of a country's foreign currencies hence has an impact on exchange rate. In this study, the total import ratio will be measured by Nigeria's Total import divided by gross domestic product (Singh, 2002).

IMP = Total Import/GDP……. (x)

3.5 Model Justification

As stated in chapter one of this study, most works in this area of finance examines the impact of exchange rate volatility on macro-economic variables. The justification for the use of these models was based on the volatility of exchange rate in impacting on macro-economic variables. For instance, Ofurum and Torbira, (2011) empirically examined the effect of the demand and supply of foreign exchange on the gross domestic product of the Nigerian economy over a fourteen (14) year-period (1995-2008). Employing the use of vector auto regression (VARs) models on the time series data, the result reveal that supply of foreign exchange has a positive and significant relationship with output level of Gross Domestic Product while the demand for foreign exchange has a negative relationship with gross demand product. Herve, Shen and Amed (2010) investigated the effect of real exchange rate

on the balance of trade of Cote d'Ivoire using multivariate cointegration tests and vector error correction models with time series data covering the periods of 1975-2007. Their investigation results confirm the existence of long-run relationships among Trade Balance (TB), Real Exchange Rate (RER), and foreign and domestic incomes.

However, Opaluwa, Umeh and Ameh (2010) examined the impact of exchange rate fluctuations on the Nigerian manufacturing sector during a twenty (20) year period (1986 – 2005). The argument was that fluctuations in exchange rate adversely affect output of the manufacturing sector. This according to them is because Nigerian manufacturing is highly dependent on import of inputs and capital goods. These are paid for in foreign exchange whose rate of exchange is unstable. Thus, this apparent fluctuation is bound to adversely affect activities in the sector that is dependent on external sources for its productive inputs. The econometric tool of regression was used for the analysis. In the model that was used, manufacturing output employment rate and foreign private investment were used as the explanatory variables. The result of the regression analysis shows that coefficients of the variables carried both positive and negative signs. The study actually shows adverse effect and is all statistically significant in the final analysis. They therefore recommended that there is the need to strengthen the link between agriculture and the manufacturing sector through local sourcing of raw materials thereby reducing the reliance of the sector on import of inputs to a reasonable level. Bakare (2011) adopted the ordinary least square regression analytical method and the result indicate significant but negative relationship between floating foreign exchange rate and private domestic investment in Nigeria.

Therefore, this work will adopt Ofurum and Tobira (2011), Bakare (2011) ordinary regression model in line the works of Accam (1997), Serven and Solimano (1992) and Akpan (2009) to examine the impact of exchange rate on macro-economic variables such as gross domestic product growth rate, balance of trade positions of Nigeria, consumer price index, foreign private investment.

3.6 Techniques of Analysis

The hypotheses stated will be tested using the two-stage least square (2LS). The statistical properties of the 2LS are contained in the popular Gauss- Markov theorem which sees the least squares estimators as unbiased linear estimator, having minimum variance. The model examines the relationship between a dependent variable and two or more regressor (independent variables). This suit the research since the intention of the researcher is to examine the impact of exchanges rate on these macro-economic variables on a variable by variable basis. The Granger Causality will also be employed to test the causal relationship between exchange rate and major macro-economic variables.

4.0 Data analysis and discussions of findings

Table 4.1 Exchange Rate and Foreign Private Investment from 1987-2011

Year	Exr	Fpi (N,000)m	Change	% Change	Fpi/gdp
1987	14.70	9,993.60	-	-	0.05
1988	13.00	11,339.20	1,345.60	13.46	0.05
1989	8.90	10,899.60	-439.60	-3.88	0.05
1990	7.70	10,436.10	-463.50	-4.25	0.04
1991	6.30	12,243.50	1,807.40	17.32	0.05
1992	3.70	20,512.70	8,269.20	67.54	0.08

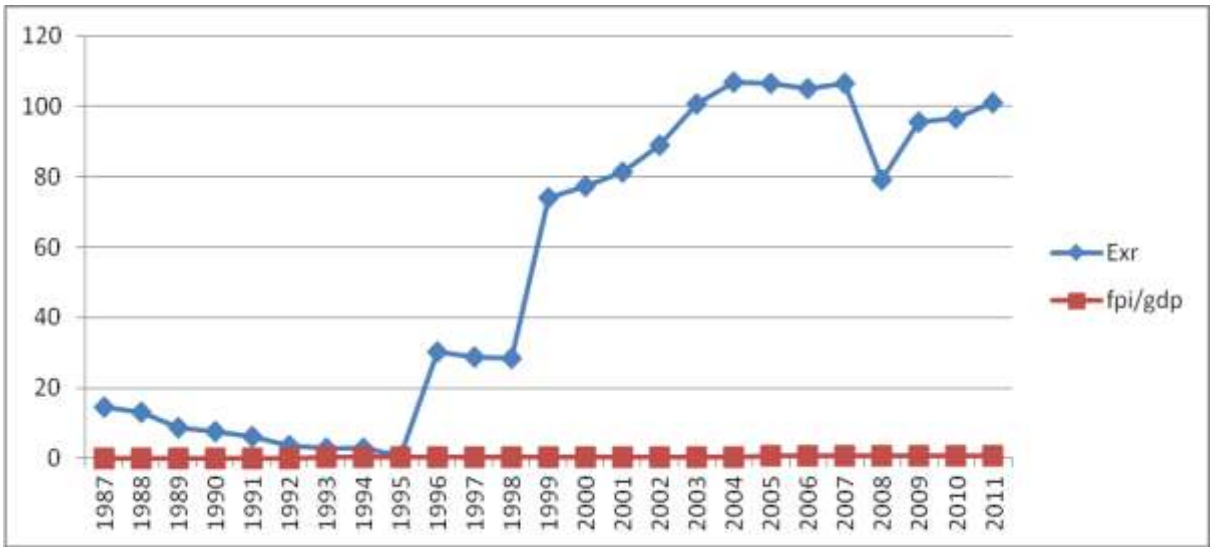
1993	3.00	66,787.00	46,274.30	225.59	0.24
1994	3.00	70,714.60	3,927.60	5.88	0.26
1995	0.70	119,391.60	48,677.00	68.84	0.42
1996	30.17	122,600.90	3,209.30	2.69	0.42
1997	28.83	128,331.90	5,731.00	4.67	0.42
1998	28.32	152,410.90	24,079.00	18.76	0.49
1999	73.91	154,190.40	1,779.50	1.17	0.49
2000	77.21	157,508.60	3,318.20	2.15	0.48
2001	81.30	61,441.60	-96,067.00	-60.99	0.17
2002	88.95	166,631.60	105,190.00	171.20	0.38
2003	100.63	178,478.60	11,847.00	7.11	0.37
2004	107.07	249,220.60	70,742.00	39.64	0.47
2005	106.58	324,656.70	75,436.10	30.27	0.58
2006	105.02	481,239.10	156,582.40	48.23	0.81
2007	106.41	552,498.60	71,259.50	14.81	0.87
2008	79.01	586,309.80	33,811.20	6.12	0.87
2009	95.73	626,746.30	40,436.50	6.90	0.87
2010	96.57	634,326.30	7,580.00	1.21	0.82
2011	101.18	702,345.85	68,019.55	10.72	0.84

Source: CBN Statistical Bulletin Various Years

As indicated from table 4.1, foreign private investments in Nigeria had shown a gradual and consistent increase from 1987 to 2011. From a modest private investment of ₦9,993.60million investment in 1987, the figure has risen to ₦702,345.85million in 2011 with fluctuations between. The quantum of foreign private investment into the Nigerian economy increased by 13.46% from ₦9,993.60million in 1987 to ₦11,339.20millionin 1988. However, in 1989, it decreased by ₦439.60million representing a percent decrease of 3.88% to ₦10,899.60million from the previous year investment in Nigeria and a further decreased by ₦463.50million representing a percent decrease of 4.25% in 1990 to ₦10,436.10million. In 1991, foreign private investment surged up by ₦1,807.40million representing a percent increase of 17.32% to ₦12,243.50million. The yearly increase was sustained until 2001 when there was a decrease of ₦96,067.00million representing 60.99% from the previous year figure of ₦157,508.60million.

In 2002, Nigeria witnessed it highest foreign private investment in percentage terms over the period 1987 to 2011. The quantum of foreign private investment increased by 171.20% from ₦61,441.60million in 2001 to ₦166,631.60million in 2002, a further year increase was observed from in 2003 to 2011. While in 2003, the quantum of foreign private investment increased by 7.11%, 2004 (39.64%), 2005 (30.27%), 2006 (48.23%). In 2007, the rate of increase was 14.81%, increasing the previous year figure of ₦481,239.10million by ₦71,259.50million. The gradual increase continue in 2008 (6.12%), 2009 (6.90%), 2010 (1.21%) and 2011 (10.72%) when the quantum of foreign private investment was ₦702,345.85million. Figure 4.6 presents the pictorial trend of Exchange rate and the ratio of foreign private investment to gross domestic product of Nigeria from 1987 to 2011.

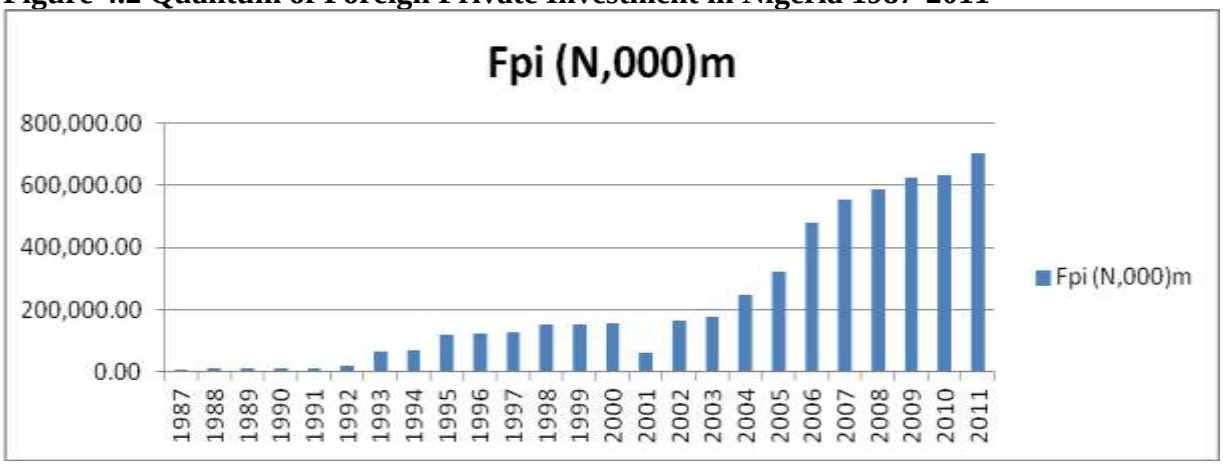
Figure 4.1 Trend of Exchange Rate and Ratio of Foreign Private Investment to GDP 1987-2011



Source: Researchers Excel Computation

Figure 4.2 present diagrammatically the quantum of foreign private investment in Nigeria from 1987 to 2011.

Figure 4.2 Quantum of Foreign Private Investment in Nigeria 1987-2011



Source: Researchers Excel Computation

Table 4.2 presents the values of the control variable included in the model.

Table 4.2 Control Variables (Import and Export) 1987-2011

Year	Epr (N,000)m	Impr(N,000)m	expr	impr
1987	30,360.60	17,861.70	0.15	0.09
1988	31,192.80	21,445.70	0.14	0.10
1989	57,971.20	30,860.20	0.24	0.13
1990	109,886.10	45,717.90	0.41	0.17
1991	121,535.40	89,488.20	0.46	0.34
1992	205,611.70	143,151.20	0.76	0.53
1993	218,770.10	165,629.40	0.80	0.60

1994	206,059.20	162,788.80	0.75	0.59
1995	950,661.40	755,127.70	3.38	2.68
1996	1,309,543.40	562,626.60	4.46	1.92
1997	1,241,662.70	845,716.60	4.11	2.80
1998	751,856.70	837,418.70	2.42	2.69
1999	1,188,969.80	862,515.70	3.81	2.76
2000	1,945,723.30	985,022.40	5.91	2.99
2001	1,867,953.90	1,358,180.30	5.23	3.80
2002	1,744,177.70	1,512,695.30	4.03	3.49
2003	3,087,886.40	2,080,235.30	6.47	4.36
2004	4,602,781.50	1,987,045.30	8.72	3.77
2005	7,246,534.80	2,800,856.30	12.90	4.98
2006	7,324,680.60	3,108,519.30	12.29	5.22
2007	8,309,758.30	3,911,952.60	13.10	6.17
2008	10,161,490.10	5,189,802.60	15.06	7.69
2009	8,356,385.60	5,102,534.40	11.62	7.10
2010	11,035,794.50	8,005,374.20	14.23	10.32
2011	14,231,453.40	10,237,775.60	17.06	12.27

Source: CBN Statistical Bulletin Various Years

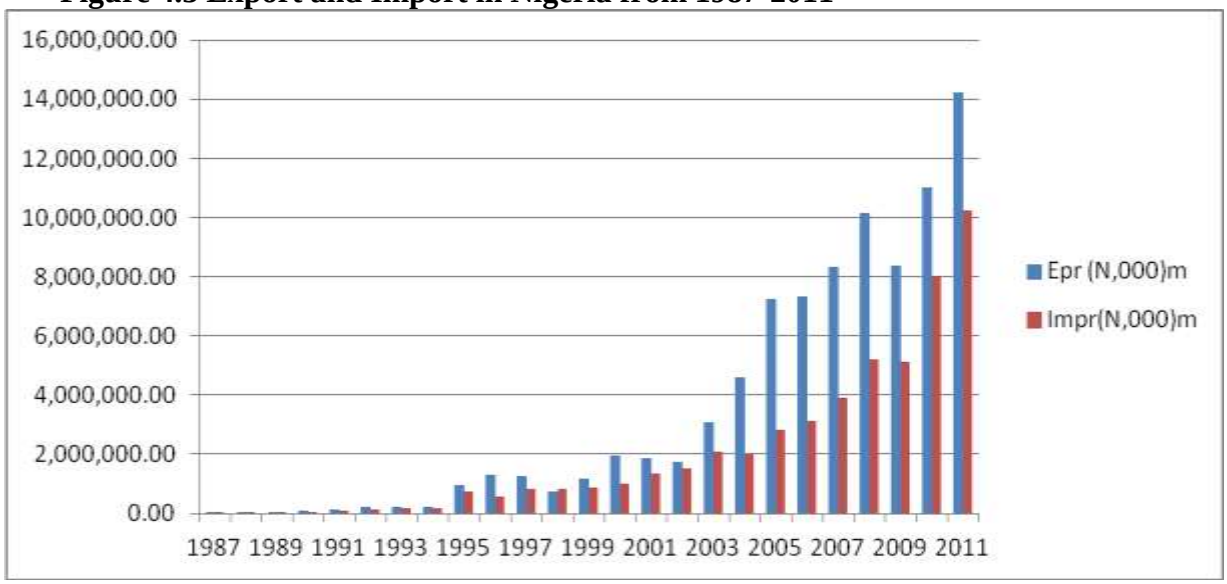
Table 4.2 presents the quantum of export and import of Nigeria from 1987 to 2011 as well as export rate which was computed as the ratio of export on gross domestic product of Nigeria and import rate as the ratio of import on gross domestic product of Nigeria over the same period. In1987, the quantum of export was ₦30,360.60million and this increased to ₦31,192.80million in 1988. The increase yearly in export continued from ₦57,971.20million in 1989 to ₦1,309,543.40 in 1996 but fell in 1997 and 1998 when the quantum of export was ₦1,241,662.70 and ₦751,856.70million respectively. In 1999, export again increased from the previous year figure of ₦751,856.70million to ₦1,188,969.80million and a further increase was witnessed in 2000 when it rose to ₦1,945,723.30million. However, it fell to ₦1,867,953.90million in 2001 and again in 2002, it fell further to ₦1,744,177.70million. In 2003, 2004, 2005, 2006, 2007 and 2008, there was a continual increase in export and the quantum of export were ₦3,087,886.40million, ₦4,602,781.50million, ₦7,246,534.80million, ₦7,324,680.60million, ₦8,309,758.30million and ₦10,161,490.10million respectively. The quantum of export dropped in 2009 to ₦8,356,385.60million and picked-up again in 2010 and 2011 where the figure were ₦11, 035,794.50million and ₦14,231,453.40million respectively.

On the quantum of import from 1987 to 2011, table 4.2 reveals a steady increase in import into Nigeria. From 1987 when the volume of import was ₦17,861.70million to 1993 when it rose to ₦165,629.40million, the importation of goods and services into Nigeria was on a steady increase. However, in 1994, the volume of goods and services imported decreased from the previous year figure of ₦165,629.40million to ₦162,788.80million. The drop in importation was short-lived as it increased again in 1995 to ₦755,127.70million. In1996, the volume of import into Nigeria was ₦562,626.60million and rose to ₦845,716.60million in 1997 and dropped to ₦837,418.70million in 1998.

Again in 1999, 2000, 2001, 2002 and 2003, the volume of importation in Nigeria showed a steady increase as follows: ₦862,515.70million, ₦985,022.40million, ₦1,358,180.30million,

₦1,512,695.30million and ₦2,080,235.30million respectively. In 2004, importation into Nigeria fell from the previous figure of ₦2,080,235.30million to ₦1,987,045.30million. However from 2005 to 2008, the volume of import again showed a steady increase. The quantum of import was ₦2,800,856.30million, ₦3,108,519.30million, ₦3,911,952.60million and ₦5,189,802.60million in 2005, 2006, 2007 and 2008 respectively. There was slight drop in 2009 when the volume of import was ₦5,102,534.40million and again picked up in 2010 and 2011 when the quantum of import was ₦8,005,374.20million and ₦10,237,775.60million respectively. Figure 4.8 diagrammatically present the volume of export and import in Nigeria from 1987 to 2011.

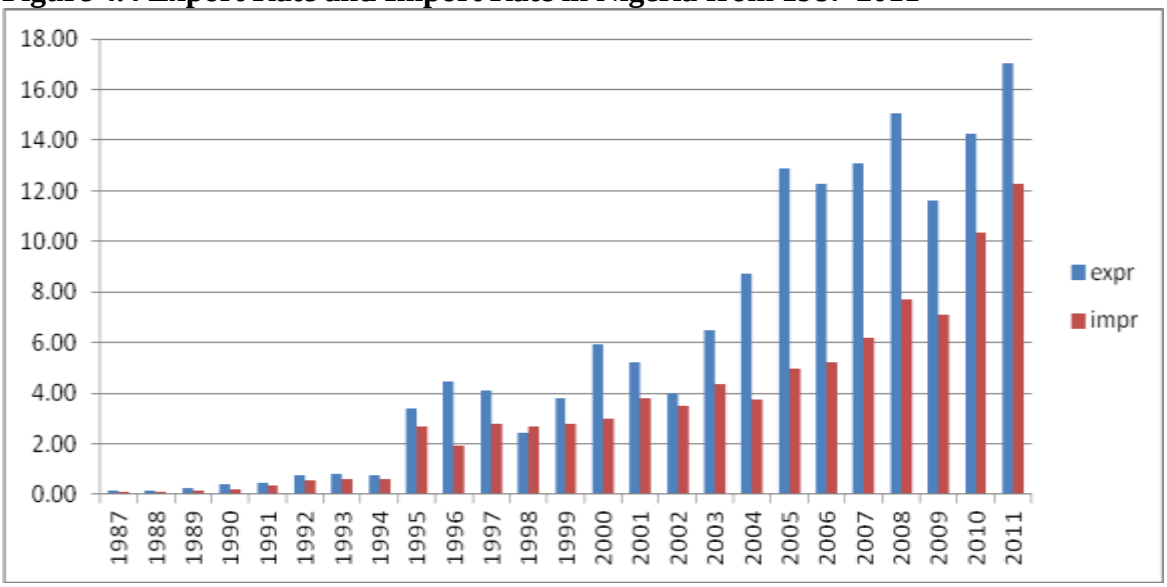
Figure 4.3 Export and Import in Nigeria from 1987-2011



Source: Researchers Excel Computation

Figure 4.4 present export rate and import rate of Nigeria from 1987 to 2011.

Figure 4.4 Export Rate and Import Rate in Nigeria from 1987-2011



Source: Researchers Excel Computation

TEST OF HYPOTHESIS

Three steps were used to test the hypothesis. In step one; the hypothesis was restated of in null and alternate forms. In step two, the results were analyzed while in step three, decisions were made. The decision rule involved the rejection or acceptance of the null or alternate hypothesis based on criterion of the techniques of analyses.

TEST OF THE HYPOTHESIS

Step One: Restatement of the Hypothesis in Null and Alternate forms:

Ho_4: Exchange rate fluctuations in Nigeria do not have positive and significant impact on foreign private investment in Nigeria

Ha_4: Exchange rate fluctuations in Nigeria have positive and significant impact on foreign private investment in Nigeria.

Step Two: Presentation and Analysis of Result

Table 4.3 Regression Results of Hypothesis Four

Dependent Variable: FPIR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXR	-0.015449	0.057846	-0.267079	0.7920
EXPR	0.043858	0.014799	2.963615	0.0074
IMPR	0.010938	0.023336	0.468732	0.6441
C	0.147185	0.067338	2.185764	0.0403
R-squared	0.835842	Mean dependent var		0.423600
Adjusted R-squared	0.812391	S.D. dependent var		0.293639
S.E. of regression	0.127186	Akaike info criterion		-1.140680
Sum squared resid	0.339704	Schwarz criterion		-0.945659
Log likelihood	18.25849	F-statistic		35.64193
Durbin-Watson stat	1.162495	Prob(F-statistic)		0.000000

Source: E-view Result

As revealed from table 4.3, exchange rate fluctuations has negative and non-significant impact on Nigeria's foreign private investment (coefficient of EXR = -0.015, t-value = -0.267). This indicates that a one percent increase in foreign private investment into Nigeria may be due to 0.015 percent decrease in exchange rate fluctuations. The probability value of 0.792 > 0.05 confirms the non-significance of the result. The coefficient of determination which measures the goodness fit of the model as revealed by R-square (R^2) indicates that 83.6% of the variations observed in the dependent variable were explained by variations in the dependent variable. This is quite high could be attributed to the inclusion of control variables such export rate (EXPR) and import rate (IMPR). The test of goodness of fit as indicated by R^2 was properly adjusted by the Adjusted R-Square to 81.2%.

DISCUSSION RESULTS WITH OBJECTIVES OF THE STUDY

The discussion of results was in line with the objectives of this study.

Objective: To examine the impact of exchange rate fluctuations on foreign private investment in Nigeria.

Foreign direct investment is a form of lending or finance in the area of equity participation. It generally involves the transfer of resources, including capital, technology, and management and marketing expertise. Ekpo (1997) argues that the need for foreign capital to supplement domestic resources was felt by the developing economies, in view of growing mismatch between their capital requirements and saving capacity. Further, many developing countries view foreign capital as a key element in their development strategy against the other forms of foreign financing as it aids in upgrading technology in hi-technology concentrated industries. Results existing from literature suggest that foreign direct investment is not determined by the exchange rate regime but by an economies desire for source of capital, managerial expertise, and technology for both developing economies and economies in transition. According to Root (1984), foreign direct investment involves flows of capital, technology and entrepreneurial skills to the host economy where they are combined with local factors in the production of goods for local and for export markets.

The result of this study that exchange rate fluctuations has negative and non-significant impact on Nigeria's foreign private investment supports the above argument implying that FDI investment in Nigeria is not determine by exchange rate but on other motives such as technology, entrepreneurial skills, source of capital an overall motive to make profit irrespective of the exchange rate.

5.0 Conclusions

Foreign exchange volatility affects the performance of macroeconomic indicators positively and negatively. Most import dependent economy like Nigeria faces the problem of foreign exchange rate volatility. Nigeria's over dependence in the Oil and Gas sector of the economy has affected the major macro economic variables and adverse foreign exchange rate regimes have affected the Nigeria economy over the years. Nigeria major foreign earning is from oil; hence, volatility of crude oil prices in the world market has made the Nigerian economy highly susceptible to the ever changing exchange rates thus affecting the prices of goods and services in the Nigerian economy. Nigeria's failure to diversify its economy which would have helped cushion the effect of the constant changes in oil prices stems in part from weaknesses in the nation's small and insular private sector. This has had a heavy toll on our foreign reserves and invariably the foreign private investments.

The result indicates that exchange rate fluctuations has negative and non-significant impact on Nigeria's foreign private investment which supports the argument that FDI investment in Nigeria is not determined by exchange rate but on other motives such as technology, entrepreneurial skills, source of capital an overall motive to make profit irrespective of the exchange rate.

6.0 Recommendations

An effective foreign exchange rate management is expected to break the dominance of the oil sector, and give more opportunities to other sectors of the economy such as the manufacturing, agriculture, solid mineral mining etc and ultimately improve its balance of payment. FDI is an important avenue for investment in agricultural, manufacturing and transfer of technology to an economy. Though this study found that exchange rate fluctuation

does not have a positive impact on foreign direct investment in Nigeria, however, a stable foreign exchange management is recommended in Nigeria. This can assist foreign investors to reduce their risks in investment.

The parallel market in Nigeria is very vibrant and active; however, the specific focus of this study was to examine the impact of exchange rate fluctuations on major macro-economic variables in Nigeria based on the official quote of exchange rate in Nigeria. Therefore, for a further study, this study recommends an inclusion of the parallel exchange rate market on major macro economic variables in Nigeria.

Again, this study recommends a study that will examine the transmission mechanism of exchange rate on major macro-economic variables in Nigeria. The channels through which exchange rate impact on these major macroeconomic variables will determine the appropriateness of policies.

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