Effect of Foreign Direct Investment and Foreign Portfolio Investment on Foreign Exchange Rate in Nigeria

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Abstract

Considering that the Net Inflow of Foreign Investment in Nigeria in the last thirty years from 1991 to 2020 is a negative Net worth and the Exchange rate has been on a downward slide within the same period, this paper examines the respective effect of Foreign Direct Investment and Foreign Portfolio Investment on the Nigerian Foreign Exchange rate using Official CBN rate and Bureau De Change (BDC) rate as proxies. Secondary Data used were sourced from the Central Bank of Nigeria and the World Bank, and the Data were analysed using time series and Multiple Linear Regression tools. The result shows that Foreign Direct Investment and Foreign Portfolio Investment have the same effect on the Nigeria Foreign Exchange rate. The findings show that both have a very weak positive effect on Nigeria Foreign Exchange The result also shows that both have a moderate negative effect on CBN Official Exchange rate and the Bureau De Change rate and recommended that more of the effort of policymakers relating to the foreign exchange should be channelled toward strengthening the purchasing power of the Nigeria currency more.

Keywords: Foreign Direct Investment, Foreign Portfolio Investment, Foreign Exchange Rate, Net Inflow

INTRODUCTION

The official exchange rate of the Nigeria currency has fallen from N192.44 in 2016 to 1$ to N358.81 to $1 in 2020 and it has majorly continued to fall from a good position of N9.91 to $1 in 1991, thirty years ago. As the slide in the exchange rate is under the official same it is in the black under the Bureau De Change (BDC). During the same period, the exchange rate slide from N13.51 to $1 in 1991 to N433.70 to $1 in the year 2020. Part of the effort to stabilize the Nigerian reserve trend is to increase the supply of foreign currency in circulation to meet up with the huge dollar demand of the Nigerian business, travel and other use. Nigeria is majorly an import-dependent country, and this requires the availability of foreign currency. One of the ways, in which a country can get an inflow of foreign currency is to attract foreign capital inflow into its economy majorly through Foreign Aid, Foreign Direct Investment and Foreign Portfolio Investments. While Foreign Aid is majorly either a grant or concessional loan for developmental purpose, Foreign Direct Investment and Portfolio investments are investments made by a firm or individual in another country majorly for business purposes. Oyarenti (2003) defines Foreign Portfolio Investment refers to the acquisition of an asset by a foreign national or company in a domestic stock market or money market through the holding of transferable securities, issued or guaranteed by the government of the host country. Such securities are held in the form of equity shares, debentures, bonds, promissory notes and money instruments. While Ehimare (2011) describes Foreign Direct Investment as an investment made by an investor or enterprises in another enterprises or equivalent in voting power or other means of control in another country to manage the investment and maximize profit. He went further to state this investment involves not only the transfer of fund but also the transfer of physical capital, the technique of production, managerial and marketing expertise, product advertising and business practice to make a profit.

Macaulay (2012) opined that Nigeria's foreign investment can be traced back to the colonial era when the colonial masters had the intention of exploiting resources for the development of their economy stating that there was little investment made by these colonial masters with the research and discovery of oil, but since then, Nigeria's foreign investment has not been stable. He went further to state that the Nigerian governments have recognized the importance of FDI in enhancing economic growth and development and various strategies involving incentive policies and regulatory measure have been put in place to promote

the inflow of FDI to the country. Both FDI and FPI can be Inward Flow and Outward flow, this paper uses the Net Inward Flow (NIF) for the period under review. The Net Inward Flow is the difference between the total asset from the investment less the total liabilities. According to data from the World Bank, In the last 30 years (from 1991 to 2020), the respective total net value for FDI and FPI are negatives value of ($174,846,789,946.33) and ($77,768,195,304.79). Therefore the total net value for FDI and FPI ($252,614,985,251.12). These figures show that foreign investment in Nigeria has not been favourable to foreign investors either as FDI and FPI. It is pertinent to understand the effect of this negative investment inflow on the exchange rate of the naira which has also been on a falling spree within the same period. The objective of this study is to examine the respective effect of FDI and FPI on the Foreign Exchange rate in Nigeria and compares the result of the effect of each on the Naira, in other to determine which has more effect on Nigeria exchange rate. And the scope of the review is 30 years from 1991 to 2020 using Net FDI and FPI as the dependent variables while the Central Bank of Nigeria (CBN) official rate and Bureau De Change rate are used as proxies to Foreign Exchange.

LITERATURE REVIEW

Conceptual Framework

Theophilus, Raymond and Darlinton (2019) define Foreign Direct Investment as the process whereby people in one country obtain ownership of assets to gain control over the production, distribution and other activities of a firm in a foreign country. They went further to explain the operational meaning of FDI as ownership of at least 10% of the ordinary shares of voting stock in a foreign enterprise. Thus, ownership of 10% ordinary shares is the criterion for the existence of a direct investment relationship while ownership of less than 10% is recorded as portfolio investment. Mariloman (2003), also define Foreign Direct Investment in a similar manner describing it as investment made to acquire a lasting management interest (usually at least 10% of voting stock) and acquiring at least 10% of equity share in an enterprise operating in a country other than the home country of the investor. Kazeem (2019), further explained that Foreign Direct Investment includes; external resources including technology, managerial and marketing expertise and capital and that all these generate a considerable impact on the host nation's productive capabilities, and the success of government policies of stimulating the productive base of the economy depends largely on her ability to control the adequate amount of FDI comprising of managerial, capital and technological resources to boast the existing production capacity. Abida and Abu (2010) opined that Foreign Direct Investment (FDI) not only provides developing countries (including Nigeria) with the much-needed capital for investment, it also enhances job creation, managerial skills as well as the transfer of technology. All of these contribute to economic growth and development.

Damian and Samuel (2019), expatiated Foreign Direct Investment (FDI) and posit that it is an investment geared towards controlling ownership in a business enterprise in the domestic country by an entity based in a foreign country and that it is one of the major sources of capital inflows to developing countries, from the resource surplus countries and among developing countries themselves, and has been widely considered to be important in contributing to growth in productivity in the receiving country. The went further to state that FDI is vital to any economy, as it augments domestic investment and that it's a major beneficiary of technological spillovers, job creation, improved managerial skills and other benefits from these inflows. Furthermore, they affirmed that fluctuation of exchange rate can lead to currency depreciation or appreciation and when the exchange rate appreciates, it causes the cost of production to rise in a country's economy, and this will lead to low and volatile FDI. Poverty, high inequality and underdevelopment also will ensue with the attendant huge deficit that will be recorded in the domestic country's balance of trade and payment. From the definitions and explanations above, it can be deduced that FDI is investment from outside the country to Nigeria and that this investment must of ownership of 10% and above in a company in Nigeria. The net Inward Foreign Direct Investment is the difference between the Financial assets less the financial liability of the investments of a firm or person from a foreign country into Nigeria. Equity Capital and Reinvested Earnings are examples of Foreign Direct Investment. It is Foreign Portfolio Investment when it is less than 10%.

Ezeanyeji and Ifeako (2019) define Foreign Portfolio Investment (FPI) as an aspect of international capital flows comprising of transfer of financial assets: such as cash, stock or bonds across international borders in want of profit and that it occurs when investors purchase non-controlling interests in foreign companies or buy foreign corporate or government bonds, short-term securities or notes. They noted that just as trade flows result from individuals and countries seeking to maximize their wellbeing by exploiting their comparative advantage, so too, are capital flows as individuals and countries seeking to make themselves better off, moving accumulated assets to wherever they are likely to be most productive. This position was also buttressed by Onyeisi, Odo and Anosi (2016) who states FPI does not give the investor the right to direct ownership of financial assets, or direct management of the corporate. The same points were made by Onuorah and Akujuobi (2013) who describe Foreign Portfolio Investment (FPI) as an aspect of international capital flows' comprising of transfer of financial assets: such as cash; stock or bonds across international borders in want of profit stating that it occurs when investors purchase non-controlling interests in foreign companies or buy foreign corporate or government bonds, short term securities or notes. Ezeanyeji and Ifeako (2019) summarizes the definition of Foreign Portfolio Investment as equity and debt issuances including country funds, depository receipts and direct purchases by foreign investors of less than 10% control and as the foreign direct investor's purchase of shares of an enterprise in a country other than its own

From the definitions above, it is deduced that Foreign Portfolio Investments are an investment from a foreign country into Nigeria that is less than 10% of business equity and examples in Equity, government bonds, short term securities or notes and other financial derivatives. Just like FDI, The net Inward Foreign Portfolio Investment is the difference between the Financial assets less the financial liabilities of the investments. Nwala, Nwagboso and Nwankwo (2019) defines Equity Foreign Portfolio Investment (EFPI) to include net inflows from equity securities other than those recorded as direct investment and including shares, stocks, depository receipts, and direct purchases of shares in local capital markets by foreign investors. They further noted that the new emphasis on the equity market was driven by the failure of past nonmarket based strategies and the realization of the potential roles that the private initiative and the capital markets can play. Javed and Farooq (2009) explain that the Exchange rate tells how the unit of domestic currency can be changed with the other nations' currency unit, that is change of one country currency into the other country currency. They state that the demand and supply of currency actually are the main element of exchange rate instability and that exchange rate instability directly affects the decision-makers to decide that how much import and export are favourable. This explanation also shows that Foreign Investment decision can also be influenced by the stability and performance of the exchange rate of a country. The exchange rate is a vital macroeconomic variable regarded as an indicator of the competitiveness of the currency of any economy and remains one of the most important factors in a firm's FDI decision and a country's Foreign Direct Investment drive. The depreciation, appreciation or deliberate manipulation of a country's currency to another's in one way or the other determines the movement of the exchange rate, and also the types and volume of investment that is attracted by such a country. (Damain and Samuel, 2019).

Osemene and Aritiba (2018) explained that the Nigeria exchange rate system has witnessed so much volatility both in the official and bureau-de change market after the deregulation of the foreign market also observed that the exchange rate policy in Nigeria has been moving in a circular form, starting from a fixed exchange rate system from 1986-1993, temporary halt deregulation in 1994 when the official exchange rate was pegged and reversal of the policy in 1995 with the guided deregulation of the Foreign Exchange market and they affirmed that despite these policy efforts by the Nigeria monetary authority to maintain exchange rate stability, the Naira continues to fluctuate widely against the US dollar. Bilawal, Ibrahim, Abbas, Shuaib, Ahmed, Hussain, and Fatima, (2014), states that currency value can be explained in two ways, first, one is when the currency is devaluated, the domestic goods become cheaper and the foreign goods become expensive and the demand of local products increases, and then the foreign country improves trade balance and promotes local goods and the second one is the real value of cash reduce due

to devaluation of money where the foreign currency export becomes cheaper and import becomes expensive as the value of local currency and goods goes down. According to Goldberg and Charles (2005), it is a popular claim in the international business community is that exchange rates are one of the most important factors in a firm's Foreign Direct Investment decision because a devaluation of a country currency can give foreigners an edge in buying the country's asset. Ordinarily, it would be said that FDI, FPI and Foreign Exchange rate have direct relationships since a stable exchange rate encourages the inflow of investment from other countries, and also once there is a huge inflow of investment in a country it improves the performance of the Foreign Exchange rate.

Empirical Review

In the reserach effort of Adeyemi, Joys, Abiola, and Oluwatomisin (2019) where they examine the link between exchange rate volatility and foreign portfolio in Nigeria using data that covers the period 1996 Q1 to 2016 Q4 adopting the vector autoregressive model in ascertaining the dynamics between exchange rate volatility and Foreign Portfolio Investment in Nigeria. Their study also examined the impact of exchange rate innovations (shocks) on Foreign Portfolio Investment and equally assesses how induced variations in Foreign Portfolio Investment are decomposed among the variables in the model. The paper observed that exchange rate volatility and market capitalization significantly and largely explain the variations in Foreign Portfolio Investment and the impulse response analysis shows that Foreign Portfolio Investment was more responsive to standard deviation shocks in market capitalization and exchange rate, implying that these variables were more responsible for the dynamism in FPI. As the horizons expand, shocks to market capitalization and exchange rate increase Foreign Portfolio Investment, whereas shocks to GDP and inflation made Foreign Portfolio Investment dwindle. In the same manner, in decomposing, the induced variation in Foreign Portfolio Investment, forecast error shocks in market capitalization, exchange rate and GDP explain more of the variation in Foreign Portfolio Investment. Murtala (2017) seeks to find out the relationship between Foreign Exchange rate and Foreign Direct Investment (FDI) and the impact of FDI on the gross domestic product (GDP) in Nigeria given the recent and past devaluation of Nigeria currency as well as the exchange rate changes over the years. The study covers a period of 26 years from 1990 - 2015 using data obtained from the Central Bank of Nigeria (CBN) website for FDI, exchange rate, and GDP. The variables were analyzed using regression and correlation analysis techniques and the findings from the analysis show that there is a strong positive relationship between FDI and exchange rate in Nigeria on one hand and there is a weak positive relationship between FDI and GDP on the other hand. They also found out that there was a significant inflow of FDI from 2005-2014 due to a rise in the exchange rate in the same period. The study concludes that exchange rate, FDI, and GDP are positively correlated. The study recommended that the Government of Nigeria should fully liberalize the exchange rate regime devoid of fixed multiple exchange rates to attract more FDI and contribute to GDP, this is because the commercial viability of any FDI is based on exchange rate stability.

Osemene and Arotiba (2018), investigated the effects of exchange rate volatility on Foreign Portfolio Investment inflows to Nigeria using both official exchange rate and bureau-de change rate. The study uses monthly time series data sourced from the Central Bank of Nigeria covering a period of 10 years from 2007-2016. The study employed General Autoregressive Conditional Heteroskedasticity GARCH (1, 1) model to test for volatility in both official and BDC rate and a two-stage least square (TSLS) method was used to test the relationship between the volatility and Foreign Portfolio Investment in Nigeria and results revealed that volatility in the official rate exerted positive significant impact of 8.119872 on Foreign Portfolio Investment inflow into Nigeria, while the BDC volatility showed a negative significant impact of -5.961654 on Foreign Portfolio Investment inflow into Nigeria within the study period. The study concluded that the official exchange rate volatility has a significant and positive effect on Foreign Portfolio Investment in Nigeria, while the bureau-de change volatility has a significant and negative relationship with Foreign Portfolio Investment in Nigeria. Hence, the study recommended that monetary authority should formulate such policies that will stabilize the exchange rate to boost the investors' confidence. Nwosa and Amassoma (2014), examined the causal nexus between capital inflows

(Foreign Direct Investment and Foreign Portfolio Investment) and exchange rate in Nigeria and also examined the impact of these capital inflows on the exchange rate in Nigeria for the period spanning 1986 to 2011. The study employed both granger causality and error correction modelling techniques. The causality estimates showed no causal link between capital inflows (Foreign Direct Investment and Foreign Portfolio Investment) and exchange rate within this period. The long-run regression estimate revealed that Foreign Direct Investment had a negative effect on the exchange rate while portfolio investment had a positive impact on the exchange rate. However, the magnitude of the impacts was very minute and the result of the short-run was similar to the causality result, indicating that neither Foreign Direct Investment nor Foreign Portfolio Investment had a significant impact on the exchange rate. The study concluded that the relationship between capital inflows and the exchange rate in Nigeria is a long-run phenomenon.

Adaramola and Obisesan, (2015). The fundamental objective of this research work is to assess the impact of Foreign Direct Investment on Nigerian capital market development given the role of the latter in stimulating the development of the nation's economy. The study employed the ADF unit root test and Johansen co-integration test to analyze the secondary data obtained from the Central Bank of Nigeria statistical bulletin from 1970-2010. The absence of co-integration between Foreign Direct Investment and market capitalization informed the resort to OLS regression result which shows that Foreign Direct Investment impact positively and significantly on market capitalization. Since Foreign Direct Investment is a significant determinant. Efforts should be made by the government and monetary authority to encourage Foreign Direct Investment into Nigeria. However, given the lack of co-integration and low beta weight suggest that emphasis on Foreign Direct Investment as a way of stimulating long-run growth in a developing country like Nigeria does not worth the while. Mika'ilu and Yunusa (2018), examined the impact of Foreign Direct Investment (FDI) on stock market development in Nigeria using annual data from 1981 to 2016. The variables such as stock market development proxied by market capitalization, Foreign Direct Investment, exchange rate, inflation rate and gross domestic savings were used in the study. The study found that Foreign Direct Investment has a positive and statistically insignificant effect on stock market development. Exchange rate and gross domestic savings exert a positive and statistically significant impact on stock market development, while the inflation rate has an insignificant negative influence on stock market development in Nigeria throughout the study period. From the foregoing, this study recommends the followings: first, there is a need for the government to devise several means that will motivate the foreign investors to diversify their investment from the oil sector to other sectors of the economy with special reference to the stock exchange market. Second, there is also the need for the government to redesign the existing exchange rate policy and ensure full implantation of the policy with the view to revive the value of our local currency and to stabilize unfavourable fluctuations of the exchange rate. Finally, governments in collaboration with the private individual and companies should diversify their investment to other sectors such as agriculture, manning, manufacturing among others to create more employment opportunities and improve on income generations. That will also increase the productive capacity of the economy thereby reduce the rate of prices of commodities and increases the domestic savings.

Chukwurah (2019) examined the place of the exchange rate in determining Foreign Direct Investment inflow into the Nigerian economy using time series data from 1980 to 2017. The study adopted the use of secondary sources and a variety of primary documentary evidence and the Autoregressive Distributed Lag (ARDL) estimation approach and error correction mechanism within the framework of dynamic OLS (DOLS) estimation was used to analyze the data. The analysis used the Bounds testing approach in determining the cointegration among the variables in the various equations in the selected countries. Analysis using the Bounds testing approach to cointegration confirmed the existence of a long-run relationship among the variables of the models. In determining the impact of the exchange rate on Foreign Direct Investment inflow in Nigeria, we estimated an ARDL model. Results: The results indicate that the exchange rate affects FDI in both the long and short run. The result also reveals that the impact of the exchange rate on FDI in the short run continuous up to three periods after the initial disturbance. Nwala,

Nwagboso and Nwankwo (2019) investigates the impact of Foreign Portfolio Investment volatility on total market capitalisation in Nigeria between 2007 M1 and 2018 M12. Data generated were analysed using the Exponential Generalized Conditional Heteroscedasticity (EGARCH) and Autoregressive distributed lag (ARDL) techniques. Findings from the study showed that volatility in Equities investment in Foreign Portfolio Investment has a significant impact on total market capitalisation in Nigeria. The study however revealed that Volatility in Bond investment by foreign portfolio has no significant impact on total market capitalisation in Nigeria between 2007 and 2018. Information asymmetries that exist within capital market operations, as well as the unpredictability of the activities of the international markets hugely contributes to volatilities of Foreign Portfolio Investment in a bond that impacts insignificantly on capital market development in Nigeria. The study further revealed that Volatility in Money Market instruments foreign portfolio has no significant impact on total market capitalisation in Nigeria. The study thus recommends that there is the need for capital market regulatory authorities to develop and implement proper policies that could cushion the effect of unpredictable global activities that reverses Foreign Portfolio Investments inflows.

Theoretical Framework

Marginal Efficiency Hypothesis.

Cited by Onyeisi, Odo and Anosi (2016), this theory sees investment decisions as being dependent on the internal rate of return (IRR) generated by investing in a particular asset called Marginal Efficient of Investment (MEI) and the prevailing market rate of interest rate. The theory is traced to John Maynard Keynes. Keynes defined the IRR as the rate of discount which will make the present value of the series of annuities given by the returns expected from the capital asset during its useful life just equal its supply price. Keynes also utilized the concept of the marginal efficiency of capital(MEC) in the development of marginal efficiency theory. He defined MEC as the rate of discount that equates the current cash outlay with the present value of future cash receipt. The marginal efficiency hypothesis states that the marginal efficiency of investment will be compared to the market rate of interest and such comparison will generate a set of a decision rule for firms. The appropriate rule is: MEI r, accept investment proposal or MEI < r, reject investment proposal. The rule further defined, r, as the market rate of interest and states that where MEI = r, investment is considered to be at its optimum or equilibrium level.

Modern Portfolio theory

Cited by Nwala, Nwagboso and Nwankwo (2019), Modern portfolio theory (MPT) is a theory of investment that attempts to explain how investors can maximize return and minimize risk. Modern portfolio theory has revolutionized the world of investment management by allowing managers to quantify the investment risk and expected return of a portfolio. The theory is primarily concerned with risk and return. The investor is concerned only with the expected values of securities and interested in the expected value of the portfolio. Harry Markowitz propounded the modern portfolio theory (MPT). Essentially, MPT is an investment framework for the selection and construction of investment portfolios based on the maximization of expected returns of the portfolio and the simultaneous minimization of investment risk. The theory's underpinning concept is that risk is an inherent part of a higher reward. MPT assumes that investors are risk-averse. This suggests that given two sets of investments that offer equal expected return, investors will prefer the less risky one. Thus, an investor will take on increased risk only if compensated by higher expected returns. On the other, an investor who wants a higher expected return must assume more risk.

Pull and Push Factors Theory

Cited by Adeyemi, Joys, Abiola, and Oluwatomisin (2019), A fundamental theory that was considered is the pull and push factors as they are two classes of theories that explain the direction of private capital flows. There are global factors and country-specific factors that explain FPI inflows in various regions. These global factors may be called the 'push' factors and the country-specific factors are called the 'pull'

factors. According to economic literature, push factors are those, which account for the availability of capital flows into the recipient country. They highlight the effects of global changes on portfolio flows such as interest rates, low potential growth rate, risk aversion and portfolio diversification. The focus is on economic conditions in home countries that affect the availability of capital that can flow into the recipient countries, these factors are essentially exogenous. The pull factors are those local economic forces that determine the receipt of capital inflows into a country such as low inflation, trade openness, high growth potential and high-interest rates. It deals with the economic developments in the receiving countries that affect their demand for capital inflows. Some authors have taken into account the push and pull factors.

The Purchasing Power Parity (PPP) Theory

The purchasing power parity theory was propounded by Professor Gustav Cassel of Sweden. According to this theory, the rate of exchange between two countries depends upon the relative purchasing power of their respective currencies. Such will be the rate that equates to the two purchasing powers. The purchasing power parity between two countries is defined as either the ratio of the countries' price levels (absolute PPP) or the product of the exchange rate in a base period and the ratio of the countries' price indices (relative PPP). PPP theory consists of two definitions and two propositions, all involving equilibrium exchange rates. The short-run equilibrium exchange rate is defined as the rate that would exist under a freely floating (i.e., unmanaged) exchange rate system. The long-run equilibrium exchange rate is defined as the fixed exchange rate that would yield the balance of payments equilibrium over a period incorporating any cyclical fluctuations in the balance of payments (including those related to business cycles at home and abroad). Furthermore, the latter definition assumes the absence of special policies to avoid balance of payments disequilibrium (e.g., the use of monetary and fiscal restraint or trade and payments restrictions to prevent or suppress a deficit). The balance of payments concept used is an inclusive one, generally the official settlements or basic balance, rather than the current account or trade balance. The propositions of PPP theory are (1) that the short-run equilibrium exchange rate is a function of the long-run equilibrium exchange rate in the sense that the former variable tends to approach the latter, and (2) that the PPP is either the long-run equilibrium exchange rate or the principal determinant of it. (Lawrence 1976)

The major gap identified in the literature review is that the value of Foreign Direct Investment and Foreign Portfolio Investment used by researchers like Adeyemi, Joys, Abiola, and Oluwatomisin (2019), Murtala (2017), Osemene and Arotiba (2018), and Nwosa and Amassoma (2014), is the total inflow of funds into the country not minding the outcome of such investment in the Nigeria economy and the results show a significant relationship between foreign investment and exchange rate in Nigeria. To fill this gap, this paper in using the net value of the foreign investment, which represents the actual Net worth of foreigners investment in Nigeria, that is, asset less liability of all foreign investment so that the effect of the actual worth of these investments will be known on the volatility of the Nigeria exchange rate.

METHODOLOGY

This research used pooled data from a secondary source. The data were collected from the website of the Central Bank of Nigeria (CBN) and the World bank. The variables of this study are Foreign Direct Investments (FDIs), Foreign Portfolio Investments (FPIs) and the CBN official exchange rate and the Bureau De Change rate which were proxy to Foreign Exchange rate. The period review is 30 years from 1991 to 2020. The FDIs and FPIs are measured in the net inflow of investment into Nigeria. The net inflow is represented as asset less related liability during the period under review, while the exchange is measured at the rate of 1 Dollar to the Naira yearly as provided by the CBN. The Multiple Linear regression (MLR) is used to analyse the data to determine the effect of, first, the effect of FDI on the Foreign Exchange rate in Nigeria and secondly, to determine the effect of FPI on the Foreign Exchange rate in Nigeria. Autocorrelations is used to determine the time series of the variables. Nwosa and Amassoma (2014), Murtala (2017), and Adaramola and Obisesan, (2015) also used regression analysis in

their papers relating to this topic. The adopted model for the paper is based on the objective of the paper representing the examination of FDI and FPI on Foreign Exchange rate are

$FDI = \beta 0 + \beta 1 OFC + \beta 2 BDC$ ----------------(i),
$FPI = \beta 0 + \beta 1 OFC + \beta 2 BDC$ ----------------(ii)

βO is the intercept of the FPI, $\beta 1$ to $\beta 2$= the coefficients of the variables to be estimated, (e) is the random variable or error term. OFC is CBN Official rate will the BDC is the Bureau De Change rate.

RESULT AND DISCUSSION

1. $FDI = \beta 0 + \beta 1 OFC + \beta 2 BDC$ ----------------(e),

Time   Series   Autocorrelations   of   Residuals   of   FDI-MEAN

Lag	Correlation Correlation	Lag	Correlation	Lag	Correlation	Lag	
1	0.011852	8	-0.023581	15	0.001441	22	-0.047713
2	-0.002230	9	0.056306	16	-0.034323	23	-0.059130
3	-0.023759	10	0.008917	17	-0.037104	24	-0.032540
4	0.010857	11	0.008097	18	-0.035468	25	-0.062629
5	-0.007499	12	0.011952	19	-0.037368	26	-0.042247
6	-0.005531	13	0.017705	20	-0.048190	27	-0.064621
7	0.037404	14	-0.038686	21	-0.041564		

Multiple   Regression   Summary   Section

Parameter	Value	Parameter	Value
Dependent Variable	FDI	Rows Processed	30
Number Ind. Variables	2	Rows Filtered Out	0
Weight Variable	None	Rows with X's Missing	0
R2	0.2528	Rows with Weight Missing	0
Adj R2	0.1953	Rows with Y Missing	0
Coefficient of Variation	-3.6000	Rows Used in Estimation	30
Mean Square Error	2.408161E+20	Sum of Weights	29.000
Square Root of MSE Completion	1.551825E+10	Completion Status	Normal
Ave Abs Pct Error	1368.595	Autocorrelation (Rho)	0.6170

Descriptive   Statistics   Section

Variable	Count	Mean	Standard Deviation	Minimum	Maximum
OFC	29	133.3677	97.83952	9.91	358.81
PRL	29	162.711	113.2983	13.51	433.7
FDI	29	-5.828227E+09	1.733461E+10	-9.522337E+10	-2.096783E+08

Correlation Matrix Section

	OFC	PRL	FDI
OFC	1.0000	0.9128	-0.4843
PRL	0.9128	1.0000	-0.4972
FDI	-0.4843	-0.4972	1.0000

Regression Equation Section

Independent Variable	Regression Coefficient b(i)	Standard Error Sb(i)	T-Value to test H0:β(i)=0	Prob Level	Reject H0 at 5%?
Intercept	20466625669.0176	13106758983.2330	1.562	0.1305	No
OFC	-72355719.7150	164375097.9983	-0.440	0.6634	No
PRL	-106491717.2004	133778518.8820	-0.796	0.4332	No

Estimated Model

20466625669.0176-72355719.7150332*OFC-106491717.200357*PRL

Regression Coefficient Section

Independent Variable	Regression Standardized Coefficient Coefficient	Standard Error	Lower 95% C.L.	Upper 95%	C.L.
Intercept	20466625669.0176	13106758983.2330	-6474703266.2447	47407954604.2800	0.0000
OFC	-72355719.7150	164375097.9983	-410233572.6307	265522133.2006	-0.1827
PRL	-106491717.2004	133778518.8820	-381477401.0207	168493966.6200	-0.3304

Note: The T-Value used to calculate these confidence limits was 2.056.

Analysis of Variance Section

Source	DF	R2	Sum of Squares	Mean Square	F-Ratio	Prob Level
Intercept	1		5.388658E+20	5.388658E+20		
Model	2	0.2528	2.118034E+21	1.059017E+21	4.398	0.0226
Error	26	0.7472	6.261217E+21	2.408161E+20		
Total(Adjusted)		28	1.0000 8.379252E+21 2.99259E+20			

Effect of Foreign Direct Investment and Foreign Portfolio Investment on Foreign Exchange Rate in Nigeria

The result shows that the Foreign Direct Investment on Foreign Exchange rate is a very weak direct relationship at 0.2528. The result also shows that both the CBN Official Exchange rate and the Bureau De Change rate have a moderate negative impact on Foreign Direct Investment at -0.4843 and -0.4972 respectively. The time series of the variable also shows that Foreign Direct Investment will remain at the same level in the short and long run.

FPI = β 0 + β1OFC + β 2BDC ----------------(ii).

Time   Series   Autocorrelations   of   Residuals   of   FPI-MEAN

Lag	Correlation Correlation	Lag	Correlation	Lag	Correlation	Lag	
1	0.074184	8	0.311011	15	-0.077982	22	-0.060814
2	-0.134003	9	-0.009126	16	-0.064563	23	-0.047873
3	0.220570	10	0.047816	17	-0.060745	24	-0.066467
4	0.013640	11	-0.000961	18	-0.082569	25	-0.033858
5	0.078877	12	-0.150708	19	-0.073964	26	-0.075100
6	-0.099187	13	-0.045050	20	-0.042225	27	-0.056539
7	0.098036	14	-0.017899	21	-0.077653		

Multiple   Regression   Summary   Section

Parameter	Value	Parameter	Value
Dependent Variable	FPI	Rows Processed	30
Number Ind. Variables	2	Rows Filtered Out	0
Weight Variable	None	Rows with X's Missing	0
R2	0.2860	Rows with Weight Missing	0
Adj R2	0.2311	Rows with Y Missing	0
Coefficient of Variation	-2.3781	Rows Used in Estimation	30
Mean Square Error	2.528717E+19	Sum of Weights	29.000
Square Root of MSE Completion	5.028635E+09	Completion Status	Normal
Ave Abs Pct Error	8971.376	Autocorrelation (Rho)	0.3248

Descriptive   Statistics   Section

Variable	Count	Mean	Standard Deviation	Minimum	Maximum
OFC	29	133.3677	97.83952	9.91	358.81
PRL	29	162.711	113.2983	13.51	433.7
FPI	29	-2.592273E+09	6.029498E+09	-2.694783E+10	3.401811E+09

Correlation   Matrix   Section

	OFC	PRL	FPI
OFC	1.0000	0.9517	-0.5300

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PRL      0.9517      1.0000      -0.5263
FPI     -0.5300     -0.5263       1.0000
```

Regression		Equation				Section

Independent Variable	Regression Coefficient b(i)	Standard Error Sb(i)	T-Value to test H0:β(i)=0	Prob Level	Reject H0 at 5%?
Intercept	3585946238.1746	2517428044.3161	1.424	0.1662	No
OFC	-26279620.0504	45951640.2893	-0.572	0.5723	No
PRL	-16867729.9569	39182546.4927	-0.430	0.6704	No

Estimated Model

3585946238.17459-26279620.0504444*OFC-16867729.9569069*PRL

Analysis		of		Variance		Section

Source	DF	R2	Sum of Squares	Mean Square	F-Ratio	Prob Level
Intercept	1		1.296711E+20	1.296711E+20		
Model	2	0.2860	2.633744E+20	1.316872E+20	5.208	0.0125
Error	26	0.7140	6.574663E+20	2.528717E+19		
Total (Adjusted)	28	1.0000	9.208407E+20	3.288717E+19		

The result shows that the Foreign Portfolio Investment on Foreign Exchange rate is a very weak direct relationship at 0.2860. The result also shows that both the CBN Official Exchange rate and the Bureau De Change rate have a moderate negative relationship on Foreign Portfolio Investment at -0.5300 and -0.5263 respectively. The time series of the variable also shows that Foreign Portfolio Investment will remain at the same level in the short and long run.

Based on the result of the research, Foreign Direct Investment and Foreign Portfolio Investment have the same effect on the Nigeria Foreign Exchange rate. The findings show that both have a very weak positive effect on Nigeria Foreign Exchange at 0.2528 and 0.2860 respectively. The result also shows that both have a moderate negative effect on the CBN Official Exchange rate and the Bureau De Change rate.

CONCLUSION AND RECOMMENDATION

The total Net worth of foreign investment in Nigeria in the last thirty year from 1991 to 2020 is a negative value of $252,614,985,251.12, and this shows that foreign investors are having more liabilities from their investment in Nigeria. In the same vein, Nigeria Foreign Exchange rate has been on a downward slide within the same period falling from N9.91 to 1$ to N358.81 to $1. This paper examines the respective effect of FDI and FPI on the Nigeria Exchange Rate using the CBN Official rate and BDC rate as proxies. The literature reviews show that scholars like Adeyemi, Joys, Abiola, and Oluwatomisin (2019), Murtala (2017), Osemene and Arotiba (2018), and Nwosa and Amassoma (2014), uses the actual inflow of foreign investment into Nigeria not minding the liabilities and the result shows a significant relationship between the FDI and or FPI on Foreign Exchange rate. This research work using the Net worth of foreign investment in Nigeria shows that Foreign Direct Investment and Foreign Portfolio Investment have the same effect on the Nigeria Foreign Exchange rate. The findings show that both have a very weak positive effect on Nigeria Foreign Exchange The result also shows that both have a moderate negative effect on

the CBN Official Exchange rate and the Bureau De Change rate. This finding aligns with the Purchasing Power Parity (PPP) Theory that states that the rate of exchange between two countries depends upon the relative purchasing power of their respective currencies and concluded that in the case of Nigeria, Foreign Investment do not have a significant effect on its foreign exchange rate.

Based on the findings of this research work, it is recommended that more of the effort of policymakers relating to foreign exchange should be channelled toward strengthening the purchasing power of the Nigerian currency more. Foreign Investment can support the other sectors of the economy like creating more jobs in the short run, but in the long run with a negative net worth. It has no significant effect on Nigeria Exchange rate.

References

Adaramola A., & Obisesan O,. (2015) "Impact of Foreign Direct Investment on Nigerian Capital Market Development", *International Journal of Academic Research in Accounting, Finance and Management Sciences* 5(1), 103–108.

Adeyemi A., et al (2019). "Exchange rate volatility and Foreign Portfolio Investment in Nigeria". *Investment Management and Financial Innovations*, 16(3), 241-250.

Bilawal, et al (2014) "Impact of Exchange Rate on Foreign Direct Investment in Pakistan": *Journal of Advances in Economics and Business* 2 (6), 223-231.

Chukwurah (2019) "Effects of Exchange Rate on Foreign Direct Investment Inflow in Nigeria" *South Asian Journal of Social Studies and Economics*, 4(2), 1-112.

Damian C., & Samuel O., (2019) "Exchange Rate Volatility and Foreign Direct Investment in Nigeria", *Euro Economica*, 2(38), 227 -242

Ehimare, O.A. (2011). "Foreign Direct Investment and its Effect on the Nigerian Economy". *Business Intelligence Journal*, 4(2), 254 -263.

Ezeanyeji C., & Ifeako M., (2019) "Foreign Portfolio Investment on Economic Growth of Nigeria: An Impact Analysis" *International Journal of Academic Management Science Research,* 3(3), 24-36.

Goldberg L., & Charles K., (2005) "Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty." *International Economic Review*, 36(4), 855-73.

Javed, Z. & Farooq, M., (2009). "Economic growth and exchange rate volatility in Case of Pakistan". *Pakistan journal of life and social sciences*, 2(1), 112-118.

Kazeem B., (2019). "Foreign Direct Investment Trends and Economic Growth in Africa: Nigeria Experience in Pre-Recession Era" *International Journal of Academic Accounting, Finance & Management Research,* 3(3), 1-7.

Lawrence H., (1976). "The Purchasing-Power-Parity Theory of Exchange Rates: A Review Article" *International Monetary Fund Staff papers*, 23(1), 1-60.

Macaulay, E. (2012). "Foreign Direct Investment and the Performance of the Nigerian Economy" *Proceedings of the 1st International Technology, Education and Environment Conference*. 629 - 633.

Mariloman, N. (2003). "Characteristics, Extent and Impact of FDI on African" *Local Economic Development Institute*, Working Paper 2003, September.

Mika'ilu A., & Yunusa U., (2018), "Foreign Direct Investment and Stock Market Development in Nigeria: Evidence from Ardl Bound Test Approach to Cointegration" *Journal of Economics and Finance* 9(1), 79-85.

Murtala Z., (2017). The Impact of Exchange Rate Fluctuations on Foreign Direct Investment in Nigeria. *Journal of Finance and Accounting*. 5(4), 165-170.

Nwala M., Nwagboso I., & Nwankwo O,. (2019) "Impact of Foreign Portfolio Investment Volatility on Total Market Capitalisation in Nigeria" *SSRG International Journal of Economics and Management Studies* 6(10), 78 – 91.

Nwosa P. & Amassoma D (2014) "Capital Inflows and Exchange Rate in Nigeria Mediterranean" *Journal of Social Sciences,* 5(7), 263 – 272.

Obida G. & Abu, N (2010), "Determinants of Foreign Direct Investment in Nigeria: An Empirical Analysis" *Global Journal of Human Social Science,* 10(1), 26 – 34.

Onyeisi, O., Odo, I., & Anoke, I. (2016). Foreign Portfolio Investment and Stock Market Growth in Nigeria. *Developing Country Studies*, 6(11), 64 -76.

Onuorah, A., & Akujuobi, L., (2013). Impact of Macroeconomic Indicators on the Performance of Foreign Portfolio Investment in Nigeria. European Journal of Business and Management, 5(2):81 -90.

Osemene O., & Arotiba K., (2018), "Exchange Rate Volatility and Foreign Portfolio Investment in Nigeria" *Global Journal of Management and Business Research: D Accounting and Auditing* 18 (2) 12-19

Oyeranti, O., (2003) Foreign private investment: Conceptual and Theoretical Issues. *Central Bank of Nigeria Research Department Occasional paper*, 1158, 28-36.

Theophilus O., Raymond A., & Darlinton I, (2019). "Foreign Direct Investment (FDI) and Nigerian Economic Growth" *International Journal of Accounting, Finance and Risk Management* 4(1), 15-23.