



DETERMINANTS OF FOREIGN PORTFOLIO INVESTMENTS IN AN EMERGING ECONOMY: EVIDENCE FROM NIGERIA

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ABSTRACT

The study concerned itself with determinants of foreign portfolio investments in Nigeria. The main objective was to ascertain those factors that influence foreign portfolio investments in an emerging economy like Nigeria. Secondary data used for the study were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin, spanning the period 1990 to 2018. The Vector Error Correction Mechanism (VECM) was used to analyze the data aided by e-views version 10. The research findings revealed that market capitalization, all-share index, economic growth, foreign exchange rates, interest rates and inflation rates are determinants of Foreign Portfolio Investments in Nigeria. Thus, it was concluded that the identified variables are major factors considered by foreign investor's viz-a-viz foreign portfolio investments in Nigeria. Thus, it was recommended that having established the fact that market capitalization, all-share index, economic growth, foreign exchange rates, interest rates and inflation rates are major determinants of foreign portfolio investment in Nigeria, there is need to ensure that these variables are properly monitored in order to attract more foreign portfolio investors into the country.

Keywords: Foreign portfolio investments, market capitalization, all share index, economic growth, foreign exchange rates, interest rates and inflation rates.

INTRODUCTION

There is no gainsaying the fact that finance is the life wire of every business organization and the capital market provides a mechanism for the mobilization of long term financial resources through dealings on financial securities in form of stocks and bonds. The market provides the needed funds for corporations, which impact positively on income, employment and therefore, increase an economy's ability to transfer its savings to its national productive activities (Al-Smadi, 2018). The market protects domestic capital by preventing the outflow of domestic capitals in search of acceptable investment opportunities (Yartey 2008). Thus, according the capital market unique role especially in developing countries where rate of savings are low with its attendant inadequate financial resources needed to support economic growth.

Capital is a vital ingredient for economic growth, but since most countries cannot meet their total capital requirements from internal sources alone, they rely on foreign investors for the supply of capital. According to Idowu (2015), no country can stand as an island which requires no capital from other countries of the world. Developed, developing and under-developed countries do strategize for more capital importation into their countries to stimulate investment, generate employment, improve production and bridge the gap between savings and investments. In recent years, international capital flows, especially portfolio investment flows have increased rapidly along with advances in globalization, financial deregulation, and advancement in information technology in the world economy (Omorokunwa and Ikponmwosa, 2014). In 2018, the United Nations Conference on Trade and Development (UNCTAD, 2018) reported that global foreign investment flows jumped by 38 percent to \$1.76 trillion in 2017, an increase of 7 percent over the previous year. This is as a result of the upturn in foreign investment flow to North Africa and low price of commodity goods from the West and Central Africa region.

Seaman (2013) identified two forms of foreign capital flows which are public and private investment flows. Private investment flows comprise foreign direct investment and foreign portfolio investments. Foreign portfolio investments is an investment by a resident entity in one country in the equity and debt securities of an enterprise in another country, which seeks primarily capital gains and does not necessarily reflect a significant and lasting interest in the enterprise. This category includes investment in bonds, stocks, money market instruments and financial derivatives other than those included under direct investment, or in other words, investments which are both below the ten percent rule and do not involve affiliates (Osemene and Arotiba, 2018).

Nevertheless, the decision of foreign investors to invest in foreign countries depends on different factors. On this front, distinction is usually made between country-specific factors (pull-factors) in the host country (such as economic fundamentals and investment opportunities) and push factors reflecting conditions in the international financial market (such as World GDP, World Interest Rates, etc) (Mercado and Park, 2011). Hence, there are numerous macroeconomic variables which affect foreign portfolio investments. It is on literature that these variables are not limited to market size, interest rates, exchange rates, inflation rates, economic growth, government finance



(balance of payments), tax rates on interest or dividends, country risk, credit rating of securities, openness, transaction cost, rate of return on stock market and disclosure of information. These macroeconomic variables are indicators or the main signposts signaling the current trend in an economy at given time. They reflect the economic status of a country at every given time and they tell to a very large extent if foreign investors will be attracted to invest in the securities of a host country.

Given the place of foreign portfolio investment in the economic growth and development of a country, most developing countries have begun to liberalize their capital markets and eliminate restrictions between financial markets around the world, which led to opening domestic capital markets to foreign investors. Liberalization of capital market in emerging market gives international investors advantages of high return and the opportunity of international diversification. It also reduces the cost of equity capital, increases the liquidity for the market, and reduces the risk sharing between foreign and domestic investors (Pala and Orgun, 2015).

Based on the foregoing, there is no doubt that the Nigerian government has made concerted efforts to attract foreign investments. These consist of tax concessions, tariff concessions, non-tax financial incentives, and key infrastructural development projects. In spite of these incentives put in place to ensure that foreign investors are fully attracted into the country, the inflow of foreign portfolio investments has been on a decline. This position was not helped by the last global financial and economic crisis of 2007 – 2009 that prompted foreigners to dump their securities in the Nigerian capital market (Nigeria Stock Exchange). Thus, the need for this paper.

Review of Related Literature

Investment is an important variable in the economic development of developed, underdeveloped, and developing countries. Over the years, investment in developing economies has steadily increased and as such a continued analysis of its determinants in these economies cannot be overemphasized. Apart from being a “sine qua non” for growth and development, investment has also been known to be an important booster of standard of living/per capita income among others.

Investment is classified into public investment and private investment. Public or public sector investments include government expenditures in the area of administration, social and community services, economic services and transfers. While private sector investments include private domestic investments and foreign investments which are subdivided further into foreign direct investments and foreign portfolio investments. Although, there are also public foreign investments in existence. Private foreign investments are further divided into direct and indirect investments. Indirect private investment, which is the major focus of this paper, is otherwise known as foreign portfolio investment. This form of investment which is also known as “rentier” investment consists mainly of the holding of transferable securities (insured or guaranteed by the government of the capital – importing country) and shares or debentures by the nationals of some other countries (Baghebo and Apere, 2014).

Foreign portfolio investment as such involves the making and holding of a hands-off (or passive) investment of securities, done with the expectation of earning a return. In this form of investment, holding also includes bonds or other debt issued by these companies or foreign governments, mutual funds, or exchange traded funds (ETFs) that invest in assets abroad or overseas. In the words of Chonnikarn (2010), portfolio investment is a grouping of assets such as stocks, bonds and cash equivalents, which are held directly by an investor or managed by financial professionals. That is, it is the entry of funds into a country where foreigners deposit money in a country’s bank or make purchases in the country’s stock and bond markets, sometimes for speculation. Here, such holdings of securities do not amount to a right to control the company. The shareholders are entitled to the dividend only. According to Abayomi and Olaraonke (2015), a variant of this is the multilateral indirect investment whereby nationals of a country buy the bonds of the World Bank floated or financing a particular project in some less developed countries (LDCs).

Foreign portfolio of investments can be made by individuals, companies, or even governments in international countries; and they can be relatively liquid (when compared with FDI – Foreign Direct Investment) depending on the volatility of the market that the investment takes place in. It is a way for investors to diversify their portfolio with an international advantage. On a macro-economic scale, foreign portfolio investment shows up in a country’s capital account. It is also part of the balance of payments which measures the



amount of money flowing in and out of a country over a given time period (Ekeocha, 2018).

Factors Influencing the inflow and outflow of Foreign Portfolio Investments (FPIs)

According to Ducca (2012), capital inflow and outflow are very important nowadays and the geographical component is very vital for the international flow of capital. Capital inflows depend on transaction cost and market size of host country. International Monetary Fund (2016) stated that transaction cost, asymmetric information and market size are the vital determinants of capital flow in a country. These major determinants are the driving factors of portfolio investment. Ducca (2012) further opined that the major factors affecting capital inflows are GDP growth rate, market efficiency, and higher returns expectation. These factors play an important role in attracting foreign investments. All these factors raise the macroeconomic level of a country by attracting foreign investments which helps the said country to rectify the deficit of the current account of the country. These lead an economy towards growth. On the other hand, the volatility of this kind of investment can cause economic crisis. Thus, foreign portfolio investment is very beneficial to a host country but same cannot hold true for a country whose citizens are investing outside as a result of its disastrous effects.

Ahmad, Draz and Yang (2015) went a step further by stating that the main determinants of foreign portfolio investments are GDP growth, market size and efficiency, and high expectation of returns. According to them, these factors play a vital role in the movement of foreign portfolio investments. If these factors are stable in a country, such countries get smooth and stable capital inflows from all over the world. Wagas, Hashmi and Nazir (2015) however submitted that foreign portfolio investment mainly depends on the macroeconomic factors of the host country. They studied the relationship between macroeconomic factors and foreign portfolio investments volatility in China, Pakistan, India and Sri Lanka. The study showed a significant impact of macroeconomic factors on foreign portfolio investment volatility. Hence, stable macroeconomic condition of a country attracts more foreign portfolio investors to invest in such a country and volatility of foreign portfolio investment is very less due to stable economic conditions of the host country.

Gumus, Duru and Gungor (2013) stated that there are numerous macroeconomic variables which affect foreign portfolio investment. These variables according to them are: market size, interest rates, exchange rates, inflation rates, economic growth, government finance (Balance of Payment), tax rates on interest or dividends, country risk, credit rating of securities, openness, transaction cost, rate of return on stock market and disclosure of information.

However, the determinants covered in this study were - market capitalization, all share index, foreign exchange rates, economic growth, interest rates and inflation rates.

a. Stock Market Capitalization

Market capitalization, which is otherwise known as 'market cap', refers to the total value of all a company's share of stocks. In other words, it is the total market value of a company's outstanding shares. Thus, market capitalization is the market value of a publicly traded company's outstanding shares (Chen, 2018). Since it represents the market value of a company, it is computed based on the current market price of shares and the total number of outstanding share. It then follows that this is a financial term that indicates the size of a firm. Using market capitalization to show the size of a company is important because company size is a basic determinant of various characteristics in which investors are interested. Okorie (2012) added that market capitalization is equal to share price multiplied by number of shares outstanding. As outstanding stock is bought and sold in public markets, capitalization is used as an indicator of public opinion of a company's net worth and is a determining factor in some forms of stock valuation.

Market capitalization reflects only the equity value of a company. It is used in addition by the investment community in ranking the size of companies, as opposed to sales or asset figures. More importantly, it is used in ranking the relative size of stock exchanges, being a measure of the sum of the market capitalizations of all companies listed on each stock exchange. In performing such rankings, the market capitalizations are calculated at some significant data, such as June 30 or December 31 (Nwosa and Adeleke, 2017). The total capitalization of stock markets or economic regions may be compared with other economic indicators. Hence, it is major macroeconomic indicator that



signals the status and well-being of an economy at any given time. As such, it determines the volume of FPI a country can attract at any time period.

b. All Share Index

All-Share index is a major stock market indicator that is seen as a series of numbers which shows the changing average value of the share prices of all companies on a stock exchange, and which is used as a measure of how well a market is performing (Amenc, Gettz and Sourd, 2016). This index also tracks the general movement of all listed equities on an exchange, including those listed on alternative securities market. According to Arnott, Hsu and Moore (2015), a market index is a quick measure to judge the overall direction of the market and the scope of its movements. In other words, a market index is a statistical parameter that reflects the composite value of a market characteristic. An index can be reflective of the entire market like the NSE (Nigeria Stock Exchange) all-share index – or just for a section. The NSE All-share index is a total market (broad base) index, reflecting a total picture of the behaviours of the common share quoted on the NSE. It is calculated on a daily basis, showing how the prices have moved. It started in January 1984, the base year, with a value of 100 and has now risen beyond the 6,000 mark (Abdulraman, 2019). The NSE All – Share index captures only ordinary shares.

Broadly, a stock index or stock market index is a measurement of a section of the stock market which is computed from the prices of selected stocks (typically a weighted average). It is as such a tool used by investors and financial managers to describe a market and to compare its return on specific investments (Chen, 2018). Thus, an All-share index is a national index which represents the performance of the stock market of a given nation and by extension, reflects investors sentiment on the state of a nation's sentiment on the state of a nation's economy. The most regularly quoted market indices are national indices composed of the stocks of large companies listed on a nation's largest stock exchanges such as the American S&P 500, the Japanese Nikkei 225, the Indian NIFTY 50, and the British FTSE 100 (Arnott, Hsu and Moore, 2015). Other indices may be regional, such as the FTSE Developed Europe Index or the FTSE Developed Asia Pacific Index.

In a nutshell, the All-share price index is one of the principal indices of a country's stock exchange. It as such measures the movement of share prices of

all listed companies. It is based on market capitalization weighting of shares is conducted in proportion to the issued ordinary capital of listed companies, valued at current market prices.

c. Foreign Exchange Rates

Foreign exchange refers to the means of payment or instrument of short term credits for various countries with different monetary units, regarded from the point of view of their purchase, sale or that of their holding as reserves (Anyanwu, 2015). Essentially, it is the means of payment to a foreign country when regarded from the point of view of their sale or purchase against nationally currency.

Such foreign money includes notes, cheques, bills of exchange, bank balances and deposits in foreign currencies. It is also used to refer to the process or system through which money of one country is converted into money of another country. The sources of foreign exchange include exports of goods and services, non-official borrowing abroad as well as foreign aid and private foreign investment.

Foreign exchange rate, as such, refers to the price of one currency in terms of another currency. That is, it is the number of units of one currency that will be exchanged for one unit or a given number of units of another currency. Thus, it is the price of the currency of one country expressed in terms of the currency of another. A currency has as many exchange rates as there are currencies with which it is exchanged (Nwagwu, 2015). For instance, the Nigerian naira has an exchange rate against U.S dollars, Pounds Sterling, Japanese Yen, Deutsche Marks, French Francs, etc. hence it is an economic indicator.

Exchange rate, as an economic indicator, plays an increasingly significant role in an economy, as it directly affects domestic price level, profitability of traded goods and services, allocation of resources and investment decisions both domestic and foreign (Adekaiye, 2014). Fagbemi (2006) added that foreign exchange rate is a veritable instrument of economic management and therefore, it is an important macroeconomic indicator used in assessing the overall performance of an economy. Douglas and Jike (2015) noted that movements in exchange rate are known to have ripple effect on other macroeconomic variables such as interest rate, inflation rate, unemployment rate, terms of trade, and so on. All these factors underscore the importance of



exchange rate to the economic well-being of every country (economy) that deals on the international trade of goods and services.

d. Economic Growth

Over time, economic growth has been a major macroeconomic indicator. It tells the economic status of a country. Level of economic growth of a country tells how a country can be classified as underdeveloped, developing or developed. As such, Dividedi (2008) defines economic growth as percentage increase in the total output of a country on year to year basis. He added that economic growth in the real sense of the term means a sustained increase in per capita national output or net national product over a long period of time. It follows then that the rate of increase in total output must be greater than the rate of population growth. Aku (2016) added another qualification for economic growth. He opined that the national output should be composed of such goods and services which satisfy the maximum wants of the maximum number of people. Besides, for economic growth to be genuine, the increase in output must be sustained over a long period. Short-run increase followed by a similar decrease in the output does not mean economic growth. Also, seasoned, occasional and cyclical increases in output do not satisfy the conditions of sustained economic growth.

However, real GDP (Gross Domestic Product) was used in this work as a proxy for economic growth. GDP shows or measures the total money value of all final goods and services produced within the geographical boundaries of an economy whether the factor inputs are by citizens or not within a particular time period which is usually a year (Nwaru, 2004). In other words, GDP as an economic indicator is measured in monetary terms, it measures only the final goods and services in an economy and the items to be measured must be produced during the accounting period i.e. those under work-in-progress (production) are not measured until production is complete. Hence, real GDP is the GDP that is not encumbered by inflation. In other words, that GDP that is not affected by inflation is termed real GDP (Semboja, Likwelile and Rutasitara, 2009).

While economic growth is one of the major determinants of the volume of foreign portfolio investment inflow into a country, Divivedi (2008) stated that there are five most important determinants of economic growth, viz; human

resources and their qualities, natural resources, capital formation, technological development, and political/social factors.

e. Inflation Rates

Inflation as a major economic problem represents one of the major threats to investors. When inflation rates start to rise, investors get really nervous in expectation of the potentially negative consequences.

f. Interest Rates

Portfolio flows to developing countries are extremely sensitive to interest differentials. Many tend to flow to countries with high interest rates because of the differences between the current interest rates in the international market. In Nigeria for instance, interest rates are kept at very high level. So, the country attracts meaningful capital flows (Idowu, 2015).

General Measures adopted to Encourage Foreign Portfolio Investments

As reviewed so far, it is evidence that there are measures that can be put in place to attract foreign portfolio investment into a host country, particularly a less developed country (LDC).. However, the following general measures were given by Ngize (2015):

- (a) Political stability and internal security must exist and assured;
- (b) Government of less developed countries (LDCs) should provide information to foreign enterprises with respect to the scope of investment opportunities,
- (c) LDCs governments should provide adequate basic facilities (power and other public utilities, transport, etc) to lower production costs of foreign enterprises.
- (d) LDCs governments have to provide sufficient facilities for transferring profits, dividends interest and principal, taking due cognizance of their balance of payments positions over a reasonable period of time;
- (e) Some government's grant exemptions from custom duties on equipment, plant and raw material as well as providing information and advice on legal matters, labour recruitment, site selection, etc;
- (f) Joint ventures help to remove the prejudices existing against foreign capital in less developed countries and hence remove the risk of expropriation;



- (g) Some less developed countries governments give an undertaking not to nationalize foreign owned enterprises to ensure capitalists' security of capital;
- (h) Some other governments grant tax incentives in the form of tax holidays, tax rebates, increased depreciation allowances, etc.

Brief Profile of Foreign Portfolio Investments in Nigeria

In Nigeria, there was no record of any foreign portfolio investment prior to 1956 (Eniekezimene, 2013). According to Obadan (2014), this was mainly as a result of the non-internalization of the country's money and capital markets as well as the non-disclosure of information on portfolio investment in foreign capital or money market. Ekeocha (2018) reported that a total of ₦151.6 million foreign capital inflows were recorded in 1986. From that little inflow recorded in 1986, each successive administration has made deliberate efforts to bridge the gap between savings and investments in Nigeria. Eniekezimene (2013) observed that since the return to democracy in 1999 which marked the beginning of a political stability, liberalization of the economy and the reforms in the capital market, there has been an improvement in foreign portfolio investment in Nigeria. Foreign portfolio investment in Nigeria rose to ₦703.6 billion in 2007, its highest since 1986 when it was first reported. Foreign portfolio investment in Nigeria experienced a decline to \$1,009.13 million in the third quarter of 2015, \$920.32 million in the third quarter of 2016 and a further decline to \$284.22 million in the last quarter in 2016 (National Bureau of Statistics, 2017). However, Nigeria's foreign portfolio investment increased to an all-time high of \$7.148 billion in March 2019 (CEICData.com). Thus, the movement of foreign portfolio investment in Nigeria has been up and down since 1986 when it was officially reported by CBN – Central Bank of Nigeria.

In order to promote both indigenous and foreign investments in some industrial sub-sectors, the Nigerian government vigorously pursued the establishment of some key and basic industrial projects like the two iron and steel plants (at Aladja and Ajaokuta), steel rolling mills, petrochemical projects and paper mills, etc. The government also pursued, as a matter of priority, the maintenance and expansion of existing infrastructural facilities like roads, railways, sea and airports, water and telecommunication network (Adekaiye, 2014).

Non-tax financial incentives were another measure employed by the government to encourage foreign portfolio investment into Nigeria. Accordingly, for companies whose shares are quoted on the Nigerian Stock Exchange, the government permitted the issuance of “non-voting equity shares” to enable them attract capital from foreign investors. A decree formalized this incentive which authorized companies quoted on the NSE to issue non-voting shares for sale on the Exchange. The shares were subscribed to by persons irrespective of nationality and place of residence. The aim was to provide investment including existing foreign partners and individuals. Payments for the shares meant to be made in convertible foreign currency and the shares are qualified for both dividend and capital repatriation (Ngize, 2015).

Tax concessions have also been a major incentive employed to encourage foreign portfolio investment into the country. From 1987 individuals and/or companies deriving dividends from the country are entitled to tax-free dividends for a period of 3 years if:

- (a) The company paying the dividend is incorporated in Nigeria;
- (b) The equity participation was imported into the country between January 1, 1987 and December 31, 1992; and
- (c) The recipient’s equity in the company constitutes at least 10 percent of the share capital of the company.

In addition to (a) – (c) above, if the company paying the dividend is engaged in agricultural production within Nigeria or the production of petrochemicals or Liquefied Natural Gas, the tax free period shall be 5 years (Anyanwu, 2015).

Theoretical Review

In order to investigate the peculiar determinants of FPI (Foreign Portfolio Investments) in Nigeria, the following theories were reviewed;

- a. Pull Factor Theory
- b. Push Factor Theory
- c. Perfect and Imperfect Theories

a. Pull Factor Theory

This theory was propounded by Everett Lee in 1996 in relation to labour migration across the globe. Pull factor theory traces the causes of capital flows to such domestic factors as autonomous increases in the domestic money demand function, stability in exchange rate, increases in domestic productivity



of capital (Unliaque, Matheson and Sharma, 2007), increasing integration of domestic capital markets with global capital markets (Agenor and Montiel, 2009), improvement in external creditor relations, adaption of sound fiscal and monetary policies and neighborhood externalities. In other words, there are very attractive forces at the area of destination to which the proportion of “selective” migrant is high. According to Lee (1966), such forces are found in metropolitan areas of a country. Thus, pull factors are present in such areas.

b. Push Factor Theory

The direction of private capital flows is also explained by push factor theory and this theory was propounded by Everett Lee in 1966 in his work ‘A Theory of Migration’. Emphasis here is on factors associated with the area of origin of foreign investors. Thus, there are many factors which motivate people to leave their place of origin to outside area. These are push factors. These factors include unfavourable exchange rates, high interest rates, declining/stagnant capital market indices (like market capitalization, all-share index, value of traded securities, number of traded securities, etc), declining national output (Gross Domestic Product GDP), political instability and the likes in the countries of origin of foreign investors (Osemene and Arotiba, 2018). In other words, these factors are forces that discourage foreigners from investing in their own countries. It is important to state that investments are return driven; as such foreign investors are always on the lookout for investments that will guarantee maximum/optimum returns.

c. Perfect and Imperfect Theories

According to Moeti (2005), the perfect market theories are based on free trade theories employing general equilibrium analysis and the theories assume among other conditions, the absence of obstacles to the market entry by producers or to international capital flows. The perfect market theories include the differential rate of return theory, the portfolio diversification theory, the currency differential theory and the market size approach (Ayadi, 2009). On the other hand, the imperfect market theories include the ownership – specific – advantage theory, location specific theory, internalization advantage theory, and the eclectic theory (Denisia, 2010). The theories focused on the determinants of the size/level of foreign investment. However, these theories were naïve when the issue of volatility in foreign investment is considered (Nwosa and Adeleke, 2017).

With respect to volatility in foreign investment, Claessens, Dooley and Warner (2005) emphasized the existence of a conventional wisdom shaped by common beliefs on the behavioural pattern of different forms of foreign investment. The approach noted that there is a distinction between foreign investment components as short-term and long-term. Short-term foreign investment includes debt bearing money market securities and loans with a maturity of one year or less. On the contrary, long-term foreign investment includes bonds and loans with a maturity of more than one year. Accordingly, the former are regarded as inherently volatile and speculative hot money (funding sources that react to changes in expected risk and return, investor psychology and exchange rate differentials); while the latter are construed as intrinsically stable and predictable cold money (i.e. funding sources that respond to slow-moving structural factors and economic fundamentals) which are rather irreversible, immune to sudden stops and are less volatile (Keskensoy, 2017). This study is guided or underpinned by the above three major capital flow related theories. In other words, the Pull Factor Theory, Push Factor Theory and perfect and imperfect theories formed the theoretical framework of this paper.

Empirical Review

Agarival (2006) examined the determinant of foreign portfolio investments (FPI) and its impact on the national economy of six developing Asian countries. The Ordinary Least Square (OLS) regression technique was adopted in the study and the regression estimate showed that inflation rate has a statistically significant and negative influence on FPI while real exchange rate, index of economic activity and the share of domestic capital market in the world stock market capitalization were observed as positive determinants of foreign portfolio investments.

Ekeocha (2018) looked at modeling the long-run determinants of foreign portfolio investment in an emerging market (Nigeria) within 1986 – 2016 with the use of time series data, Johansen co-integration and Error Correction Mechanism (ECM) estimation test. It was revealed that there is a negative relationship between real exchange rate and foreign portfolio investment in Nigeria.

Pami and Reetika (2013) carried out a study on foreign portfolio investment flow to India: determinants and analysis. The study covered 1995 to 2011. It



made use of autoregressive distributed lag (ARDL) model. The study found a negative significant relationship between exchange rate volatility and foreign portfolio investment.

Osemene and Arotiba (2018) investigated the effects of exchange rate volatility on foreign portfolio investment in Nigeria. A monthly time series data were sourced from 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 (Bureau-De Change) rate. A Two – Stage Least Square (TSLS) method was used to test the relationship between the volatility and foreign portfolio investment in Nigeria. The results revealed that volatility in the official rate exerted positive significant impact on foreign portfolio investment inflow into Nigeria, while the BDC volatility showed a negative significant impact on foreign portfolio investment inflow into Nigeria within the study period.

Haider, Khan and Abdulahi (2016) looked at determinants of foreign portfolio investment and its effects on China from 1997 to 2014. Data for the study were sourced from World Bank data bank as multiple regression techniques aided by e-views software was used for data analysis. Results accordingly revealed that GDP and external debt are the strong determinants of foreign portfolio investments. Also, exchange rate and population showed a significant impact on FPI.

Gumus, Duru and Gungor (2013) analyzed the relationship between foreign portfolio investment and macroeconomic variables in Turkey for the period between 2006 – 2012 by using VAR, Var Granger Causality Test, Impulse Responses and Variance Decomposition as analytical tools. According to Granger Causality Test and Impulse Response analysis, foreign portfolio investment affects Istanbul Stock Exchange Price Index and exchange rates. Only industrial production index has significant effect on foreign portfolio investment.

Nwosa and Adeleke (2017) examined the determinants of foreign direct and portfolio investments volatility in Nigeria. The study used annual data covering the periods 1986 to 2016 and the E-GARCH approach was employed. The study observed that trade openness and world GDP were the significant determinants of FDI volatility, while domestic interest rate and stock market

capitalization were significant determinants of FPI volatility in Nigeria. Other variables were insignificant in influencing volatility in FDI and FPI.

Al-Smadi (2018) investigated the determinants of foreign portfolio investment in Jordan using series of data covering the period from 2000 to 2016. Eight independent variables were employed. They are: aggregate economic activities, inflation rate, interest rate diversification, stock market performance, risk diversification, country credit worthiness, governance and corruption. The OLS multiple regression technique was adopted for analysis of data and results showed that good and stable macro-economic environment attracts foreign investors. In addition, foreign investors prefer to invest in the capital market which provides an opportunity of risk diversification. Also, a country that has enough liquidity to meet its obligation, and has well – governed environment attracts more portfolio investment. In other words, the results showed that aggregate economic activities (GDP), inflation rate, risk diversification, governance and corruption were statistically significant, while interest rate diversification, country creditworthiness, and stock market performance were not statistically significant. However, all variables except inflation rate showed a positive relationship with FPI into Jordan.

Onuorah and Akiyuobi (2013) examined impact of macroeconomic variables on foreign portfolio investment in Nigeria, for a period of twenty-two years (1986 – 2012). Ordinary Least Square (OLS) model was adopted for data analysis; as the data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin for various years. Regression results showed that gross domestic product, money supply, interest rate, exchange rate and inflation rate are statistically significant to attracting foreign portfolio investment into Nigeria.

Waqas, Hashmi and Nazir (2015) investigated the relationship between macroeconomic variables and FPI volatility in four South Asian countries, which are India, China, Pakistan and Sri Lanka. Thw ECM was used to analyse the data. They found a significant and negative relationship between inflation and volatility of FPI in China and India. They also reported a significant and negative impact of foreign direct investment on the volatility of FPI in China, India and Pakistan which suggests that increase foreign direct investment leads to a decrease in the volatility of FPI. As for exchange rate, they found a significant and positive effect on FPI in China. A negative



relationship was found between economic growth measured by the growth rate of gross domestic product and volatility of FPI in China, Pakistan and Sri Lanka.

The uniqueness of this work lies in the fact that major stock market indices of all-share index and market capitalization were used alongside the popular foreign exchange rate, interest rate, inflation rate and economic growth as explanatory variables.

METHODOLOGY

The quasi-experimental research design was employed in the study. The secondary data for the study sourced from the Central Bank of Nigeria (CBN) Statistical bulletin was analyzed with the aid of the Vector Error Correction Mechanism (VECM).

Model Specification

Single linear equation model was adopted to capture the determinants of foreign portfolio investments in Nigeria. The model is as specified below:

$$FPI_t = F (mcap_t, alsi_t, fexr_t, egrt_t, int_t, inf_t) \text{ ---- (1)}$$

^

Further expression is given as:

$$fpi_t = a_0 + a_1 mcap_t + a_2 alsi_t + a_3 fexr_t + a_4 egrt_t + int_t + inf_t + \mu_t \text{ ----- (2)}$$

By estimation, equation (2) becomes;

$$\hat{fpi}_t = a_0 + a_1 \hat{mcap}_t + a_2 \hat{alsi}_t + a_3 \hat{fexr}_t + a_4 \hat{egrt}_t + a_4 \hat{int}_t + a_4 \hat{inf}_t \text{ ----- (3)}$$

Where:

- fpi = foreign portfolio investment
- mcap = market capitalization
- alsi = all-share index
- fexr = foreign exchange rate
- egrt = economic growth
- inf = inflation rate
- int = interest rat
- a = constant term
- ai = slopes of the model
- μ = error term

t = time dimension
f = functional notation

DATA PRESENTATION, ESTIMATION AND ANALYSIS

Data Set on foreign portfolio investments (fpi), market capitalization (mcap), all share index (alsi), foreign exchange rate (fexr), economic growth (egrt), interest rate (int) and inflation rate (inf).

Years	fpi ₦'b	Mcap ₦'b	Alsi %	fexr %	egrt ₦'b	int %	Inf %
1990	-0.44	16.30	5083.9	8.0378	19,305.63	18.50	3.6
1991	-0.59	23.10	8059.4	9.9095	19199.06	15.50	23
1992	36.85	31.20	11172.2	17.2984	19620.19	17.50	48.8
1993	0.38	47.50	14748.3	22.0511	19927.99	26.00	61.3
1994	0.2	66.30	22958.7	21.8861	19,979.12	13.50	76.8
1995	5.8	180.40	45781.4	21.8861	20,353.20	13.50	51.6
1996	12.1	285.8	71461.7	21.8861	21177.92	13.5	14.3
1997	4.8	281.90	91663.1	21.8861	21789.10	13.50	10.2
1998	0.6	262.6	71542.5	21.8861	22332.87	13.5	11.9
1999	1.0	300.00	63170.3	92.6934	22449.41	18.00	0.2
2000	51.1	472.30	80414.1	102.1052	23688.28	14.00	14.5
2001	92.5	662.50	122220.9	111.9433	25267.54	20.50	16.5
2002	24.8	764.90	139582.4	120.9702	28957.71	16.50	12.2
2003	23.6	1359.30	186718.74	129.3565	31709.45	15.00	23.8
2004	23.5	2112.5	296863.81	133.5004	35020.55	14.21	10
2005	116.0	2900.06	274520.6	132.1470	37474.95	7.00	11.6
2006	360.3	5120.90	337219	128.6516	39995.50	10.00	8.5
2007	332.5	13181.69	585279.7	125.8331	42922.41	9.50	6.6
2008	157.2	9562.97	605096.42	118.5669	46012.52	9.75	15.1
2009	70.9	7030.84	277098.55	148.8802	49856.10	6.00	13.9
2010	556.6	9918.21	297306.14	150.2980	54612.26	6.25	11.8
2011	792.4	10275.34	280723.77	153.8616	57511.04	12.00	10.3
2012	2687.2	14800.94	281191.45	157.4994	59929.89	12.00	12
2013	2130.2	19077.42	434484.93	157.3112	63218.72	12.00	7.96
2014	832.4	16875.10	472917.88	158.5526	67152.79	13.00	7.98
2015	498.1	17003.39	370406.34	193.2792	69931.24	11.00	9.55
2016	477.0	16185.73	319488.92	253.4923	67931.24	14.00	18.55
2017	2604.3	21128.90	385933.35	305.7901	68490.98	14.00	15.37
2018	3834.5	21904.04	446233.34	306.0802	69810.02	14.00	11.4

Source: Central Bank of Nigeria Statistical Bulletin, 2018.



Unit Root Results for the Variables Employed

In order to investigate the determinants of foreign portfolio investments, unit root test analysis was carried out to determine the order of integration of concerned variables using the Augmented Dickey-Fuller unit root test.

Table 1. Augmented Dickey-Fuller Unit Root test Results

Variables	ADF Critical Values	ADF statistic	t-	Probability Values	Order of Integration
fPI	1% level 3.959148 5% level 3.081002 10% level 2.681330	-5.080286		0.0013	I(1)
mcap	1% level 3.699871 5% level 2.976263 10% level 2.627420	-3.993219		0.0050	I(1)
alsi	1% level 3.711457 5% level 2.981038 10% level 2.629906	-3.748008		0.0092	I(1)
fexr	1% level 3.699871 5% level 2.976263 10% level 2.627420	-4.881937		0.0006	I(1)
Egrt	1% level 3.711457 5% level 2.981038 10% level 2.629906	-6.133332		0.0000	I(1)
Int	1% level 3.699871 5% level 2.976263 10% level 2.627420	-6.996997		0.0000	I(1)
Inf	1% level 3.699871 5% level 2.976263 10% level 2.627420	-7.726895		0.0000	I(1)

Source: e-views 10

The above unit root test results revealed that all the variables were integrated at order I(1) or stationary at first differencing. Thus, the justification for the adoption of Johansen co-integration tests to establish the long-run association of the variables.

Table 2: Johansen Co-integration test

Date: 03/31/20 Time: 05:48

Sample (adjusted): 3 29

Included observations: 27 after adjustments

Trend assumption: Linear deterministic trend

Series: FPI ALSI EGRT EXR MCAP INF

INT

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob. **
None *	0.939963	214.1353	125.6154	0.0000
At most 1 *	0.796711	138.1900	95.75366	0.0000
At most 2 *	0.705045	95.17556	69.81889	0.0001
At most 3 *	0.667390	62.21042	47.85613	0.0013
At most 4 *	0.523431	32.48925	29.79707	0.0239
At most 5	0.304342	12.47837	15.49471	0.1354
At most 6	0.094497	2.680137	3.841466	0.1016

Trace test indicates 5 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

** MacKinnon-Haug-Michelis (1999) p-values

Source: e-views 10

The trace test result from the Johansen co-integration test showed 5 cointegrating equations at 5% level of significance. This shows that there is the existence of long run relationship between foreign portfolio investments and its determinants. However, there is no gain saying the fact that variations might arise in the relationship due to shocks arising from the variables in the short-run. These shocks causes distortions and hence, the need to proceed to vector error correction mechanism because of co-integration among the variables of the study. This is done to ascertain the speed of correction of any adjustment(s).

Table 3: Vector Error Correction Mechanism

Vector Error Correction Estimates

Date: 03/31/20 Time: 06:19

Sample (adjusted): 4 29



Included observations: 26 after
adjustments
Standard errors in () & t-statistics in []

Error Correction: D(FPI)

CointEq1	-0.821908
	(0.19984)
	[-9.11680]

Source; e-views 10

The result in table 3 above revealed that the coefficient of the vector error correction estimates was appropriately signed with a negative coefficient of -0.821908 and significant t-statistic of -9.11680. In other words, the result showed that any disequilibrium in the short run can be corrected in the long run at the speed of 82.19% annually. The VECM result is an indication and confirmation of the existence of a long run relationship between foreign portfolio investments and the selected explanatory variables (all share index, market capitalization, foreign exchange rate, economic growth, interest rate, inflation rate). This has further shown that the investigated explanatory variables are vital determinants of foreign portfolio investments in Nigeria.

INTERPRETATION OF RESULTS

There is no doubt that results emanating from this work have revealed all share index, stock market capitalization, foreign exchange rate, economic growth, interest rates and inflation rates are major determinants of foreign portfolio investments in Nigeria. These macroeconomic variables are responsible for a large chunk of FPI inflows into Nigeria. Specifically, the contribution of these economic variables toward attracting FPI inflows into Nigeria can be attested to by the long run relationship established by the Johansen cointegration test. Under the test, the trace test indicated five cointegrating equations at 0.05 level of significance, thus confirming the said relationship. Furthermore, short run distortions that might arise due to shocks in the variables in the long run were examined and the speed of adjustments determined using the Vector Error Correction Mechanism (VECM). The VECM results were appropriately signed with a negative coefficient of -0.821908 and significant t-statistic of -9.11680. These implied that deviations in the short run can be

corrected in the long run at the speed of 82.19% per annum. The significant t-statistic of -9.11680 showed that all share index, stock market capitalization, foreign exchange rate, economic growth, interest rates and inflation rates are important determinants of foreign portfolio investments in Nigeria.

These relationships were expected and in line with our a priori expectations. Given that most foreign portfolio investors are not resident in Nigeria to have first-hand information on happenings in the stock market, they monitor and rely on these economic indicators in order to decide whether to invest or not. For instance, they can monitor the daily performance of the market by way of stock market capitalization and all-share index. A consistent rise in economic growth and in the values of two major capital market indicators show that the economy and market is making progress and foreign investors are encouraged to buy securities of companies in the market. Conversely, a consistent fall in economic growth and in the value of MCAP and ALSI shows that the market is in a bad state and by extension; foreign investors will be discouraged from investing. It is very important to state that foreign investors are so much concerned with happenings in the market and not so much on other macroeconomic variables. If other macroeconomic variables indicate at a given time that the economy is doing well while major market indicators like MCAP and ALSI shows the opposite, certainly, foreign investors will not be encouraged and vice versa.

In the same vein, interest rates, inflation rates and foreign exchange rates are other important determinants of foreign portfolio investments (FPI) into Nigeria. Specifically, foreign exchange rates in the context of Nigeria cannot really encourage or discourage foreign investors because foreign currencies always have higher values compared to the naira. Thus, the higher the exchange rates the better for foreign investors because it implies that the value of shares and other securities will be cheaper in terms of foreign currencies.

CONCLUSION

The study has revealed that stock market capitalization, all-share index, economic growth, foreign exchange rates, interest rates and inflation rates have significant influence on Foreign Portfolio Investments (FPIs) in Nigeria. These were results obtained through the Johansen cointegration test and vector error correction mechanism (vecm). Therefore, it can be deduced that the identified variables are major factors considered by foreign investors when



undertaking investment decisions in portfolio investments into a country like Nigeria. The findings of this study are in line with those of Nwosa and Adeleke (2017), Osemene and Arotiba (2018), Agarwal (2006), Haider, Khan, and Abdulali (2016) and Onuorah, and Akijuobi (2013)

RECOMMENDATIONS

Sequel to the major findings from this study, the researcher came up with the following recommendations;

- (a) Having established the fact that variables like market capitalization all-share index, economic growth, foreign exchange rates, inflation rates and interest rates are major determinants of foreign portfolio investment in a country like Nigeria, there is need to ensure that these macroeconomic variables are properly monitored in order to encourage more foreign portfolio investors in Nigeria.
- (b) There is need for political stability and improvement in the security architecture of the country. This is because investments tend to flow away from environments where there are instability, uncertainty and insecurity. Political instability and insecurity of life and property have been key problems to long-term investments in the country.
- (c) Good institutional framework within the Nigerian capital market needs to be promoted by stakeholders. The framework must have an adequate infrastructure for efficient communication, pricing of issues, marketing of equities, efficient deliveries and settlement. These enhance the performance of the Nigerian capital market and by extension attract more foreign portfolio investors into the country.
- (d) There is the need to enhance the depth of the capital market and as well increase in the number of listed securities in the market. In this regard, capital market activities must be integrated into the country's overall development programme.

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