

Foreign Portfolio Investment and Stock Market Capitalization in Nigeria

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Abstract

This study examined the effect of foreign portfolio investment on stock market capitalization in Nigeria. Time series data were sourced from Central Bank of Nigeria Statistical bulletin. Stock market capitalization was modeled as the function foreign equity investment, bonds, securities and money market investment. Ordinary least square methods of cointegration, granger causality test, and unit root test and error correction model was used. The study found that 64 percent variation in stock market capitalization was traced to foreign portfolio investment in Nigeria. Foreign equity investment, bonds, securities have positive effect while money market have negative effect. From the findings, the study conclude that foreign portfolio investment have significant effect on stock market capitalization in Nigeria. The study recommended as part of its stabilization policy, the Nigeria's capital market regulatory authorities should give boost to the market, most importantly in the area of international competitive coupon rates and improved external reserve so that foreign portfolio investment inflow to Nigeria will experience boost by foreign investors who seek higher investment.

Keywords: *Foreign Portfolio Investment, Stock Market Capitalization, Stock Investment, Equity Investment, Bond Investment*

INTRODUCTION

Foreign portfolio investment plays an important role in contributing to economic growth, especially in countries with well-developed financial markets (Alfaroa, Chandab, Ozcanc, & Sayekd, 2004). Janine, Jonathan and Lynne (2010) argued that portfolio investments run the risk of sudden reversal if the economic environment or the perception of investors change, giving rise to financial and economic crises. Emerging markets such as Nigeria have consistently utilized foreign portfolio investment inflows to bridge the saving-investment gap. The use of this type of investment to fill the saving investment gap can be adduced to the fact that domestic portfolio investment is not enough to drive the economy to achieve the kind of growth it is set to attain. Also, there is no balance between funds/capital requirements and savings capacity in the Nigerian economy (Eniekezimene, 2013).

One of the objectives of economic integration, partnership and multi-lateral investment treaties is the inflow and outflow of capital across National borders. The objective is to bridge the financial

disequilibrium and savings investment gap that exist among countries. Nigerian capital market was established in 1960 to meet investors' needs in long-term financial instruments such as bonds and equities within and the inflow of foreign portfolio investors. Portfolio investment is the commitment of resources in foreign securities by foreign nationals with view of profitable returns (Ezirim, 2005). Foreign portfolio investment is a component of foreign private capital. It is an aspect of international capital flows, comprising transfer of financial assets, such as cash, stocks or bonds across international boarder in want of profit (Chukwuemeka, et al., 2012). The inflow of foreign portfolio investment is determined by the development of the capital market, the market rate of return and the monetary policy of the country. Unlike Foreign Direct Investment, inflow of portfolio investment is sensitivity to exchange rate risk and political risk of the country (Anayochukwu, 2012).

The stock market is an important medium that provides companies with an invaluable avenue to raise funds for their businesses. The stock market allows companies to be publicly listed and traded, or to raise additional capital for expansion by floating stocks of ownership in an exchange market. A critical factor of a stock market is its liquidity which refers to the ease with which investments in financial securities are acquired and disposed (Somuncu & Karan, 2005; Marcin, Robert, & Kryzstof, 2013; Ngerebo-A & Torbira, 2014; Adjei, 2015; Gerlach & Yook, 2016; Kumar, Gupta, & Sharma, 2017). The market liquidity makes investment in stocks more attractive compared to other less liquid investments such as real estate. Usually, a stock market is considered one of the primary measurements of the growth and development of any country's economy.

The theories dominating the flow of foreign portfolio investment and capital market growth have been the standard Neo-classical theory of foreign portfolio inflows which predict that capital should flow from the capital rich countries to capital scarce countries and the Lucas paradox or why capital does not seem to flow from rich to poor countries. Theoretical numerous body of knowledge known as portfolio theory has been propounded to evaluate the behaviour portfolio investment. Harry Markowitz (1951) noted that portfolio investment is a function of market rate of return. This means that inflow of portfolio investment to Nigerian capital will increase if the market rate of return exceeds the cost of the investment. Empirical evidence has shown that there is significant relationship between inflows of foreign portfolio investment into Nigerian capital market and the performance of Nigerian capital market.

However, the challenges facing the inflow foreign portfolio investment determine the value of inflow to Nigeria in the past and present. The emerging and underdeveloped status of the Nigeria financial market compared with financial markets of the developed nations, Nigeria financial market lack some creditability to attract foreign portfolio investment. For instance prior to the consolidation reform in the banking system, Nigerian banks were not considered very healthy to attract Foreign Portfolio Investment as a result of the poor rating. The capital market and other institutional policies also affect negatively the inflow of Foreign Portfolio Investment in Nigeria (Onoh, 2002). Other factors may also affect positively or negatively Net inflow of Foreign Portfolio Investment. Stock market as a monetary phenomenon that can only be cured by monetary intervention that led to the injection of ₦600 billion into the economy as a bailout measures (Akani & Lucky, 2014), a down turn in the lives of many and by extension cripple any economy, for instance the global financial meltdown of 2008/2009 to late 2010 has been a reference point which serious affect the performance of the Nigerian stock market.

The global financial crises of 2007 results in the capital market crash of 2008 across nations shows the direct effect of foreign portfolio on the capital market of the emerging financial markets like Nigeria. Prior to the Nigerian capital market reforms, the capital and the business environment were considered too harsh and underdeveloped to attract the inflow of foreign portfolio investment. This led to structural, institutional and policy reforms in the Nigerian capital market and the investment climate with the objective of attracting the inflow of foreign investors. For instance, in 1993, the Nigerian stock price was deregulated to allow the market forces (Onoh, 2002). In 1986 the financial sector was deregulated and fixed exchange rate was replaced with floating exchange to avert exchange rate risk. In 2001, Nigerian capital market was internationalized with the introduction of Central Security Cleaning System (CSCS) and the second tier security market was introduced to meet investors of different categories. The extent to which these reforms have affected the inflow of foreign portfolio investors to Nigerian capital market remained a matter of fact and knowledge gap.

The procyclicality of capital flows and financial sector development of the emerging economies like Nigeria can in principle be addressed through coordinated global regulation and globally coordinated monetary policy. However, in practice such coordination is not straightforward to design or implement even when the interests of countries overlap or are congruent, when coordination is globally optimal; it generates tensions with the valued prerogative of national governance. Given the obstacles to global coordination, countries have little choice but to design frameworks that mitigate the risks of cross-border flows at the national level. Most cross-border capital flows are channeled through global banks and are heavily procyclical. The procyclical nature of cross-border bank-intermediated credit flows has given rise to serious economic and financial instabilities. Effective regulation of cross-border banking is essential for domestic and global financial stability in a highly financially integrated world economy (Olotu & Oliogu, 2014). There are different views on the effect of cross broader capital flow on the economy of the recipient country. The eclectic paradigm theory (Dunning, 1988) argued that most often, direct and portfolio investments are for the benefit of the investors and the home country. Although there can be a spillover effect in increasing the output of the domiciled country, direct and portfolio investments may not translate into improvement in the quality of life or poverty reduction (Denisia, 2010).

Economic theory suggested that while capital flows can provide financial stability benefits, including diversification from idiosyncratic risk, they also make financial conditions more correlated across jurisdictions and create channels for contagion. Indeed, the global financial crisis highlighted the fact that increased financial flows cannot always be assumed to result in a better distribution of risks, at the institution level or the country level and in fact amplify them (Obstfeld 2012). In responding to weaknesses exposed by the financial crisis, global policymakers face a potential trade-off between minimizing possible threats to financial stability and seeking to promote the benefits of an integrated financial system. There are difficulties calibrating the system-wide costs and benefits of different types of capital flows and the policies that seek to constrain or promote them. While some studies have found that international capital flows can boost productive capacity, expand opportunities for diversification and increase liquidity in financial markets, other studies have raised questions about the strength of these relationships. For example, there is only

qualified evidence that greater ‘financial openness’ leads to improved risk sharing (Kose, Prasad & Terrones 2007; Obstfeld 2012).

Despite the increased inflow of foreign portfolio investment to Nigeria, the stock market is still vulnerable to shocks on its economic activities. The 2016 near collapse of the Nigerian stock market just like the 2008 global financial meltdown raises much concern as to whether the inflow of foreign portfolio investments to the economy has no effect on the performance of the Stock Market. Therefore, there is need for a thorough investigation and in-depth study towards addressing the problem. Furthermore, foreign portfolio investment has been adduced to have adverse effects on a host country. The potentially damaging aspects of foreign portfolio investments are found in its short term nature and also in its volatility (Knill & Lee, 2014; Yaha, Singh, & Rabanal, 2017). Osinubi and Amaghionyeodiwe (2010) opined that foreign portfolio equity investment is basically just a change of ownership and may not be a positive investment transfer. Unlike foreign direct investment, foreign portfolio investors ask for faster returns on their investment and this may lead these investors to suddenly enter or leave an economy. Therefore, many countries are worried about the destructive effects of foreign portfolio outflow during a crisis. From the above, this study examined the relationship between foreign portfolio investment and stock market capitalization in Nigeria.

LITERATURE REVIEW

Foreign Portfolio Investment

The phenomenon of foreign portfolio investment in emerging market economies has always attracted the attention of writers from the theoretical and empirical perspective. The benefits of foreign portfolio investment include transfer of technology, higher productivity, higher incomes, more revenues for government through taxes, enhancement of balance of payment ability, employment generation, diversification of the industrial base and expansion, modernization and development of related industries. According to Feldstein (2000), first, international flows of capital reduce the risk faced by owners of capital by allowing them to diversify their lending and investment.

Second, the global integration of capital market can contribute to the spread of best practices in corporate governance, accounting rules and legal traditions. Proponents of foreign portfolio investment picture it as adding new resources/capital to the host economy in a way that improves efficiency and stimulates economic growth. It is thus viewed as a panacea for economic development by providing the capital underdeveloped countries desperately need to fill their savings-investment gap. From the neoclassical theory, growth is achieved by increasing the quantity of factors of production optimally. In a simple world of two factors, labour and capital, it is often presumed that low-income countries have abundant labour but scarce capital. This situation arises owing to shortage of domestic savings in these countries (especially the developing countries), which places constraint on capital formation and hence growth. Even where domestic inputs in addition to labour, are readily available, increased production may be limited by scarcity of imported inputs upon which production processes in low-income countries are based. Based on this fact, international capital flows readily as popularized by O'Connor and Iscarlot (2010)

become an important means of helping developing countries to overcome their problem of capital shortage.

Market Capitalization

Market capitalization represents the aggregate value of stock size (Adewoyin, 2004). Market capitalization is the measurement of the size of businesses and corporations which are equal to the market share price times the number of shares in this case shares that have been authorized, issued, and purchased by investors of a publicly traded company (Al-Faki, 2006). Market capitalization is also calculated by multiplying the shares of the company by the price per share. The investment community uses the figure to determine a company's size or worth, as opposed to sales or total asset figure (Olowe, 1997). Market capitalization refers to the number of shares of a company multiplied by the market share price. In other words, market capitalization is usually considered as reflecting the worthiness of a company used by the investing public to determine the credit worthiness of a firm in terms of investing in such companies.

The Investment Diversion Thesis

The investment diversion theory stipulates that there are two factors that give rise to capital flight, namely; macroeconomic and political uncertainty in developing countries and the better investment opportunities in advanced economies. Better investment opportunities is brought about by a high foreign interest rate, a wide range of financial instruments, political and economic stability, friendly tax regime (lower taxes or tax exemption), and concealment of accounts in tax haven countries. The argument of favorable tax climate seems to suggest that countries would be better off, in terms of capital flows, had they framed their tax policies towards a lower or even a tax-free system. However, Muchai and Muchai (2016) cautioned that lowering tax and offering tax incentives in order to attract or retain capital causes market distortions and tax favoritism, which in turn leads to further capital losses. What is more aggravating is that in the eve of tax break uplift, international capital repatriate their funds to regions that have a favourable tax regime. This is so that they avoid paying high taxes, and in the same instance contributing to a country's capital flight. The consequences of these actions are: a decrease in the overall investment, low economic growth which leads to a fall in the level of employment which ends up increasing the dependency ratio and poverty.

The Push Factor Theory

This theory explains the cause of FPI to external factors other than what happens in the domestic country. Among the push factors, a prominent role has been attributed to slow economic growth rate and low interest rate of industrialised countries (Calvo & Reinhart, 1998). Additionally, the increasing appetite of investors towards international diversification may also push capital flows into emerging economies (Calvo et al., 1996). Empirically, scholars such as Calvo et al. (1993) and Fernandez-Arias (1994) attributed the increase in capital inflows of developing countries in the 1990's to the decline in the US interest rate. Another key push factor identified by these authors is the rise in the tax rate of multinational corporations. While there are considerable numbers of literature which explain capital flows to emerging countries to be induced by a recession in industrialised countries, a contrast view has been provided once for developed countries.

The monsoonal effect (such as real interest rate of major developed countries) is believed to be factors that affect a number of countries simultaneously especially, countries in the same region or with similar economic conditions. The spillover affects generally results from trade and financial channels. Trade channels include market competition and import price changes while financial channels results from PI. Hence, a loss of competitiveness for country “A” for instance may cause a currency depreciation of country “B”, suppose both countries are linked by commercial operations. On the other hand a simultaneous crises resulting from any of the above factors, is referred to as the pure contagion or shift contagion (Masson, 1999 and Forbes and Rigobon, 2002). For instance, a change in investors’ sentiments may yield reversal of funds and trigger financial crises.

The Pull factor Theory

The pull factor theory attributes the flow of capital to be as a result of the domestic fundamentals of the recipient country. These domestic factors include creditworthiness of a country, improvement in fiscal and monetary policies and neighbourhood externalities (interest rate and the price earnings ratio of the host country) (Calvo, et al, 1996). Haque, Mathieson and Sharma (1997) also identify an increase in domestic output and domestic money demand to be pull factors. Other domestic factors also include the performance of macroeconomic variables such as financial development, inflation, GDP growth rate, current account balance and gross domestic investment. Thus, to evaluate the level of sound economic policies and the sustainability of capital flows, investment environment, infrastructure as well as the quality of institutions are also included as key domestic factors. Many scholars (Chuhan et al, 1994 and Ul-Haque, Kamar, Mark, & Mathiesan, 1996) have identified pull factors to be the main significant factors that explain capital inflows of emerging economies in the 1990s. The authors argue that financial liberalisation among other factors such as privatisation of public enterprise and improvement in macroeconomic conditions have improved the credit worthiness of developing countries leading to international capital mobility.

Empirical Review

Nwonodi (2018) examined the effect of foreign portfolio investment on the performance of Nigerian capital market. The specific objectives are to investigate the impact of Net Foreign Portfolio Investment, Foreign Portfolio Investment in Equity, Foreign Portfolio Investment in Bonds, Foreign Portfolio in Government Securities and Nigerian Exchange Rate per US Dollar on the performance of Nigerian Capital Market. The required data were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin and Stock Exchange Annual Report. The study has All Share Price Index and Market Capitalization as proxy for Capital market performance while Net Foreign Portfolio Investment (NFPI), Equity Investment (PIE), Bond Investment (PIB), Portfolio Investment in Government Securities (PIGS) and Exchange Rate as predictors variables. The Ordinary Least Square multiple regressions with econometric view were used as data analysis techniques. Cointegration test, Granger Causality Test, Augmented Dickey Fuller Test and Error Correction Model were used to examine the variables and its relationship to the dependent variables. Model one revealed that foreign portfolio investment in bonds and foreign portfolio investment in government securities have negative relationship with All Share Price Index while Net Foreign Portfolio investment, foreign portfolio investment in equities and exchange rate have

positive relationship with All Share Price Index. Model two revealed that Net Foreign Portfolio Investment, Portfolio Investments in Bonds and Government securities has negative relationship with market capitalization while equity investment and exchange rate have positive relationship with market capitalization. The study concludes that foreign portfolio investment have significant relationship with Nigerian capital market performance. It therefore recommends that policies should be devised to enhance the operational efficiency of the Nigerian capital market, to attract foreign investors.

Osuka, Ezedike and Mbanasor (2022) examined foreign portfolio investment (FPI) and growth of Nigeria's Capital Market using time series data sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin for period of 1990 to 2020. Foreign Portfolio Investment into Nigeria and other control variables as external reserve, exchange rate and inflation rate collectively stood as the exogenous variables while Market Capitalization as proxy for capital market growth functioned as endogenous variable. The model of the study followed the Autoregressive Distributive Lag (ARDL) Bound test based on the mixed order of the data in $I(0)$ and $I(1)$ as indicated by the Augmented Dickey Fuller (ADF). The study found a long run positive relationship between foreign portfolio investment and Nigeria's Capital Market growth. On the long run effect of other explanatory variables, Exchange Rate made insignificant positive contribution; External Reserve had insignificant negative effect; while Inflation Rate was found as a significant negative contributor to the model. The study concludes that foreign portfolio investment shares long run positive relationship with Capital Market Growth in Nigeria. The study therefore recommends that, as part of its stabilization policy, the Nigeria's capital market regulatory authorities should give boost to the market, most importantly in the area of international competitive coupon rates and improved external reserve so that FPI inflow to Nigeria will experience boost by Foreign Investors who seek higher investment.

Okonkwo (2016) studied foreign portfolio investment and the growth of the industrial sector in Nigeria for the period of 1986 to 2013 using secondary data sourced through Central Bank of Nigeria Statistical Bulletin (2013) and International Financial Statistics. Using the ordinary least square method, the study found significant positive relationship existing among foreign portfolio investment, gross fixed capital formation, market capitalization and industrial growth. Onyeisi, Odo and Anoke (2016) studied the impact of foreign portfolio investment inflows on stock market growth in Nigeria from 1986 to 2014. Data for the study was collected from the statistical Bulletin of Central Bank of Nigeria (CBN), annual reports and Statement of Account of various issues and online service from World Bank Indicators. The study used Augmented Dickey Fuller (ADF) Unit Root Test, vector error correction model and Granger Causality econometric tools. The findings of the trace statistics indicates one (1) co-integrating equation at 5% level of significance, the vector error correction model indicates long-run significant impact of foreign portfolio investment on stock market growth in Nigeria, and the Granger Causality shows there is no causality between foreign portfolio investment and stock market growth in the Nigerian economy. It found a negative relationship between FPI and the Nigerian capital market. The study inferred that foreign portfolio investment (FPI) inflows might not contribute positively to the increase in stock market when there is no conducive business environment for foreign investments to thrive in Nigeria.

Ohaeri (2017) examined the nature and direction of causality existing among foreign portfolio investments, capital flight and capital market performance in Nigeria using ex-post-facto and descriptive research designs. Data were collected from National Bureau of statistics, International Monetary fund, World Bank direction of trade websites, Security Exchange Commission reports and Nigerian Stock Exchange reports between 1970 and 2014. Data generated are analyzed using Vector Error Correction models and co-integration test subject to the outcome of the preliminary tests for conformity with econometric assumptions. The study found a unidirectional causality between capital market performance in one hand and also between foreign portfolio investment and capital flight on the other hand at 5% and 10% levels of significance respectively.

Adebisi and Arikpo (2017) evaluated the financial market performance and foreign portfolio inflow to Nigeria covering 1984 to 2015 data was sourced from the CBN statistical bulletin within the period of study. Financial market performance was measured using capital market performance, capital market liquidity and total new issues. The exploratory design was combined with the ex-post facto research design; the data collection method was desk survey. Making use of Autoregressive Distributive Lag (ARDL) technique, findings from the analyses showed that financial market performance has no long run causal relationship with foreign portfolio investment in Nigeria. Also, capital market performance and capital market liquidity have no short run causal relationship with foreign portfolio investment in Nigeria. Equally, total new issue has a short run causal relationship with foreign portfolio investment in Nigeria.

Akinmulegun (2018) examined the effect of capital market development on foreign portfolio investment in Nigeria over the period 1985 to 2016. The study employed secondary data sourced from Central Bank of Nigeria Statistical Bulletin and publications of Nigeria Stock Exchange. The research adopted Vector Error Correction Mechanism (VECM) to analyze the short run and long run dynamism of the variables while also focusing on the direction of causality between capital market development and foreign portfolio investment in Nigeria, using granger causality test. The Granger causality test revealed that there is no causality between capital market development and foreign portfolio investment in Nigeria. Result from the vector error correction model indicated that Market Capitalization (MCAP) has negative significant effect on foreign portfolio investment in Nigeria while All Share Index (ASI) has positive relationship with foreign portfolio investment. Araoye (2021) examined effect of capital market development on the foreign portfolio investment in Nigeria. The time series secondary data covering the period 1990 to 2019 used for the study were obtained from the Central Bank of Nigeria Statistical Bulletin, Nigeria Stock Exchange fact sheet, National Bureau of Statistics, Articles, Journals libraries and Internet. The study analyzed the data using unit root test to determine the stationarity or otherwise of the time series data with Augmented Dickey Fuller (ADF) unit root test. Vector Error Correction Model was employed in estimating the effect of the independent variables on the dependent variable. Granger causality test was also adopted to establish the direction of causality among the relevant variables. The findings revealed that market capitalization has positive but significant impact on foreign portfolio investment in Nigeria. The granger causality result indicates unidirectional causality movement from market capitalization (MCAP) and real gross domestic product (RGDP) to foreign portfolio investment. The study recommended that capital market regulators should apply all necessary tools

to encourage listing of private companies on the floor of stock exchange market. Ekine, Ewubare and Ajie (2019) examined the impact of foreign portfolio investment and Foreign Direct Investment on the performance of the Nigerian Economy over a period of 1980-2017. The data used were purely secondary sourced from the central Bank of Nigeria statistical Bulletin and World Bank Development indicator. The ordinary least square (OLS) regression analysis was used. The findings revealed that the performance of the Nigerian Economy is directly related to inflow of foreign portfolio investment and foreign direct investment and it is also statistically significant at 5% level. This means that a good performance of the economy depends on the inflow of these variables, or that the variables serve as an engine of economic growth. The study therefore recommends that policy makers should work on improvement of economic incentives capable of mobilizing external resources to the country to engender macroeconomic stability. A stable economy will attract foreign investment and this result to increased inflow of foreign capital.

Shanab (2017) examined the effect of Foreign Portfolio Investment (FPI) on capital market indices for the period 2005-2016. The study employed Ordinary Least Square (OLS) for the analysis. The study revealed that there is a statistically significant effect on both the purchases and sales by foreign investors on market capitalization. The study also found no statistically significant effect between inflation and market capitalization. Based on their findings, the study recommends that the government should ensure there is good monetary and fiscal policy to grow the economy and woo more foreign investors in the capital market which could drive economic growth. Shares and bonds should be regularly advertised to attract domestic and foreign investors in the portfolio market for enhanced sustainability.

Ibrahim and Akinbobola (2017) investigated the relationship between foreign portfolio investment, democracy and economic growth in Nigeria from 1986 to 2013. The results revealed that foreign portfolio investment inflow was more stable in democratic periods between 1999 and 2013 than the military periods between 1986 and 1998 and that the correlation between economic growth and foreign portfolio investment is positive and very significant. Furthermore, the result revealed that in the longrun foreign portfolio investment had positive and significant effect on the economic growth in Nigeria. It also showed that democracy had a positive and significant effect on economic growth, while it has positive but not significant effect on the relationship between foreign portfolio investment and economic growth.

Okonkwo (2016) investigated the effect of foreign portfolio investment on industrial growth in Nigeria with the view to establish empirical relationship among foreign portfolio investment and industrial productivity in Nigeria. Secondary data were employed in the study and were sourced from the Central Bank of Nigeria statistical bulletin 2013 edition and the International financial statistics (IFS). The ordinary least square (OLS) estimation technique was appropriately employed in the study. The findings of the study revealed that there was statistically significant positive relationship existing among foreign portfolio investment, gross fixed capital formation, market capitalization and industrial growth proxied by industrial production index (IPI) in Nigeria. The study recommended among others that proactive steps must be taken to expand market capitalization which was the major driver of foreign portfolio investment in order to keep stimulating industrial productivity in the economy.

Lionel, Alfa and Samuel (2020) examined the impact of capital flight on domestic investment in Nigeria between 1980 and 2017. Deploying the Auto Regressive Distributed Lag (ARDL) econometric methodology, the study finds that capital flight has negative and significant impact on domestic investment. In particular, the long run impact of capital flight on domestic investment (0.57) turns out to be more severe than its impact in the short run (0.27), implying that a continuous and persistent build-up of capital flight exerts a negative cumulative effect on domestic investment over time. The study further reveals that the quality of institutions in Nigeria is a disincentive to domestic investment. It therefore recommends the strengthening of institutions to rein in on the illegal outflow of capital from the Nigerian economy in order to guarantee the availability of investible funds. The real sector of the local economy must be grown to bolster the value of the naira. This will stem the tide of capital flight and attract investments into critical sectors.

Igwemma, Egbulonu and Assumpta, (2018) confirming the deleterious effect of capital flight on the Nigerian economy, further found that looted funds, medical expenses, and foreign education were the fundamental channels through which capital flight was initiated and sustained. Usman and Arene (2014) examined the effects of capital flight on agricultural sector growth in Nigeria. They found a negative and insignificant effect on the agricultural sector. They conclude that capital flight has no direct effect on the agricultural sector; perhaps its impact is subsumed within other macroeconomic variables. On the other hand, a more narrow implication of capital flight was conducted to determine its impact on tax revenue in Nigeria. Adetiloye (2012) used the vector error correction mechanism of the ordinary least squares (OLS) regression methodology to analyze data between 1970 and 2007, finds that capital flight has negative but insignificant impact on domestic investment in Nigeria. As noted above, this finding was without basis as the capital flight variable was conspicuously lacking in the model specification, and in the reported results. Salandy and Henry (2013) examined the impact of capital flight on growth and investment in Trinidad and Tobago found evidence of a negative and significant influence of capital flight on domestic investment.

Ajayi, Adejayan and Obalade (2017) examined the impact of foreign private investment on the Nigerian capital market using time series data from 1986 to 2014. Johansen co-integration model was used to estimate the causal effect between both variables. Market capitalization, foreign direct and portfolio investments were proxies for the dependent and independent variables respectively. The result of the study revealed that that there is a long run relationship between Market capitalization and foreign Effect of Foreign Direct Investment on Capital Market Development in Nigeria portfolio investment however this relationship is negative meaning that and increase in foreign portfolio investment will cause a decrease in Market capitalisation. The study concluded that foreign direct investment has a positive and significant impact on capital market Development while foreign portfolio investment has positive but insignificant impact. They recommend that a robust re-investment incentive policy or roll- over window package need to be established to encourage retention of foreign portfolio investment proceeds within the system. This is required in order to minimize the rate of flight capital through illegal and indiscriminate repatriation of investment proceeds through foreign portfolio investment channel.

Aigheyisi (2016) examined the impact of development in stock market on foreign capital inflow and its impact on economic growth in Nigeria. Historical data spanning 1981 to 2014 was collated

estimated employing the FMOLS technique. The results showed that there is a significant positive relationship between foreign capital inflow, investment within the country and capital market development in Nigeria. It further emerged that the by-pass between the development of the stock market and capital from overseas exert a significantly nonlinear impact on economic growth in Nigeria. This implies the Nigeria capital market is not robust enough to stimulate economic growth via foreign capital inflow to the country. The drivers of economic growth according to the study are public expenditure on consumption and the degree of trade openness. Arikpo and Ogar (2018) investigated the impact of stock market development on foreign capital inflow into Nigerian businesses. The dependent variable of the study is foreign direct investment, while the independent variables were market capitalization, number of listed corporations, all share index, turnover ratio and value of transactions in the Nigerian stock exchange. Consequently, historical time series data spanning 1972 to 2016 was collated and estimated using vector autoregressive model. The results indicate the existence of a significant linear relationship between foreign capital inflows and market capitalization, number of listed corporations, all share index, turnover ratio and value of transactions. The results averred that stock market development is a necessary stimulant to capital inflow to Nigerian corporations.

Adigun, Sakariyahu and Lawal (2017) examined the impact of foreign direct investment on stock market development in the era of post structural adjustment programme in Nigeria. Secondary data spanning 1986 to 2016 was collated and estimated using the Autoregressive Distributive Lag model to establish the relationship between the variables of the study. The dependent variable is market capitalization, while foreign direct investment is the explanatory variables and inflation and foreign exchange rate were used as the control variables of the study. The results indicated that capital inflow has a long run equilibrium relationship with the development of the Nigeria capital market. However, it also found the lack of short run equilibrium causal relationship between foreign capital inflows and stock market development in Nigeria. Raza, Iqbal, Ahmed, Ahmed and Ahmed (2012) investigated the role of foreign capital inflow on stock market development in Pakistan. To achieve this, the study collated time series data spanning 1988 to 2009 on aggregate domestic savings, exchange rate and inflation in order to explain the effect foreign direct investment has on them. The analyses were done following the ordinary least square example to establish the relationship between the dependent variable and explanatory measures. Foreign direct investment and aggregate domestic savings were found to exert a linear significant relationship with market capitalization. This implies capital inflow and savings plays a significant role in enhancing the stock market development of a nation. It also emerged that inflation and exchange rate were negative and play a statistically insignificant role the development of her stock market.

Gap in literature

Majority of the studies on the effect of foreign portfolio investment and financial market development is done in foreign countries and with different economic policies and locations different from Nigeria with few studies that focused in Nigeria. The studies reviewed neglect the effect of foreign portfolio investment as capital inflow and the effect on financial sector development but focused more on foreign portfolio investment, economic growth capital market

development living a gap on how portfolio investment affects the entire financial sector development in Nigeria. Furthermore, the study will adopt Autoregressive Distributed Lag Model (ARDL), since it accommodates finite and large sample data, stationarity tests as dynamic test to examine the effect of foreign portfolio investment on the development of Nigeria financial market.

METHODOLOGY

The research design or framework for this work is investigative research, which is geared towards studying relationship and causes and effects which involve rigorous econometric modeling and estimations. The study adopted ex-post facto research design to examine the effect of foreign portfolio investment on stock market capitalization in Nigeria. Data were sourced from Central Bank of Nigeria financial stability report, Central Bank of Nigeria Economic reports and Journals, Textbooks and Seminar papers.

Model Specification

$$SMC = f(SI, MKI, EI, BI) \tag{1}$$

To have the estimable version of above models 3.1 can be rewritten to have

$$SMC = \beta_0 + \beta_1 SI + \beta_2 MKI + \beta_3 EI + \beta_4 BI + \mu \tag{2}$$

Where

- SCM = Stock market capitalization
- SI = Foreign portfolio investment in stocks
- MKI = Foreign portfolio investment in money market
- EI = Equity investment
- BI = Investment in bonds
- β_0 = Intercept
- $\beta_1 - \beta_5$ = Coefficient of the explanatory variable
- μ = Error term

$$\phi_0 \alpha_0 = \text{Constant}$$

$$\beta_1 - \beta_5 = \text{Coefficients of independent variables}$$

$$\mu_i = \text{Error Term}$$

A-Priori Expectation

Base on theories such as foreign portfolio investment and empirical results examined in this study, the variables are expected to have a positive effect on the dependent variables. The mathematical implication is stated as follows: $\beta_1, \beta_2, \beta_3, \beta_4 < 0$

Econometric Analysis

Ordinary least squares (OLS) are a method for estimating the unknown parameters in a linear regression model. OLS technique may be applied to single or multiple explanatory variables and also categorical explanatory variables that have been appropriately coded. In single explanatory variables, the relationship between a continuous response variable (Y) and a continuous

explanatory variable (X) may be represented using a line of best-fit, where Y is predicted, at least to some extent, by X. If this relationship is linear, it may be appropriately represented mathematically using the straight line equation $Y = a + \beta x$

For the multiple explanatory variables additional variables are added to the equation. The form of the model is the same as in a single response variable (Y), but this time Y is predicted by multiple explanatory variables (X_1 to X_5).

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \quad (3)$$

The interpretation of the parameters (a and β) from the above model is basically the same as for the simple regression model, but the relationship cannot be graphed on a single scatter plot. A indicates the value of Y when all variables of the explanatory variables are zero. Each β parameter indicates the average change in Y that is associated with a unit change in X, whilst controlling for the other explanatory variables in the model. Model-fit can be accessed through comparing deviance measures of nested models. For example, the effect of variable X_3 on Y in the model can be calculated by comparing the nested models

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \quad (4)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \quad (5)$$

The change in deviance between these models indicates the effect that X_3 has on the prediction of Y when the effects of X_1 and X_2 have been accounted for (it is, therefore, the unique effect that X_3 has on Y after taking into account X_1 and X_2). The overall effect of all three explanatory variables on Y can be assessed by comparing the models

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 \quad (6)$$

$$Y = a \quad (7)$$

The significance of the change in the deviance scores can be accessed through the calculation of the F-statistic using the equation provided above (these are, however, provided as a matter of course by most software packages). As with the simple OLS regression, it is a simple matter to compute the R-square statistics.

Unit Root Test

A unit root test is a statistical test for the proposition that in a autoregressive statistical model of a time series, the autoregressive parameter is one (Econtermsy(t), where t a whole number, modeled by:

$$y(t+1) = ay(t) + \text{other terms}$$

Where a is an unknown constant, a unit root test would be a test of the hypothesis that $a=1$, usually against the alternative that $|a|$ is less than 1. Variables such as inflation, interest rates, exchange rate and unemployment rate appears to be persistent and are frequently modeled as units root process. Unit roots technique is usually used to examine whether the series for two variables are stationary or not. Macroeconomic time series are usually not stationary. In most such series are made stationary by calculating logarithms or taking first or second differences. There are many tests used to determine stationary but in this study, the stationary of the variables will be tested by using Augmented Dickey-fuller unit root test. The Augmented Dickey Fuller (ADF) unit root test

is used to test the stationarity property of a time series data in order to avoid the spurious regression problem. The ADF unit root test is specified as

$$\Delta V_t = \alpha V_{t-1} + \sum_{j=1}^n \Delta V_{t-j} + \varepsilon_t \quad (8)$$

$$\Delta V_t = \alpha V_{t-1} + \sum_{j=1}^n \Delta V_{t-j} + \varepsilon_t \quad (9)$$

$$\Delta V_t = \alpha V_{t-1} + \sum_{j=1}^n \Delta V_{t-j} + \varepsilon_t \quad (10)$$

Note: The null hypothesis is rejected on the ground that the absolute value of the calculated ADF test statistic is larger than the absolute value of the Mackinnon critical value.

Cointegration Test

Cointegration is a statistical property of time series variables. In a situation where two or more series are individually integrated (in the time series sense) but some linear combination of them has a lower order of integration, then the series are said to be cointegrated. The three main methods for testing for cointegration are: The Engle-Granger two-step method (null: no cointegration, so residual is a random walk), The Johansen procedure, Phillips-Ouliariscointegration Test available with R (null: no cointegration).

There are two common methods for testing cointegration and estimating the relationship among cointegrated variables namely the Engle-Granger (1987) Two Step Procedure and Johansen's (1988) maximum likelihood method. In the Engle-Granger two-step procedure, variables entering the cointegrating vector are tested for integration of the order, I (1). Thus, the first step in this procedure is pre-testing the variables for their order of integration. The second step is estimating the long-run equation relationship and obtaining the residual. The third step is testing whether the residual is stationary. If the residual is stationary, then the variables are said to be cointegrated such as they do have long run relationship. The final step is estimation of the error correction model (ECM) including the lagged value of the residual as the explanatory variable. The cointegration test is based on the following equation.

$$\dots \quad (11)$$

Where α and β are 4×4 matrices and k is the lag length. The tests used here involved cointegration with linear deterministic trend in the vector auto regression (VAR).

Granger Causality Test

In conducting an econometric study, the direction of causal relationship among variables is determined according to the information obtained from the theory. In this study, Granger Causality test was used in order to test the hypotheses regarding the presence and the direction of the causality between assets quality and profitability of deposit money banks. For the purpose of this, the direction of causality determines the direction of the relationship among variables and Granger Causality test has three different directions in respect of this and they include the following:

One way causality

In a single equation model, Y is the dependent variable and X independent variable. The Granger, (1969) approach to this, is to see how much of the current Y can be explained by past values of Y and then to see whether adding lagged values of X can improve the explanation. In this case, Y is said to Granger-caused by X if x helps in the prediction of Y, or equivalently if the coefficient on the lagged X's are statistically significant. Here, there is a causality relationship from X towards Y. Independent variable is the cause and causes a one way effect on dependent variable, which shows the presence of one-way causality and the relationship is determined as Y on X.

Two way causality

In this case of two way causality, there can be reciprocal effect between variables. In this case, X Granger cause Y and Y Granger cause X. The Statement of “X Granger cause y and y Granger cause X does not imply that Y is the effect or the result of X. what it simply means is that Granger causality measures precedence and information content but does not by itself indicate causality in the more common use of the term. The main objective of this study is to investigate the causality between the independent and the dependent variables. Granger (1996) proposed the concept of causality and exogeneity: a variable Y_t is said to cause X_t , if the predicted value of X_t is ameliorated when information related to Y_t is incorporated in the analysis. The test is based on the following equation below

$$Y_t = \alpha_0 + \alpha_1 Y_{t-1} + \alpha_2 Y_{t-2} + \dots + \alpha_n Y_{t-n} + \beta_1 X_{t-1} + \beta_2 X_{t-2} + \dots + \beta_n X_{t-n} + \mu_{1t} \quad (12)$$

and

$$X_t = \alpha_0 + \alpha_1 X_{t-1} + \alpha_2 X_{t-2} + \dots + \alpha_n X_{t-n} + \beta_1 Y_{t-1} + \beta_2 Y_{t-2} + \dots + \beta_n Y_{t-n} + \mu_{2t} \quad (13)$$

Where X_t and Y_t are the variables to be tested while μ_{1t} and μ_{2t} are white noise disturbance terms and n is maximum number of lags. The null hypothesis $\alpha_1 = \beta_1 = 0$ for all 1's is tested against the alternative hypothesis $\alpha_1, 0$ and $\beta_1, 0$, if the coefficient of α_1 are statistically significant, that of β_1 are not, then X causes Y, If the reversal is true than Y causes X. However, where both coefficient of α_1 and β_1 are significant then causality is bi-directional.

ANALYSIS AND DISCUSSION OF FINDINGS

Table 1: Unit Root Test

| Variable | ADF | MacKinnon 1% | MacKinnon 5% | MacKinnon 10% | Order of integration | Conclusion |
|----------|-----------|-----------------|-----------------|------------------|-------------------------|----------------|
| SMC | -3.987996 | -4.200056 | -3.175352 | -2.728985 | I(0) | Not stationary |
| SI | -2.728488 | -4.121990 | -3.144920 | -2.713751 | I(0) | Not stationary |
| MKI | -4.438558 | -3.959148 | -3.081002 | -2.681330 | I(1) | stationary |
| BI | -3.785367 | -3.959148 | -3.081002 | -2.681330 | I(0) | Not stationary |

Source: Computation by author using E-view 9.0

From the table 1 the empirical result of the unit root test for stationary of time series property of variables is shown. The criterion is that the Augmented Dickey Fuller results must be strictly greater than the critical at certain level of significance to confirm the presence of stationarity

pattern of variables. The unit root values for the variables of understudy reveal that the variables are not stationary at difference except foreign portfolio investment in the money market. This is because the ADF values of the variables are all greater than the critical value at 10% the Null Hypothesis of the presence of unit root in all the variables is rejected.

Table 2: Presentation of Johansen’s Unrestricted Co-Integration Rank

| Unrestricted Cointegration Rank Test (Trace) | | | | |
|---|------------|------------------------|------------------------|---------|
| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
| None * | 0.752741 | 121.4243 | 95.75366 | 0.0003 |
| At most 1 * | 0.717304 | 79.50472 | 69.81889 | 0.0069 |
| At most 2 | 0.473832 | 41.60322 | 47.85613 | 0.1701 |
| At most 3 | 0.314809 | 22.33918 | 29.79707 | 0.2800 |
| At most 4 | 0.274616 | 10.99745 | 15.49471 | 0.2117 |
| At most 5 | 0.044507 | 1.365840 | 3.841466 | 0.2425 |
| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
| None * | 0.752741 | 41.91959 | 40.07757 | 0.0307 |
| At most 1 * | 0.717304 | 37.90150 | 33.87687 | 0.0156 |
| At most 2 | 0.473832 | 19.26404 | 27.58434 | 0.3944 |
| At most 3 | 0.314809 | 11.34174 | 21.13162 | 0.6132 |
| At most 4 | 0.274616 | 9.631606 | 14.26460 | 0.2373 |
| At most 5 | 0.044507 | 1.365840 | 3.841466 | 0.2425 |

Source: Author’s Computations using E-VIEWS 9.0

Johansen co-integration test determines whether the long-term relationship occurs in variables or not. The test envisages that there can be just one relationship between variables in long term. In most cases, if two variables that are I(1) are linearly combined, the combination will also be I(1). More generally, if variables with differing orders of integration are combined, then the combination will have an order of integration equal to the largest. Johansen-Juselius Cointegration tests are presented in the tables above where the result shows that the variables are cointegrated and significant at the 5% level. Thus, these results suggest that a long run and stable relationship between the variables exists. The maximum Eigen and the trace statistics in the above table show the presence of one co-integrating equation at 5% significant level, which is an indication that there is a long run relationship among the variables.

Table 3: Test of Causality

| Null Hypothesis: | Obs | F-Statistic | Prob. |
|--------------------------------|-----|-------------|--------|
| SI does not Granger Cause SMC | 15 | 12.3760 | 0.0020 |
| SMC does not Granger Cause SI | | 0.11904 | 0.8890 |
| MKI does not Granger Cause SMC | 15 | 1.23315 | 0.3321 |
| SMC does not Granger Cause MKI | | 0.37158 | 0.6988 |
| EI does not Granger Cause SMC | 15 | 0.11817 | 0.8898 |
| SMC does not Granger Cause EI | | 2.02787 | 0.1823 |
| BI does not Granger Cause SMC | 15 | 0.24349 | 0.7884 |
| SMC does not Granger Cause BI | | 1.19920 | 0.3413 |

Source: Author's Computations using E-VIEWS 9.0

Using the pair wise granger causality test, there is a unidirectional causality from stock investment to market capitalization. The presence of causality implies the rejection of null hypothesis while the variable that has no causal relationship accepts the null hypothesis.

Table 4: Presentation of Parsimonious Error Correction Results

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|-----------------------|-------------|----------|
| SI | 1.431977 | 1.875393 | 2.763561 | 0.0412 |
| MKI | -0.018826 | 0.438034 | -0.042978 | 0.9665 |
| EI | 0.110244 | 0.139683 | 2.789242 | 0.0466 |
| BI | 0.102618 | 0.612973 | 0.167410 | 0.8701 |
| ECM(-1) | -4.923748 | 9.998799 | -0.492434 | 0.6321 |
| C | 0.003303 | 0.059654 | 0.055368 | 0.9568 |
| R-squared | 0.754749 | Mean dependent var | | 7.612353 |
| Adjusted R-squared | 0.643271 | S.D. dependent var | | 5.706795 |
| S.E. of regression | 3.408487 | Akaike info criterion | | 5.560978 |
| Sum squared resid | 127.7956 | Schwarz criterion | | 5.855054 |
| Log likelihood | -41.26832 | Hannan-Quinn criter. | | 5.590210 |
| F-statistic | 6.770387 | Durbin-Watson stat | | 2.694278 |
| Prob(F-statistic) | 0.004085 | | | |

Source: Author's Computations using E-VIEWS 9.0

The existence of cointegration among the variables allows us to implement the Error Correction Modeling technique, which describes the systematic disequilibrium adjustment process and the short-run transmission mechanism. The result of the ECM is presented in Table 4.5 above. We observe that the estimated lagged error-correction term (ECMt-1) emerges as an important channel of influence. The statistically significant error-correction term (apart from that of the exchange rate equation), confirms the existence of long run relationships between stock returns and all the macroeconomic variables. In other words, the series quickly adjusts to eliminate any deviations from the long-run equilibrium relationships that they may share with each other. It is evidence that the coefficient of ECM prove that the variables can adjust at the speed of 492 percent. The independent variables 64 percent variation in stock market capitalization, the model is statistically significant by the value of f-probability. The variables have positive effect on stock market capitalization foreign portfolio investment in money market.

Discussion of Findings

The study found that stock investment, equity investment and bond investment have positive effect on Nigeria stock market capitalization within the periods under study, the coefficient of the variables indicates that the variables added 1.4, 0.11 and 0.1 percent to increase in stock market capitalization. the positive effect of the variables confirm our expectations and in line with reforms in the capital market aimed at attracting foreign capitals in to the Nigeria capital market such as the deregulation of interest rate and the internationalization of the capital market. Empirically the findings confirm the findings of Nwonodi (2018) that foreign portfolio investment in bonds and foreign portfolio investment in government securities have negative relationship with All Share Price Index while Net Foreign Portfolio investment, foreign portfolio investment in equities and exchange rate have positive relationship with All Share Price Index. Model two revealed that Net Foreign Portfolio Investment, Portfolio Investments in Bonds and Government securities has negative relationship with market capitalization while equity investment and exchange rate have

positive relationship with market capitalization, Osuka, Ezedike and Mbanasor (2022) that foreign portfolio investment shares long run positive relationship with Capital Market Growth in Nigeria, Okonkwo (2016) significant positive relationship existing among foreign portfolio investment, gross fixed capital formation, market capitalization and industrial growth. Onyeisi, Odo and Anoke (2016) that foreign portfolio investment (FPI) inflows might not contribute positively to the increase in stock market when there is no conducive business environment for foreign investments to thrive in Nigeria, the findings of Ohaeri (2017) found a unidirectional causality between capital market performance in one hand and also between foreign portfolio investment and capital flight on the other hand at 5% and 10% levels of significance respectively.

However, the negative effect of the variable contradicts our a-priori expectation and could be traced to monetary and macroeconomic factors. the findings negate the findings of Adebisi and Arikpo (2017) that financial market performance has no long run causal relationship with foreign portfolio investment in Nigeria, Akinmulegun (2018) that Market Capitalization (MCAP) has negative significant effect on foreign portfolio investment in Nigeria while All Share Index (ASI) has positive relationship with foreign portfolio investment and Araoye (2021) that the performance of the Nigerian Economy is directly related to inflow of foreign portfolio investment and foreign direct investment and it is also statistically significant at 5% level.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the effect of foreign portfolio investment on stock market capitalization in Nigeria. From the findings, the study conclude that there is significant relationship between stock investment and stock market capitalization in Nigeria, that there is significant relationship between equity investment and stock market capitalization in Nigeria. That there is no significant relationship between bond investment and stock market capitalization in Nigeria, there is no significant relationship between money market investment and stock market capitalization in Nigeria.

Recommendations

- i. The study therefore recommends that, as part of its stabilization policy, the Nigeria's capital market regulatory authorities should give boost to the market, most importantly in the area of international competitive coupon rates and improved external reserve so that foreign portfolio investment inflow to Nigeria will experience boost by Foreign Investors who seek higher investment.
- ii. That policy maker should work on improvement of economic incentives capable of mobilizing external resources to the country to engender macroeconomic stability. A stable economy will attract foreign investment and this result to increased inflow of foreign capital.
- iii. The study recommends the need for bureau-de change market and asymmetric portfolio in the capital market be monitored properly to ensure compliance to financial regulation because their activities are important to inflow of foreign capital to the country.

- iv. Authorities should look for ways of strengthening the workings of the capital market against fraudulence to ensure the free flow of foreign capital into the economy as this would boost domestic investment.

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