

Foreign Portfolio Investment and Economic Growth in Nigeria (1986-2011)

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Abstract

This study tries to ascertain the impact of foreign portfolio investment (FPI) on economic growth as well as the long run determinants of FPI in Nigeria, such that appropriate policies will be pursued to attract same in the long run. FPI has grown recently in proportion relative to other types of capital inflows to Nigeria before the wake of global financial crisis. Incidentally, there is no empirical regularity regarding the determinants of FPI. Hence the study added to knowledge by modeling the long-run impacts of foreign portfolio investment as well as other determinants of FPI on economic growth in Nigeria over the period 1986-2011. A three stage methodological process was adopted; one was to check the stationary status of the variables using Augmented Dickey Fuller Unit Root test, which confirmed that the variables had unit root problems, the second was to check for the possibility of a long run relationship using Johansen co-integration test; the third was the parsimonious error correction result. The variables considered are foreign portfolio investment, inflation rate, market capitalization, trade openness. It discovers that foreign portfolio investment; market capitalization and trade openness has a positive long-run relationship with real gross domestic product in Nigeria. Ongoing efforts therefore to sanitize the capital market should be vigorously pursued. It recommended that 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. Policies should be business friendly and inflation should actively be controlled in the economy.

Keywords: foreign, portfolio investment, economic growth, cointegration, Nigeria

1. Introduction

Foreign portfolio investment (FPI) is an aspect of international capital flows comprising of transfer of financial assets: such as cash, stock or bonds across international borders in want of profit. It occurs when investors purchase controlling interest in foreign companies or buy securities or notes. Just as trade flows result from individuals and countries by exploiting their own comparative advantage, so too, are capital flows the result of individuals and countries seeking to make themselves better off, moving accumulated assets to wherever they are likely to be most productive (ERP, 2006). This type of investment has become an increasing significant part of the world economy over the past three decades and an important source of fund to support investment not only in developed but also developing countries.

Foreign portfolio investment, though a recent phenomenon in Nigeria compared to foreign direct investment, Overseas Development Assistance (ODA) and bank loans, were on the increase since the mid-80s. The relative importance of portfolio investment to a small emerging market like Nigeria has been attributed to the effective role played by the Nigerian capital market in the recent past. This includes the deregulation of the capital market in 1993 which made the federal government to internationalize the market in 1995, with the abrogation of laws that constrained foreign participation in the Nigeria capital market. Following the abrogation of the exchange control Act 1962, foreigners can participate in the Nigerian stock exchange, which was part of the financial liberalization policy in Nigeria in the mid 2000. There were increase inflows of foreign portfolio investment into the Nigeria economy through the capital market (CBN, 2006)

Over the years, successive Nigerian government has viewed foreign investment as a vehicle for political and economic domination of Nigeria and hence the thrust of government policy (indigenization policy) through the Nigeria Enterprise Promotion Decree (NEPD) was to regulate foreign investment, with a maximum of 40% foreign participation allowed. This resulted in a decline in both foreign private investment and therefore, slowed down growth in all sectors of the economy including the capital market and money market.

Conducive business environment and strong legal system have been identified as a major attraction of foreign investment, irrespective of how vibrant a capital market may be, an unconducive business environment and weak legal system would not attract foreign portfolio investment. Nigeria business environment has been marred by inconsistent power supply, insecurity, bad roads among others as well as weak and slow judicial process. The Nigeria business environment is highly uncertain with inconsistencies in government policies and non-transparency of government operations. These unfavorable conditions may have discouraged foreign investors from investing in the capital and money market.

The inflow of portfolio investment into Nigeria may also have been limited by the infancy of Nigerian capital and money market. Although the markets have undergone considerable growth and development in recent years, they are not yet as huge, vibrant and sophisticated as their counterpart in the industrialized nations and as such, cannot compete favorably with them for investment funds. The advent of technology and globalization have overcome boundary barrier to global investment and as such, the well developed capital and money markets in the world are attracting more foreign investment than the emerging markets. This has been one of the arguments against globalization.

In 1986, the Net Portfolio Investment (NPI) in Nigeria was ₦151.6 million. It rose to ₦51, 079.13 million in 2000. By 2005, there was a tremendous increase in the NPI figure in Nigeria. It increased from ₦51, 079.13 million to ₦116, 035.00 million from 2000 to 2005, a growth rate of 127.17 percent (CBN 2010). It marked the period when the banks were statutorily mandated to share up their capital base from mere ₦2.0 billion to ₦ 25.0 billion. It rose to a record level of ₦703, 677.60 million in 2007 before declining to ₦350, 919.40 million in 2008. Similarly, the NDI (net direct investment) was ₦735.8 million in 1986 and rose to ₦115, 952.16 million in 2000. It further increased from ₦654, 193.10 million in 2005 to ₦1, 779,594.80 million in 2006, indicating a growth rate of 172.02 percent. It, however, dropped to ₦759, 350.40 million in 2007 before rising to ₦802, 615.70 million in 2008. Comparatively, the NPI and Net Direct Investment (NDI) recorded average annual figures of ₦74, 625.76 million and ₦241, 075.27 million during 1986-2008.

The capital flows into the Nigeria economy has not really been tremendous when compared with flows into some developing economies of South Africa and Brazil. For example, from 2001 to 2007, the average annual capital inflows into Nigeria in terms of FDI and FPI were US \$33,006 million and US \$60,172 million, respectively.

It is in the light of the aforementioned issues that this study would analyze the foreign portfolio investment in Nigeria and empirically investigate its role in the economic growth process of the country. The effect of macroeconomic variables on foreign portfolio investment would be investigated with the view of identifying the determinants of foreign portfolio investment in the country.

This study would contribute to existing literature by attempting to explore the role of foreign portfolio investment in the economic growth of Nigeria not only to affirm its need but also to appreciate the need for protective measures to prevent possible corporate distress in the situation of foreign portfolio repatriation. In addition, specific economic determinants of foreign portfolio investment that are peculiar to Nigeria such as the degree of openness, market capitalization etc would be identified so as to know how to adjust them to attract more foreign portfolio investment into the country.

The rest of the work is organized as follows: Section two contains literature review. Theoretical framework is in section three, section four treats methodology. Data Sources is captured in section five. Model estimation is contained in section six. Section seven is Data presentation and analysis of Results, Recommendations for policy is treated in section eight, while section nine concludes the work.

2. Literature Review

Ozurumba Benedict (2012) examined the impact of stock market returns on foreign portfolio investment in Nigeria.

The methodology used was single linear regression analysis to capture the impact of foreign portfolio investment and inflation rate on stock market returns as well as granger causality test to determine the direction of causality between the variables. This result shows that foreign portfolio investment has a positive and significant impact on stock market returns while inflation rate has positive but significant impact on stock market returns. In the case of causality test, unidirectional causality runs from stock market returns to foreign portfolio investment in the economy which in turn will foster stock market returns in Nigeria. The study recommends that policies that will attract foreign portfolio investment should be pursued in order to enhance stock market returns.

Jarita Dunsu et al (2009) examine the relationship between Foreign Portfolio Investment and Malaysia's economic performance. In particular, the study analyses the relationship between Foreign Portfolio Investment and RGDP using Granger causality test and Toda Yamamoto, (1995) non causality test to establish the direction of causality between the two variables. Similar method was also applied on the relationship between volatility of Foreign Portfolio Investment and RGDP. Additionally, the study uses an innovation accounting by simulating variance decomposition and impulse response function for further inference. Using quarterly data covering the period from 1991 to 2006, the study find evidence that economic growth causes changes in Foreign Portfolio Investment and its volatility and not vice versa. Their findings suggest that economic growth is the major pull factor in attracting Foreign Portfolio Investment into the country. The study recommends a healthy economy for sustainable growth so as to built investors' confidence in the economy.

According to Peter Egwuatu as reported in Vanguard May 15, 2014. The new GDP of 510billion dollar will enhance inflow of Foreign Portfolio Investment into the country. As opined by Olushekun in the Vanguard newspaper of May 15, 2014' the impact of GDP rebasing will be positive in the capital market as it will attract more Foreign investors into the Nigerian Capital market, thus, increasing value of Foreign Portfolio Investment. It means the operators and other stakeholders need to work hard to create securities that will attract investment. The rebasing has reduced the contribution of market capitalization to the GDP. This means that our market has become highly under-represented and foreign investors who are already looking at the Nigerian economy at a large scale would be looking for opportunity to invest in the market'

Tokunbo et al (2010) stressed that despite the increased flow of Foreign Portfolio Investment to developing countries in especially sub Sahara African countries including Nigeria, low level of per capita income, high unemployment rate, low and falling GDP are still prevalent. In recent times Nigeria government has initiated policies to attract Foreign Portfolio Investment but this has not impacted positively on the growth rate of GDP. The study therefore analyzed the direction and significance of the effect of Foreign Portfolio Investment in the economic growth in Nigeria covering the period 1990-2005. The study revealed that Foreign Portfolio Investment, Domestic Investment growth and Net Export growth impacted positively and significance on economic growth in Nigeria.

Ogujiuba Kanayo et al (2012) examine the relationship existing among Foreign Private Capital components and Foreign Portfolio Investment, Economic growth and some macroeconomic indicators; interest rate (INTR) and inflation rate (INF) as well as policy implications, there from, using time series data from 1986-2008. A non restrictive vector Autoregressive (VAR) model was developed while restriction is imposed to identify the orthogonal (structural) components of the error terms – structural vector Autoregressive (SVAR). Analysis indicates that the response of the GDP to shocks from the Foreign Portfolio Investment is not contemporaneous and this is applicable to other variables. It was somewhat sluggish but remains faster to equilibrium compared to the response from NNPI. Restructuring the recursive Cholesky structural decomposition of the impulse response function (IRF), both in the short-run and long-run, the result indicates that the NNPI impact on the GDP at the short-run, while the NDI does not. Also, the INTR was shown to impact on the NNPI in the short-run. Consequently, the study recommend that government should not discourage the flow of Foreign Private Capitals but be more vigilant about the nature and sources of the flow as this will forestall the potential adverse impact on key macroeconomic variables as well as stimulate economic growth.

Ekeocha Patterson (2008) opined that Foreign Portfolio Investment though volatile in nature is an important source of fund to support investment in an economy that has a wide saving-investment gap like Nigeria. Incidentally, it has grown recently in proportion relative to other types of capital inflow to Nigeria. The study tries to model the long run determinant of Foreign Portfolio Investment in Nigeria over the period 1986-2006 converted into quarterly series.

The variables used are market capitalization, sovereign risk premium, real exchange rate, levels of institutional quality, investment, real interest rate, Level of financial openness and trade openness. The study applies time series analysis and discovered that there is a long run relationship among some of the variables. The result revealed that Foreign Portfolio Investment is cointegrated with real rate of return on investment in the capital market, real interest rate and investment implying that these variables are bound together in the long run. Foreign Portfolio Investment is positively related to real rate of return on investment in the capital market, real interest rate and investment. But it is, negatively related to real exchange rate, market capitalization, trade degree of openness and institutional quality in Nigeria.

The empirical literature reviewed so far continue to emphasize the important role expected of foreign portfolio investment in stimulating economic growth of countries in Sub Sahara Africa including Nigeria. Despite the huge presence of FPI in Nigeria, the growth rate of real per capita GDP has been poor and disappointing. The miserable or discomfort index is on the increase. It means that some variables stimulating FPI and domiciling the benefits of FPI in the economy are not incorporated in their modeling. The present study is therefore a novelty and would contribute to knowledge.

3. Theoretical Framework

Endogenous growth theory holds that economic growth is primarily the result of endogenous and not external forces. Endogenous growth theory holds that investment in human capital, innovation, and knowledge are significant contributors to economic growth. The theory also focuses on positive externalities and spillover effects of a knowledge-based economy which will lead to economic development. The endogenous growth theory also holds that policy measures can have an impact on the long-run growth rate of an economy. For example, subsidies for research and development or education increase the growth rate in some endogenous growth models by increasing the incentive for innovation.

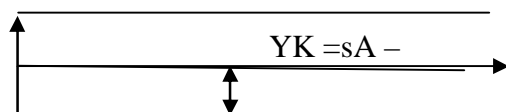
3.1 Models in Endogenous Growth

In the mid-1980s, a group of growth theorists became increasingly dissatisfied with common accounts of exogenous factors determining long-run growth. They favored a model that replaced the exogenous growth variable (unexplained technical progress) with a model in which the key determinants of growth were explicit in the model. Paul Roemer (1986), Lucas (1988), and Rebel (1991) omitted technological change. Instead, growth in these models was due to indefinite investment in human capital which had spillover effect on economy and reduces the diminishing return to capital accumulation.

The AK model, which is the simplest endogenous model, gives a constant-saving-rate of endogenous growth. It assumes a constant, exogenous saving rate and fixed level of the technology. It shows elimination of diminishing returns leading to endogenous growth. However, the endogenous growth theory is further supported with models in which agents optimally determined the consumption and saving, optimizing the resources allocation to research and development leading to technological progress. Grossman and Hellmann (1991), incorporated imperfect markets and R&D to the growth model.

3.2 The AK Model

The model works on the property of absence of diminishing returns to capital. The simplest form of production function with diminishing return is:



$$Y = AK$$

Where

A , is a positive constant that reflects the level of technology.

K , is capital (broad sense to include human capital)

$y = AK$, output per capita and the average and marginal product are constant at the level $A > 0$

4. Methodology

The purpose of this research is both descriptive and explanatory. A quasi experimental research design is adopted to investigate the cause and effect relationship among the variables in the model. This approach combines theoretical considerations (a prior criterion) with empirical observations. A three stage methodology was adopted which involves testing for stationarity, cointegration, and the error correction method.

5. Data Sources

The method of data collection adopted in this study is the secondary method of data collection. This method entails obtaining the required data from the records of institutions that collect and publicize data or statistics as part of their routine duties. Central Bank of Nigeria (CBN) is the most important routine compiler and supplier of statistical data in Nigeria.

Following the method of data collection adopted, the data thus obtained are secondary data sourced from the Central Bank of Nigeria (CBN), Annual Statistical Bulletin and CBN Annual Report.

6. Model Specification

The theory that informed the model building is the endogenous growth theory. Its implication is that policies which embrace openness, competition, change and innovation will promote growth. Conversely, policies which have effect of restricting or slowing change by protecting or favoring particular existing industries or firms are likely to slow growth.

Hence the endogenous growth theory is augmented with variables such as foreign portfolio investment, market capitalization and inflation as their impacts on growth are investigated in this study.

Therefore the model for this study is specified as follows:

$$RGDP = a_0 + a_1 FPI + a_2 IFR + a_3 MCAP + a_4 TDO + \mu$$

Where

RGDP = Real Gross domestic Product

FPI = Net Foreign Portfolio Investment.

IFR = Inflation rate

MCAP = Market Capitalization

TDO = Trade Degree of Openness

a_0 = The intercept of the function

a_1 = The coefficient of foreign portfolio investment

a_2 = The coefficient of inflation rate

a_3 = The coefficient of market capitalization

a_4 = The coefficient of trade degree of openness

u = The error term

$a_1 > 0, a_2 \geq 0, a_3 > 0, a_4 > 0$

7. Data Presentation and Analysis of Results

For convenience, table 1 below shows the summary of the computed Augmented Dickey Fuller unit root test for each of the variables.

Table 1: Augmented Dickey Fuller Unit root

Variables	Level	1 st Difference	2 nd Difference	Decision
LOG(GDP)	-1.943580	-3.200107	-5.749067	I(1)
LOG(FPI)	-1.387707	-2.406605	-4.198585	I(2)
LOG(INFR)	-2.941449	-5.349306	-6.490427	I(1)
LOG(MCAP)	-0.905751	-3.913835	-6.242559	I(1)
LOG(OP)	-3.240136	-3.618340	-5.759338	I(0)
ECM(-1)	-3.978096	-4.608994	-5.271851	
Critical Value @ 5%	-2.9907	-2.9969	-3.0038	

Source: Author's computation with the use of E-view

The table1 above shows a summary of the unit root test of the variables used for the study. The test shows that INFR, MCAP as well as GDP are integrated at order one I(1) while FPI and OP are integrated at order two I(2) and at levels I(0) respectively, all at 5 percent significance levels. A variable is stationary (has no unit root problem) if the test statistics is greater than the critical value in absolute terms.

The next step after finding out the order of integration is to establish whether the non-stationary variables could be co-integrated. The co-integration of two time series suggests that there is a long-run or equilibrium relationship between them.

Johansen Co-integration Test

The Johansen Co-integration Test was adopted in this study to check for long-term relationship among the variables. All the 1(1) and 1(2) variables are used in this test. The results obtained from the Johansen multivariate co-integration are presented below.

Table 2: Cointegration

Sample: 1986 2011

Included observations: 24

Test assumption: Linear deterministic trend in the data

Series: FPI GDP INFR MCAP

Lags interval: 1 to 1

Eigen value	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.949987	103.5977	47.21	54.46	None *
0.532051	31.70650	29.68	35.65	At most 1 *
0.410271	13.48100	15.41	20.04	At most 2
0.033058	0.806798	3.76	6.65	At most 3

* denotes rejection of the hypothesis at 5% significance level

L.R. test indicates 2 cointegrating equation(s) at 5% significance level

Source: Author's computation with the use of E-view

From the table the co-integration result using the Johansen co-integration test, indicated two co-integrating equation at 5% significance level, hence there is a long run relationship existing among the variables used in the model.

The presence of co-integration makes it possible to estimate the error correction mechanism (ECM) model, which is a solution to the problem of spurious results associated with estimating equations involving time series variables, and to capture dynamic adjustment in the long run. Adopting the general to specific framework, an attempt was made to estimate the over-parameterized error correction model from where a parsimonious (Preferred) error correction model would be obtained. The relevance of the ECM is that it provides a framework for establishing the links between the long run and short run approaches to economic modeling. Thus, with the ECM, no information associated with the variable's differencing is lost because the modeling technique incorporates both the short run dynamics and long run information through the error correction term. The equation included the ECM term lagged one period, representing the past value of the error correction factor whose coefficient should be negative and statistically significant to support the existence of co-integration. This result is however substantiated by the over parameterized error correction result and the parsimonious error correction model result is presented below

Parsimonious Error Correction Model Result

The estimated long-run model and relevant statistics for this research study are analyzed below.

Table 3

Dependent Variable: LOG(GDP)

Method: Least Squares

Sample(adjusted): 1991 2011

Included observations: 21 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.146291	1.032114	4.986166	0.0002
LOG(GDP(-1))	0.338860	0.112747	3.005501	0.0101
LOG(FPI(-2))	0.237388	0.063797	3.721024	0.0026
LOG(INFR)	0.040812	0.052619	0.775614	0.4519
LOG(INFR(-1))	0.132845	0.050186	2.647033	0.0201
LOG(INFR(-2))	-0.120885	0.037539	-3.220250	0.0067
LOG(MCAP)	0.341784	0.063897	5.348996	0.0001
ECM(-1)	-0.199300	0.086471	-2.304828	0.0383
R-squared	0.997485	Mean dependent var		15.44998
Adjusted R-squared	0.996131	S.D. dependent var		1.423767
S.E. of regression	0.088564	Akaike info criterion		-1.727846
Sum squared resid	0.101967	Schwarz criterion		-1.329933
Log likelihood	26.14238	F-statistic		736.5453
Durbin-Watson stat	2.594633	Prob(F-statistic)		0.000000

Source: Author's computation with the use of E-view

Table 3 reports the long run parsimonious error correction results. The error term tells us the speed with which our model returns to equilibrium following an exogenous shock. A negative sign shows a move back towards equilibrium whereas a positive sign indicates a movement away from equilibrium. The coefficient should lie between 0 and 1. 0 suggests no adjustment whereas 1 indicates full adjustment. The error correction term shows the speed of adjustment to restore equilibrium in the dynamic model. In particular, the ECM coefficients show how quickly or slowly the variables converge to equilibrium. As observed by Gujarati, (2004) a highly significant error correction term is a strong confirmation of the existence of a stable long run relationship. The result of the error correction model indicates that the error correction term ECM (-1) is well specified and the diagnostic statistics are good. The ECM (-1) variable has the correct sign and is statistically significant. The speed of adjustment of 0.199300 shows a low level of convergence.

In particular, about 19 percent of disequilibrium or deviation from long run of GDP in the previous period is corrected in the current year.

From the long run results above, changes in current GDP were explained by changes in past year's GDP (lagged once), past two year's FPI (lagged twice), present and past year's INF (lagged once and twice) and present year MCAP. Specifically, the model suggested that a unit change in each of the variables; past year's FPI, present and past year's INFR, present MCAP with numerical values of (0.237388), (0.040812 ,0.132845, -0.120885),(0.341784), respectively have the potential to induce changes in GDP by the respective numerical sizes. The respective signs indicate the direction; negative signs for fall in GDP by that proportion and positive signs for increase in GDP by that proportion. The R-squared ($R^2 = 0.997485$), Adjusted R-squared (0.996131) confirms that the model is a preferred one for economic forecast; 99 percent of the changes in the dependent variable (GDP) are explained by the independent variables. The F-statistics (736.5453) which is greater than the F-table value (4.37) at 5 percent level of significance affirms the fact that the entire model is statistically significant as well as the Durbin Watson statistics (2.594633) which indicated the complete absence of first order serial correlation or autocorrelation, given the traditional yardstick of 2.00.

8. Recommendations

To further sustain foreign portfolio investment and to achieve other macroeconomic objectives of the government such as economic growth:

- There is the need for greater foreign participation in the stock market which could be achieved by greater openness.
- Authorities and policy makers should come up with policies that are investment friendly.

- (c). Authorities should look for ways of strengthening the working mechanisms of the capital market especially against fraudulence to ensure the effectiveness of the policy tools in achieving the desired macroeconomic goals in the country.
- (d). Efforts should be made to reduce inflation to a single digit as shown from the study the relationship between inflation and economic growth is negative.

9. Conclusion

This study appraised the development in portfolio investment and analyzed the effect of such development with a view to ascertaining the extent to which portfolio investment has served as a tool for enhancing economic growth in Nigeria. From the policy appraisal, the study observed that foreign portfolio has witnessed the adoption of various policy initiatives over the years. Some of these policies includes: the deregulation of the capital market in 1993 which made the federal government to internationalize the market in 1995 with the abrogation of laws that constrained foreign participation in the Nigeria capital market. Following the abrogation of the exchange control act 1962, foreigners can participate in the Nigerian stock exchange, which was part of the financial liberalization policy in Nigeria in the mid 2000. From the empirical estimates, it was observed that foreign portfolio determinants have made significant contribution to economic growth in Nigeria. This is based on the observed conditions that called for the rejection of the null hypothesis.

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