Analysis of Foreign Direct Portfolio Investment in Nigeria

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Abstract. Foreign Direct Portfolio Investment (FDPI) has grown recently in proportion relative to other types of capital inflows to Nigeria. Incidentally, there is no empirical evidence regarding the determinants of FDPI in African Countries and Nigeria in particular. Hence the paper added to knowledge by modeling the long-run impacts of foreign direct portfolio investment as well as other determinants of FDPI in Nigeria over the period 1985-2017. An Ordinary Least Square method of analysis was adopted to analyze the data sourced from the Central Bank of Nigeria (CBN) Statistical Bulletins. The study established that foreign portfolio investment, market capitalization and exchange rate have a positive long-run relationship with real gross domestic product in Nigeria. It recommended that authorities should strengthen the capital market against fraudulent activities to ensure the free flow of foreign capital into the economy.

Keywords: Foreign Direct Portfolio Investment, Economic Growth, Exchange Rate, Market Capitalization

1. Introduction

Due to the paucity of the much needed capital for industrial production in the less developed economies, there is the need for foreign capital to complement domestic resources, in the wake of growing mismatch between domestic capital stock and capital requirements in these countries. This is concern drives the attention being given to the drive for foreign capital especially in developing economies. According to Fosu and Magnus (2006) and Omisakin et al. (2009) foreign capital inflow is an important vehicle for augmenting the supply of funds for domestic investment. Ngowi (2001) also argued that African countries and other developing countries need substantial inflow of foreign capital to fill the saving and foreign exchange gaps associated with a rapid rate of capital accumulation and growth needed to overcome the widespread poverty in these countries. Ghose (2004); Knill (2005); Vita and Kyaw (2008) were of the view that developing countries are much preferred to developed countries by foreign investors because of the higher rate of return on investment in these countries. However, whether the foreign investors are willing to take advantage of this high rate of return in the face of high production cost and distorted investment incentives is another issue entirely.

Fosu and Magnus (2006) had further argued that foreign capital investment can stimulate local investment by increasing domestic investment through links in the production chain. Ghose (2004) also noted that foreign capital investment contributes to economic growth in developing countries through two channels; one of which is externalities in the form of positive productivity spillovers to domestic enterprises. Dauda (2007) were of the view that foreign capital investment increases the gross domestic product and generates a stream of real incomes in the host country, which consequently expands employment, raises wages and salaries, lower commodity prices, increase tax revenue accruable to the government. Alfaro et al. (2004) also concluded that foreign capital investment plays an important role in contributing to economic growth, especially in countries with well-developed financial markets.

However, some authors have contrary views on foreign capital inflow as could be seen in Busse and Hefeker (2005) who 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. Alfaro and Chanda (2003) also was of the view that
the potentials of foreign capital investment could be severely impeded if there is absence of well-developed financial markets, which is widely the case in less developed countries including Nigeria. Adam (2002) argued that foreign investment that exhibits market seeking motivations might create distortions in the host economy through monopolies and high barriers of entry. UNCTAD (2005) also observed that foreign investment in Africa has advanced much further and faster than integration internally, especially in structural, institutional and policy trends, and in some cases at its expense.

However, vibrant socio-economic and stable political environment are essential fundamentals in attracting foreign investment and making it beneficial in the host economy. Perhaps, this informed the economic reforms of the failed Structural Adjustment Programme (SAP) which was introduced in 1986 in Nigeria. It is on SAP that Nigeria liberalized her economy and capital markets, as well as improved its capital market’s facilities. Up to the mid-1980s, Nigeria did not record any figure on portfolio investment (inflow or outflow) in her balance of payments account. This was as a result of the non-internationalization of the country’s money and capital markets as well as the non-disclosure of the information on the portfolio investments markets in the Nigeria’s capital and money markets. Since the internationalization of the capital and money market and the return of democracy, cross-border listing and foreign portfolio investment in Nigeria have been growing steadily and while foreign interest in the country has been rekindled. Foreign investors and portfolio managers seeking cheap equities and high-yielding bonds have continued to be attracted to Nigerian capital market. According to Okiriku (2010), portfolio investment inflow by foreign investors during 2009 stood at about ₦228.986billion, a monumental increase from ₦153.457billion recorded in 2008. This increased further to ₦350billion in 2010 (Ileazoboh, 2011) and furthermore to ₦511.74billion in 2011 (Onyema, 2012).

Conducive business environment and stirring legal system have been identified as a major attraction of foreign investment. Nigeria business environment is parameterized by inconsistent power supply, insecurity, very poor infrastructure, as well as weak and slow judicial process. The Nigerian business environment is highly uncertain with inconsistencies in government policies and non-transparency of government operations. These unfortunate situations could discourage foreign investors from investing in the Nigerian capital and money markets. Hence, the major objective of this paper is to empirically analyse foreign portfolio investment in Nigeria. Following the introductory section is the literature review in section 2. Section 3 is devoted to methodology of the study, while section 4 presents the results and section 5 concludes the study.

2. Literature Review

2.1 Theoretical Literature

Portfolio Theory of International Capital Flows

Developed by Michael B. Devereux and Makoto Saito in 2006, it presented a tractable model of international capital flows in which the existence of nominal bonds and the portfolio composition of net foreign assets is an essential element in facilitating capital flows between countries. National monetary policies make domestic and foreign currency denominated bonds differ in the degree to which they can hedge country specific consumption risk. This leads countries to have distinct composition of currency-denominated bonds in their national portfolios. By adjusting their gross positions in each currency’s bonds, countries can achieve an optimally hedged change in their net foreign assets (or their current account), thus facilitating international capital flows. Moreover, the risk characteristics of optimal portfolios ensures that current account movements are sustainable - net debtor countries pay lower rates of return on their gross liabilities than they receive on their gross assets. This ensures that the distribution of wealth across countries is stationary.

Neoclassical Theory of Foreign Portfolio Inflows

Neoclassical theory of foreign portfolio inflows which predicts that capital should flow from capital-rich countries to capital-scarce countries, and the Lucas Paradox or why private capital doesn’t seem to flow from rich to poor countries. It believes in basic economics argument that capital flows from low return avenues to high returns. However, what we find is opposite as capital flows from emerging markets (where returns are high) to developed markets (where returns are low).

2.2 Empirical Literature

There are plethora of literature on foreign portfolio investment in Nigeria some of which are reviewed below. Elekwa, Aniebo and Ogu (2016) investigating the effects of foreign portfolio investment on employment growth in Nigeria employed the
ordinary least square (OLS) technique to estimate a single equation model, employed data for the period 1980 to 2014, it was found that in the long term, portfolio investment impacts on employment growth was positively significant.

Idowu (2015) investigated the major determinants of foreign portfolio investment inflows in Nigeria taking corruption, conflict law and order as well as socio economic condition into consideration. The data were sourced from CBN statistical bulletin and the World Bank development index (2008) for the period 1970-2010. Granger Causality Test, Johanson Co-integration and the Error Correction mechanism Estimation Test were adopted to test a long run relationship between FPI and inflation rate, stock market capitalization, real exchange rate. The result revealed that changes in real exchange rate, inflation rate, stock market capitalization had no effect on the inflows of FPI under the period of study. It was also discovered that internal conflict and corruption have a negative significant effect on FPI inflows. The study recommended that capital market should have freedom of operation and ensure practices of high ethics and professionalism to improve their operations.

Eniekezimene (2013) in the study, “the impact of foreign portfolio investment on capital market growth: evidence from Nigeria” using Ordinary Least Squares (OLS) methodology with a Parsimonious Error Correction Model Specification employed data for the period 1986 to 2011. The study concluded that foreign portfolio investment is positive and statistically significant.

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 recommended that policies that will attract foreign portfolio investment should be pursued in order to enhance stock market returns.

Ogujuba 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.

3. Methodology

Research Design

This paper adopted the ex post facto research design. The study collates historical data for the period of 32 years (1985 – 2017). By implication, the study is a time series analysis. Most works along this line use time-series analysis of annual observations and even quarterly data to maximize the information included in their analyses.

Model Specification

\[
\text{GDP}_t = \beta_0 + \beta_1 \text{NFP}_t + \beta_2 \text{ER}_t + \beta_3 \text{MC}_t + \epsilon_t
\]

Where, GDP = Gross Domestic Product and it is the dependent variable, the independent variables are NFP = Net Foreign Portfolio, ER = Exchange Rate and MC = Market Capitalization, \( \beta_0 \) = Represents Constant, \( \beta_1 \) = Coefficient of Net Foreign Portfolio, \( \beta_2 \) = Coefficient of Exchange Rate \( \beta_3 \) = Coefficient of Market Capitalization \( \epsilon_t \) = Error Term / Stochastic Variable

Estimation Techniques and A-priori Expectation

To estimate equation (1), the ordinary least square method (OLS) of the linear regression model was adopted. Concerning the sign of the estimated parameters, it is expected that all the independent variables of NFP = Net Foreign Portfolio, ER =
Exchange Rate and MC = Market Capitalization should have a positive relationship with the GDP. Thus, symbolically the estimates of $\beta_1$, $\beta_2$, and $\beta_3 > 0$

4. Results and Discussion of Findings

Descriptive Statistics of the Model Variables

Table 1 below presents some descriptive statistics for Gross Domestic Product (GDP), Net Foreign Portfolio (NFP), Exchange Rate (EXR) and Market Capitalization (MC) within the period under review. From the table, it can be observed that the average of GDP i.e. mean was about #28,837.78 billion with standard deviation of about #34,674.46 billion, NFP recorded mean of about #10.443 billion with standard deviation of about #48.413 billion while MC recorded mean of about #5,283.788 billion with standard deviation of #7,192.539 billion. The higher values of standard deviation of GDP, NFP and MC imply that the variables had grown and experienced wide variation over the years of analysis. Also, this is evident in the wider gap that exists between the maximum and minimum values of GDP, NFP, EXR and MC respectively. The mean of EXR was about 92.7133 with standard deviation of about 79.528 while the minimum and maximum EXR experienced over the years of analysis are 0.89000 and 305.7900 respectively.

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Statistics</th>
<th>EXR</th>
<th>GDP</th>
<th>MC</th>
<th>NFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>92.7133</td>
<td>2837.78</td>
<td>5283.788</td>
<td>10.44355</td>
</tr>
<tr>
<td>Median</td>
<td>111.9000</td>
<td>9060.300</td>
<td>662.5000</td>
<td>0.00000</td>
</tr>
<tr>
<td>Maximum</td>
<td>305.7900</td>
<td>114899.0</td>
<td>21982.15</td>
<td>141.8000</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.890000</td>
<td>1257.200</td>
<td>14.14000</td>
<td>-91.5000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>79.52864</td>
<td>34674.46</td>
<td>7192.539</td>
<td>48.41392</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.586251</td>
<td>1.172875</td>
<td>1.055573</td>
<td>0.510328</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.839282</td>
<td>3.000026</td>
<td>2.583216</td>
<td>3.792740</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>1.925810</td>
<td>7.569994</td>
<td>6.367135</td>
<td>2.157311</td>
</tr>
<tr>
<td>Probability</td>
<td>0.381782</td>
<td>0.022754</td>
<td>0.041438</td>
<td>0.340052</td>
</tr>
<tr>
<td>Sum</td>
<td>3059.540</td>
<td>951646.7</td>
<td>174365.0</td>
<td>323.7500</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>202393.8</td>
<td>3.85E+10</td>
<td>1.66E+09</td>
<td>70317.24</td>
</tr>
<tr>
<td>Observations</td>
<td>33</td>
<td>33</td>
<td>33</td>
<td>33</td>
</tr>
</tbody>
</table>

The first order test otherwise known as the statistical test include the t-test statistics for ascertaining the statistical significance of the estimated coefficients using 1%, 5% and 10% level respectively. The Durbin Watson (DW) test statistics is employed to test for the existence of auto-correlation among residuals, while the coefficient of determination (Adjusted $R^2$) is to ascertain the percentage of contribution of the explanatory variables on the explained variables. Finally, the F-statistics is used for the determination of the overall significance of the model specified.

Table 2 below presents the multivariate regression analysis. The result shows that net foreign portfolio investment, exchange rate and market capitalization have a positive relationship with the GDP. This implies that increases in net foreign portfolio investment, exchange rate and market capitalization will lead to increase in the GDP. In addition, there is evidence that exchange rate and market capitalization is significantly related to the GDP, while the net foreign portfolio investment is not statistically related to GDP. The implication of this result is that exchange rate and market capitalization are significant factors influencing the GDP, while the net foreign portfolio investment is not a significant factor influencing the level of growth in Nigeria.

Concerning the magnitudes of the estimated parameters, it was discovered that a unit change in NFP will result to about 20.99 changes in gross domestic product, a unit change in EXR will lead to about 6.4% change in gross domestic product and a unit change in MC will result to about 3.9% change in gross domestic product. The Adjusted $R^2$ of 0.94 suggest that net foreign portfolio investment, exchange rate and market capitalization explains about 94 per cent changes in the level of growth in Nigeria, while the remaining 6 per cent were other factors affecting growth but were not captured in the model. The F-value of 150.4262 was statistically significant at 1 per cent level, this implies that net foreign portfolio investment, exchange rate and market capitalization jointly explains changes in the level of growth in Nigeria. The result further showed that the Durbin Watson (DW) statistics of 1.371 signify that there is presence of positive auto correlation.
Table 2: Multiple Regression Analysis

Dependent Variable: GDP
Method: Least Squares
Date: 03/07/20   Time: 15:39
Sample (adjusted): 1985 2015
Included observations: 31 after adjustments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1362.686</td>
<td>2150.365</td>
<td>0.633700</td>
<td>0.5316</td>
</tr>
<tr>
<td>NFP</td>
<td>20.99202</td>
<td>27.66486</td>
<td>0.758797</td>
<td>0.4545</td>
</tr>
<tr>
<td>EXR</td>
<td>64.73031</td>
<td>31.86303</td>
<td>2.031518</td>
<td>0.0522</td>
</tr>
<tr>
<td>MC</td>
<td>3.915019</td>
<td>0.328650</td>
<td>11.91243</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.943548  Mean dependent var 23682.99
Adjusted R-squared 0.937275  S.D. dependent var 28755.72
S.E. of regression 7201.854  Akaike info criterion 20.72198
Sum squared resid 1.40E+09  Schwarz criterion 20.90701
Log likelihood -317.1907  Hannan-Quinn criter. 20.78229
F-statistic 150.4262  Durbin-Watson stat 1.371386
Prob(F-statistic) 0.000000

5. Conclusion, Recommendations and Policy Implications

5.1 Conclusion

As one of the empirical studies on the analysis of Foreign Direct Investment and economic growth in Nigeria, this paper has made an attempt to understanding the relationship and interaction between them. The proxy for economic growth used in this paper was gross domestic product. It focused on the period 1985 to 2017 and used time series data obtained from the CBN, World Bank and Federal Office of Statistics. Using the Ordinary Least Squares, the result arising from this study shows that there is a long run relationship between net foreign portfolio investment, exchange rate and market capitalization and the level of growth in Nigeria.

Undoubtedly, the findings of this report go a long way in bridging the existing information gap and also enabling policy makers to plan and formulate both short and long term policies from an informed perspective. For a third world and a country like Nigeria, attracting FDI is of paramount important if the country needs to grow, given its positive benefits. However, countries ought to be aware of the risks such as destabilization of exchange rates and other macroeconomic fundamentals associated with accumulating too much Foreign Direct Investment beyond their absorptive capacity. The Nigerian economy was reformed and became more outward looking with the structural adjustment program launched in the 1980’s. The main objectives of this program can be summarized as: (i) minimizing state intervention; (ii) establishing a free market economy; (iii) integrating the economy with the global economic system. This liberalization process through liberalized import regime, new foreign investment and export promotion policies have enabled Nigeria to take its place in the global economy.

5.2 Policy Recommendations

Based on the foregoing findings and conclusions emanating from this study, the following recommendations were made:

First, there is a need for domestic actions to be taken by government / policy makers in the country. These include image building (re-building Nigeria), domestic regulatory reforms, and marketing of investment opportunities.

Second, the Nigerian economy should be diversified. Third, trade liberalization and privatization should be encouraged. Four, there is be improvement in the investment climate and infrastructure. Finally, the Nigerian government as a matter of urgency should build institutional capacity that will engender the inflow of foreign portfolio investment.

5.3 Policy Implication of Finding

An instrument influence from the study analysis was that all the explanatory variables have impact that is
all were positive; this revealed that explanatory variables have major and significant impact on economic growth in Nigeria over the years. This proves that government and its agencies had managed financial resources (NFP, EXR & MC) efficiently towards enhancing economic growth in the country. Though the magnitude of NFR is not significant which means NFR impact has not been really felt in the economy.

The implication of the above assertion is that government over the years through its agencies and policy makers has not perform up to expectation in effective and efficient channeling of NFP to the required sectors in the economy. Rationally, NFP will have significant impact on economic growth by providing more employment opportunities, raising income and standard of living of the people. Therefore, if NFP is well managed it will lead to the desired economic growth in Nigeria.

References


