Foreign Investment and Its Effect on the Economic Growth in Nigeria: A Triangulation Analysis

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Abstract: Evidence abound about the registered increase in foreign investment inflows in recent years. While proponents emphasize that these inflows could engender economic growth, critics express concern that there could be destabilizing effect on the economy if not well managed. This study therefore, attempts to examine the effect of foreign investments (disaggregated into foreign direct investment and foreign portfolio investment) inflows on economic growth in Nigeria with a view to ascertaining the better contributor, using time series data from 1987-2012. The OLS and the Granger causality procedures were employed in analyzing the data. The result displays that both foreign direct investment and foreign portfolio investment have positive and significant effect on economic growth though the partial correlation coefficients show that foreign portfolio investment is the better contributor. Based on the result, government should pursue policies that encourage both foreign direct investment and especially foreign portfolio investment.

Keywords: Economic growth, FDI, FPI, Nigeria.

I. Introduction

Nigeria as an import dependent economy needs foreign investment to enhance her investment needs. That is why since the emergence of democratic governance in May 1999, she has embarked on some concrete measures to encourage cross-border investors into her domestic economy. Some of these means are: the repeal of laws that are adverse to foreign investment increase, promulgation of investment laws, introduction of policies with favorable atmosphere like ease of businesses, fast export and import processing methods, fight against advanced fee frauds, instituting economic and financial crimes commission. These definite measures seem to have been making positive impact on Nigeria’s foreign capital inflows (Uremadu, 2011).

Nigeria has also been a mono-cultural economy and relies heavily on crude oil as the major means of foreign exchange. Oil is vulnerable to the inconsistencies of production and prices at the international market. So, returns from it may be subject to serious shocks. Poor economic management is another feature in Nigeria’s economy and which often leads to trade imbalances, persistent fiscal deficit, insufficient domestic savings, low high inflationary pressure, poor infrastructural facilities, unemployment, low output and excess dependence on imports (Okafor, 2012).

A close survey of the Nigeria economy indicates that Nigeria has recorded trade imbalances in most fiscal years, indicating that total payments surpassed total receipts in relation to total imports and total exports (Amadi, 2002). Overall balance of payments became worse in 1999, 2002 and 2008 mostly because of increased outflow from capital accounts (CBN, 2009). Most of the capital outflow must be attributed to increased importation, declining exports mainly non-oil subsector and particularly due to external debt servicing required in meeting up with resource gaps. Essien and Onviduokit (1999) and Ariyo (1999) described debt servicing and reserve creation as fluctuating variables that create dependence on foreign capital in Nigeria. Foreign investment inflows consist of the movement of investment resources from one country to another. In this context, investment inflows are a broad term which includes foreign direct investment (FDI) and foreign portfolio investment (FPI).

Foreign direct investment consists of external resources including managerial technology, and marketing expertise and capital. All these generate a considerable impact on host nation’s productive capabilities. The success of government policies of enhancing the productive base of the economy depend mostly on her ability to control adequate amount of FDI comprising of managerial, capital and technological resources to boost the existing production capacity. Even though the Nigerian government has been endeavoured to provide conducive investment climate for foreign investment, the inflow of foreign investments into the country have not been encouraging.
Notwithstanding the existence of a substantial amount of literature on the effects of foreign portfolio investment on economic growth in developing economies, theoretical and empirical work on the subject is yet to produce a consensus position. There are two main opinions in the literature. The first argues that economic activities in a country constitute the important drivers of stock market growth and development (Yartey, 2008). The group opined that financing a country’s growth through foreign portfolio investment can open countries to sudden inflow and outflows that can disorganize sound economies, and force them into drastic macroeconomic adjustments and wreak havoc in their securities market. Studies in support of this idea include Dellas and Martin (2002), Carlson and Hernandez (2002). The second argument of the literature is that greater openness which leads to inflow of foreign investment has enabled the developing countries to gain from research and development (R&D) in advanced economies and also enhanced growth of manufacturing in emerging markets as well as improved the growth of their capital markets resulting to general growth in the economy (Moreno, 1993; and Gould et al., 1993). Although these issues are very important for policy reasons, only Mc Aleese (2004) asserts that “FDI embodies a package of potential growth enhancing attributes such as technology and access to international market” but the host country must meet certain preconditions in order to absorb and maintain these benefits and not all emerging markets have such qualities (Collier and Dollar, 2001). Therefore, increase in foreign investment has stimulated debates about its influence on the economic growth of an emerging market like Nigeria.

This paper is divided into five parts. Part one above is the introduction. Part two reviews the relevant literature, part three discusses the methodology employed in this study, and part four is data presentation and analysis while part five discusses the findings and recommendation.

This study will evaluate the inflow of foreign investment in Nigeria and its Effect on the Nigerian Economy. The period 1987-2012 will be investigated in the study. Only FDI and FPI will be used as the explanatory variables, while GDP will be used as the dependent variable.

II. Review of Related Literature

In the neo-classical production function approach, output is generated by using capital and labour in the production process. With this framework in mind, foreign investment inflows can have influence on each variable on the production function. Foreign investment increases capital, and may effectively improve the factor labour by transferring new technologies. It also has the ability to raise total factor productivity. So, apart from having direct capital augmenting effects, foreign investment also has added indirect effect and thus, promotes output growth rate.

In the midst of various economic and financial crises in the 1990s and 2000s, there has been renewed research interest in examining the effect of FPI on the economic growth of the recipient countries. FPI contributes significantly to the development of an efficient domestic capital market and brings several benefits to the host country. According to Levine and Zervos (1996), increase in FPI leads to greater liquidity in the capital market resulting in a deeper and broader market. Knill (2003) studies the impact of the FPI on small firms and finds that it helps to bridge the gap between the amount of financing small firms need and that which they can access through the capital markets. Particularly, he finds that FPI is linked with an increased capacity to issue publicly traded securities for small firms in all nations, regardless of property right development.

In a study by Prasad, Raghuran and Subramanian (2007) on foreign capital and economic growth, they highlighted that among developing countries, there exists positive correlation between current account balances (surpluses, not deficits) and growth. The correlation is quite strong because it is present in cross- sectional as well as in panel data; it is not very sensitive to the choice of period or countries examined. It cannot be attributed simply to aid flows and it survives some other robustness tests. They went further to reveal that among industrial countries, those that rely more on foreign finance seem to grow faster. So it is probable that when facing improved domestic investment opportunities and related higher incomes, poor countries do not have financial systems that can readily use arm’s-length foreign capital to stimulate investment. They therefore, demonstrate that countries with underdeveloped financial systems are particularly unlikely to utilize foreign capital to finance growth.

In the case of FDI, in the earlier stage, some studies had shown that FDI has a negative effect on the growth of developing countries (Griffin, 1970 and Weisskopf, 1972). The major arguments of these studies were that FDI flows to the less developed countries (LDCs) are mainly directed towards the primary sector, which fundamentally promote the less market value of this sector. Since these primary products are exported to the developed countries and are processed for import, it receives a lower price for its primary product. It could be the reason for the negative impact of FDI flows in such economies. However, some other studies were of the view that foreign capital inflows have positive impact on economic efficiency and growth of LDCs. It has been illustrated that FDI could have a positive short term effect on growth as it befalls the economic activity. Still, in the long-run it decreases the growth rate because of the dependency, particularly due to “recapitalization” (Bornschier, 1980). The reason is because foreign investors repatriate their investment by contracting the
economic activities in the long run. The endogenous growth theory questioned this view in analyzing long-run growth rate of the economy by using endogenous variables like technology and human capital (Barro and Martin, 1995; Hellman and Grossman, 1991). FDI is a vital force for the transfer of technology and knowledge and shows that it can actually have a long-run impact on growth by creating increasing return in production through positive externalities and productive spillovers. So, FDI can bring about higher growth by combining new inputs and techniques (Feenstra and Markusen, 1994).

Another study by Kashibhatla and Sawhey (1996) in the U.S. supports a uni-directional casualty from GDP to FDI and not vice versa. This is probably due to the fact that for an industrialized country, FDI follows GDP, as GDP is the indicator for market size. In the study of the external effect of FDI on export in Bangladesh, Atikan (1997) showed the entry of a single Korean multinational in garment exports resulted in the establishment of a number of domestic export firms there by building the country’s largest export industry.

In a related study of the Chinese economy by Chen, Chang and Zhang (1995) using time series data for the period 1979-1993, estimated the regression between GNP, domestic savings in one period lag (all in logarithmic value). The results show that there is a positive relationship between FDI and GNP and it is significant at 5% level for the Chinese economy. An empirical study of the relationship between FDI flows and economic growth in China by Sahoo, et al, (2002) the regression show that there is a long-run relationship between variables such as GDP, FDI and change in domestic capital formation.

Foreign direct investment also contributes to economic growth via technology transfer. Transnational companies can transfer technology either directly (internally) to their foreign owned enterprises (FOE) or indirectly (externally) to domestically owned and controlled firms in the host country (Blomstrom et al., 2000; UNCTAD, 2000). Spillovers of advanced technology from foreign owned enterprises to local enterprises can take any of four ways: labor turnover from affiliates to domestic firms; internationalization of research and development (Hanson, 2001; Blomstrom and Kokko, 1998); vertical linkages between affiliates and domestic suppliers and consumers; and horizontal linkages between the affiliates and firms in the same industry in the host country (Lim, 2001; Smarzynska, 2002). The pace of technological change in the economy as a whole will depend on the innovative and social capabilities of the host country, together with the absorptive capacity of other enterprises in the country (Carkovic and Levine, 2002).

In Nigeria studies that were carried out on the relationship between foreign investment and economic growth have divergent results. Olotu and Jegbefume (2011) in their study of the place of foreign capital flows in the Nigerian economic growth equation with a bias in the foreign portfolio investment, the result indicate that domestic investment is not statistically different from zero, openness has a negative value. They also found a close relationship between FDI and the real non oil GDP.

Again, Mojekwu and Ogege (2012) studied foreign direct investment and the challenges of a sustainable development in Nigeria and finds that gross capital formation has a positive and significant relationship with economic growth in Nigeria. A look at some empirical works available reveals a divergence of opinions. Durham (2003) on the effects of foreign portfolio investment and "other" foreign investment on economic growth using cross-country data observes that FPI has no effect on economic growth and does not correlate positively with macroeconomic volatility. This result is in line with the study of Sethi and Patnaik (2005) on impact of international capital flows on India's financial markets and economic growth. By using monthly data, they find that FDI positively affects the economic growth, while the effect of Foreign Portfolio Investment is negative.

Knill (2003) examines the impact of foreign portfolio investment on small firms and finds that it helps to bridge the gap between the amounts of financing small firms require and that which they can access through the capital markets. Specifically, he finds that foreign portfolio investment is associated with an increased ability to issue publicly traded securities for small firms in all nations, regardless of property rights development. Again, Yasmin (2005) still on the phenomenon on Pakistan applied the simultaneous equation model for Foreign Capital Investment, GNP and Savings where he finds a positive and statistically significant relationship between FCI and growth.

III. Research Methodology

The study adopted ex-post facto design as we are examining events that have indeed already taken place. The period of coverage is 1987-2012. The justification of 1987 as our base year is because of the perceived economic effects of the Structural Adjustment Programme of 1986. Granger causality test was adopted in this research analysis to ascertain the causal relationships between the dependent variable and the independent variables. The OLS technique was also employed in analyzing the data. Secondary data used is of secondary nature.
3.1 Model Specification

The selection of the model is based on the theoretical perspectives of the nexus between foreign capital inflows, which maintains that such inflows stimulate economic growth. Therefore, mathematically, economic growth is expressed as a function of foreign capital inflows thus;

\[ Y_t = f(FCI_t) - - - - - - - (1) \]

Where:
- \( Y_t \) = Economic growth at time \( t \)
- \( FCI_t \) = Foreign Capital Inflows at time \( t \)

When equation (1) is expanded to accommodate indicators of Foreign Capital Inflows, we have:

\[ GDP_t = \alpha + B_1FDI_t + B_2FPI_t + \mu - - - - - - - (2) \]

Where:
- \( GDP_t \) = Gross Domestic Product (A proxy for economic growth)
- \( \alpha \) = Equation constant
- \( FDI_t \) = Foreign Direct Investment
- \( FPI_t \) = Foreign Portfolio Investment
- \( \mu \) = Error term

Meanwhile, we introduced log in the equation to improve the linearity of the equation

\[ DLGDP=f (DLFDI, DLFPI) \]

Results and Analysis

(i) Unit root test

Spurious and unreliable results will be probable if time series data are not stationary. Therefore, in order to avert this problem, unit root test was conducted on all the variables. Hence, below is the Augmented Dickey Fuller (ADF) unit root, which was engaged to test for the stationarity of the time series data.

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF Test Statistic</th>
<th>1% Critical Value*</th>
<th>5% Critical Value</th>
<th>10% Critical Value</th>
<th>Durbin Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>-6.427110</td>
<td>-4.3942</td>
<td>-3.6118</td>
<td>-3.2418</td>
<td>1.902234</td>
</tr>
<tr>
<td>FDI</td>
<td>-5.445110</td>
<td>-2.6649</td>
<td>-1.9559</td>
<td>-1.6231</td>
<td>1.918616</td>
</tr>
<tr>
<td>FPI</td>
<td>-6.59518</td>
<td>-4.4415</td>
<td>-3.6330</td>
<td>-3.2535</td>
<td>1.880665</td>
</tr>
</tbody>
</table>

Source: Researchers’ Eviews result.

Table 1 shows results of tests for stationarity and autocorrelation after transformation of the time series data. After 1st differencing and detrending of the time series data, the series became stationary. The results in table 1 shows that the computed ADF test-statistics for all the variables are smaller than the critical values at 1%, 5% and 10% significant levels and the Durbin-Watson statistics are very close to 2.000000 indicates that there is no autocorrelation problems in the time series data, which confirms the reliability of the results. Table 2
Table 2: Summary Results of Estimation of Model

<table>
<thead>
<tr>
<th>DLGDP=f (DLFDI, DLFPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent Variable: DLOG(GDP(-1))</td>
</tr>
<tr>
<td>Method: Least Squares</td>
</tr>
<tr>
<td>Sample(adjusted): 3 26</td>
</tr>
<tr>
<td>Included observations: 24 after adjusting endpoints</td>
</tr>
<tr>
<td>White Heteroskedasticity-Consistent Standard Errors &amp; Covariance</td>
</tr>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>-----------</td>
</tr>
<tr>
<td>C</td>
</tr>
<tr>
<td>DLOG(FPI(1))</td>
</tr>
<tr>
<td>DLOG(FDI(1))</td>
</tr>
<tr>
<td>R-squared</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
</tr>
<tr>
<td>S.E. of regression</td>
</tr>
<tr>
<td>Sum squared resid</td>
</tr>
<tr>
<td>Durbin-Watson stat</td>
</tr>
</tbody>
</table>

Source: E-Views computer result.

Model Summary

LogGDP = 0.1996 + 0.0392LogFPI + 0.1308LogFDI

(t = 6.205551) (t = 2.882798) (t = 2.689536)

(p = 0000) (p = 009) (p = 0.0134)

r² = 0.8713

R² = 0.8189

F = 8.5808

Prob (F – Statistic) = 0.0019

3.2 Interpretation

As revealed in table 1, the impact of foreign portfolio investment is positive and significant (coefficient of FPI = 0.039, t – value = 2.883). This indicates that foreign portfolio investment has positive and significant impact on the growth of the Nigerian economy. The probability of 0.009 < 0.05 confirm the significant impact. Also as revealed by the table the impact of foreign direct investment was positive and significant (coefficient of FDI = 0.1308, t – value = 2.689). This indicates that foreign direct investment has positive and significant impact on the growth of the Nigeria economy. The probability value of 0.014 < 0.05 again confirms the significant impact. The coefficient of determination as revealed by r – square (r²) indicates that 87.1% of the variations observed in the dependent variable gross domestic product were explained by variations in the independent variables (foreign direct and portfolio investment inflows). The test of goodness of fit of the model as indicated by R² was properly adjusted by the adjusted R-square of 0.819. On the whole, the overall probability explains the significance of foreign investment inflows on economic growth in Nigeria within the period under review. Since the coefficients of FDI and FPI are positively signed and the calculated p (F – statistics) is 0.0019 which is less than 0.05, foreign investment inflows have positive and significant impact on economic growth in Nigeria within the period under review.

Table 3: Test for multicollinearity and individual contributions of the predictors

<table>
<thead>
<tr>
<th>Model</th>
<th>Correlations</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zero-order</td>
<td>Partial</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>di(FDI-1)</td>
<td>-.315</td>
</tr>
<tr>
<td></td>
<td>di(FPI-1)</td>
<td>.750</td>
</tr>
</tbody>
</table>

Source: E-Views computer result.

The collinearity statistics show that the tolerances are far away from 0, thereby indicating no multicollinearity. The variance inflation factors (VIF) are less than 2 indicating no problems of collinearity. This implies that the predictors are not highly intercorrelated. The partial correlation coefficients show the contributions of the independent variables to GDP. FPI is the best contributor as indicated by a higher absolute value, followed by FDI.
Table 4: Granger Causality test results

<table>
<thead>
<tr>
<th>Null Hypothesis</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI does not Granger Cause GDP</td>
<td>26</td>
<td>44.6258</td>
<td>0.00000</td>
</tr>
<tr>
<td>GDP does not Granger Cause FDI</td>
<td>10.0178</td>
<td>0.00119</td>
<td></td>
</tr>
<tr>
<td>FPI does not Granger Cause GDP</td>
<td>26</td>
<td>90.2692</td>
<td>0.00000</td>
</tr>
<tr>
<td>GDP does not Granger Cause FPI</td>
<td>5.35494</td>
<td>0.01497</td>
<td></td>
</tr>
</tbody>
</table>

Source: E-Views computer result.

According to Granger causality test done by using annual data between 1987-2012 in Nigeria, the table above shows that there is bi-directional relationship between FDI and GDP as well as between FPI and GDP.

IV. Conclusion and Recommendation

Foreign investment inflows disaggregated into foreign Portfolio investment and foreign direct investment have both positive and significant impact on Nigeria’s gross domestic product while foreign portfolio investment has the higher contribution according to multi-collinearity test (see table 2). There is a bi-directional relationship between foreign portfolio investment and the growth of the Nigeria economy as well as between foreign direct investment and the growth of Nigerian economy. Total foreign investment inflows promote the nation’s economic growth. Both components of foreign investment inflows positively affect economic growth and therefore foreign investment inflows need to be encouraged.

The positive impact of foreign investment inflows follows the neo-classical production function approach, where output is generated by using capital and labour in the production process. With this framework in mind, foreign investments can have an influence on each variable in the production function. Foreign investment increases capital and may effectively improve the factor labour and by transferring new technology, it also has the ability to raise total factor productivity (Borensztein, et al, 1998). So apart from having direct capital augmenting effect, FDI also has added indirect and thus permanent effects on output growth rate.

The positive and significant impact of foreign portfolio investment also follows Cevine and Zerros (1996) who find that increase in FPI leads to greater liquidity in the capital market resulting to a deeper and broader market and also helps to bridge the gap between the amount of financing small firms’ need and that which they can access through the capital markets (Knill, 2003).

Since FPI has the higher potential for contributing to growth, it needs to be properly channeled and integrated into the mainstream of the economy. Foreign direct investors should be encouraged to invest in the manufacturing sector which will increase the export of finished products. This is in line with the export-led growth hypothesis which postulates that export is a main determinant of overall economic growth because export expansion will increase productivity by offering potential for scale of economies (Helpman and Krugman, 1985).

Another way to boost export of finished products is by government intervention in the form of tax incentives. This has been considered a very important factor in attracting FDI, and tax incentives have been an essential pull factor for export-oriented foreign investment decisions.

V. Conclusion

We have analytically assessed the impact of foreign investment inflows on Nigeria’s economic growth for twenty-six years that is from 1987-2012. The empirical part of the research study sort to verify whether foreign investment inflows affect economic growth, the research contributes to the mixed results of earlier empirical studies on the macro level by finding that foreign investment inflows does have positive and significant effect on the Nigerian economy using OLS and granger causality test. This paper has argued that for foreign investments to better enhance economic growth, the country should take advantage of spillowers and foreign investors should be encouraged to invest in the manufacturing sector which will increase the export of finished products. Moreover, empirical evidence suggests that in order to attract more foreign direct investment to Nigeria, the country should focus on improving the investment climate for foreign investors, boost export of finished products by government intervention in the form of tax incentives and address the issue of corruption.
References


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