

Effect of Foreign Investment on the Economic Growth in Nigeria

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Abstract

This study critically looked at the effect of foreign investment on economic growth in Nigeria. Data for period of 32 years collected from CBN statistical bulletin 2011 were used for analysis. Techniques such as unit root test and OLS were adopted to estimate models and investigate stationarity. The result showed that there was direct effect of foreign investment on the Nigerian economy growth. Therefore, the empirical study further recommended that there is need for total foreign investment encouragement and creation of stable atmosphere for investment to strive thereby resulting to investment inflows in Nigeria that will contribution to economic growth for sustainable development.

Keywords: OLS, Unit roots, foreign investments, relationship, GDP.

1. Introduction

In other countries such as china and Vietnam, macroeconomic policy continued to differ as in prior decades, from the orthodox approach. In these state controlled selectively – open economies, trade integration progressed fast but controls on some imports, capital movements and the financial sector remained in place (Ciovanni and Cornia, 2012). In contrast, several economies of Easten Europe and the former Soviet Union adopted during the 2000s a standard liberal approach emphasizing fixed exchange rates, large balance of payment deficits and heavy reliance on external indebtedness which exacerbated the 2009 crisis. As noted, the new one is not a radically new model but important differences exist in relation to the theoretical Washington consensus approach summarized in the early 1990s by John Williamson. These differences are, however, much greater when considering the real life Washington consensus which dominated policy making in the 1980s and 1990s. Three key changes stand out since the early 2000's in the policies of several developing economies including Nigeria. They concern: the domestic macro policy regimes, the regulation of national financial systems and changes in the modalities of integration into the international financial system.

In parallel to the introduction of changes in macroeconomic policies, the last decade has witnessed a decline in

investment is the vast majority of the Latin American countries (Crnia 2010), as well as in 15 – 20 sub-saharan African countries and some Asian economics. The question therefore spontaneously arises about the relation between the macroeconomic policies and the recent trend in investment in selected regions. Despite the persistence of this deadlock, the early 2000s element of a new approach to macro management seems to have spontaneously emerged in a number of developing countries. The IMF itself – for long the enforcer of orthodox macroeconomics in developing countries has gone through some re-thinking (Blanchard et al 2010) and has been playing since 2009 a more positive role in the management of the recent crises than in the past.

2.0 Review of Related Literature

2.1 *Keynesian Theory of Investment, Interest rates and planned capital investment*

The Keynesian theory of investment places emphasis on the importance of interest rates in investment decisions. A fall in interest rates should decrease the cost of investment relative to the potential yield exceeds the cost of the project.

2.2 *The New Theory of Foreign Direct Investment*

Mundell (1957) first mathematically modeled cross – border capital flows in a Heckscher – Ohlin framework, simultaneously illustrating the two ideas underpinning those separate views of FDI in studies confirming or contradicting them for 5 decades after words: (1) That flows of capitals and goods are substitutes and (2) That all else equal capital flows should be related to relative endowments when there are barriers to trade, flowing from capital abundant countries to capital poor ones. In the 1980s, it became the work of theorists like Wilfred Ethier, Gene Grossman, Elhanan Helpman, James Markusen, and Assaf Razin to pinpoint exactly why foreign investment differs from the way Mundell and neoclassical growth models envisioned it, as it became clear that FDI was increasing, but between rich countries and in tandem with intra-firm trade. Some of these theorists, like Markusen, chose to use a “micro-level” approach, focusing on the structure of fixed costs, relative country size and endowments, and preference conditions that soon after with Eiford Sodka, chose a “macro-finance” path, embedding sunk costs, taxes and other distortions as fulcrums to analyze the behaviour of cross-border capital flows and their implications for country welfare. In particular, Markusen’s gives us a roadmap to match theories of the firm with new microeconomic fundamentals to formalize the more descriptive characterization of FDI common in international finance.

2.3 *Keynesian Theories of Investment: Neo-post and new*

In the general theory, John Maynard Keynes emphasized the central role of investment in the theory of aggregate output and employment. His ideas differed from traditional views in two fundamental ways. First, the importance of investment did not result only from long-run effect on capital stock growth, Keynes focused on investment as the daring force of aggregate demand and short-run fluctuation in economic activity. Secondly, Keynes rejected the micro foundation of investment that was based exclusively on technological conditions of capital productivity by stressing uncertainty, finance, and monetary factors as fundamental determinants of investment. One of the Keynesian fundamental contributions was to develop conditions under which “money” broadly conceived, mattered for the real performance of the macro economy. This general financial and monetary condition affects firms’ capital spending. These conditions spawned a rich theoretical and empirical literature in decades following the publication of the

general theory

3. Empirical Studies

Very many authors have worked on microeconomic fundamentals and investment in Sub-Saharan Africa using various methodologies and analytical tools. For instance Gelband (2009) and Leope(2009). They used various approaches to conclude that, the increasing relative importance of private capital inflows and the changing nature of such inflows have implications for macroeconomic management. Gabriele (2000) points to the importance of distinguishing capital inflows and outflows, drawing attention to a surge in offsetting financial transactions, such as capital outflows or reserve accumulation that may hinder potential positive development through financial liberalization. The authors also addressed the changing form of FDI flows. In the 2003 the share of one-off mergers and acquisitions (M&A) has gone up compared to Greenfield investment. They estimate, using information from UNCTAD and World Bank, that the share of M&A in cumulative total FDI rose from 22% in 1998 – 2001 to 72% in 2002 – 2007. Bhinda et al (2009) warn of the increased volatility in capital flows. According to their measurement, the standard deviation of annual percentage change in total capital flows, sub-Saharan African countries show a greater degree of volatility in private capital inflows than Asian or Latin American countries in the 2000s while volatility rose globally.

The picture that emerges, from whatever source, is of increasing private capital inflows to sub-Saharan African countries, albeit from a very low level and inflows and with this is increased exposure to volatility of capital flows. A study by Caplin and Leahy (2008) explains the collective action of agents with information externalities. The study concerns agent making decisions over two types of Investment Projects.

One yields a fixed positive profit W . The study adds to important conclusions. First indicates that investors tend to wait longer when there is less information about market quality as is the case in sub-Saharan Africa; and routine behaviour tends to last longer than is optional. Second, the more agents participate in the market, the longer investors would wait.

A study by Leape (2009) reports that Uganda and Tanzania experienced a significant real exchange rate appreciation in 2004 – 2005, following a surge in capital inflows. The study also reports that Ghana and Malawi exhibit depreciation until 2005 and appreciation thereafter, until about 2008. They therefore concluded that real exchange rate appreciation is detrimental to the economy's trading sector. With lower competitiveness for domestic products in international markets, the economy's exports would decrease. Garnaut (2006) and other authors like Dadush and Dasgupta (2007) offer four reasons for why the cost of sustaining short-term capital flows are much higher in developing economies than industrial economies. These include greater volatility in capital flows, income levels and credit rating given by moody's investor service, capital flows to developing economies tend to behave pro-cyclical to adverse external shocks, weakness in public finance tends to amplify rather than mitigate shocks in the financial account and no regulatory effort is made to distinguish between commercial credits, which are related to trade and direct investment and arbitrage – seeking flows (hot money), which are erratic and easy to reverse.

3. Methodology

The study shall employ macroeconomic time series variables over a period of 32 years within the space of

1980-2010. The data are collected from the CBN statistical bulletin 2011. Econometrics techniques are adopted to estimate models. Analysis is conducted electronically with the use of econometrics software **Microfits 4.1**.

3.1 Model Specification

The study adopted the econometric model in evaluating the role of macroeconomic variables on the foreign investments in Nigeria. The econometric model used was to determine the relationship between foreign investments and selected macroeconomic variables (gross domestic product, exchange rate, interest rate, inflation rate and money supply)

In this empirical investigation of the role of macroeconomic variables on foreign investments we specify and adopted model in the form of:

$$GDP = f(FI) \quad 8$$

where: *GDP* -Gross domestic product and *FI* - Foreign Investment.

For easy estimation, equation 7 and 8 are operationalized in the following growth rate equations as:

$$DLNGDP_{t+1} = \alpha_0 + \alpha_1 DLNFI_{t-1} + \varepsilon_t$$

10

The D signifies the growth rate of the variables understudy; the functions are obtained as follows:

$$LNFI_i = \frac{1}{\text{Log}(FI_i)} \quad \text{and} \quad DLNFI_i = \frac{(LNFI_{i+1} - LNFI_i)}{LNFI_i} * 100$$

$$LNGDP_i = \frac{1}{\text{Log}(GDP_i)} \quad \text{and} \quad DLNGDP_i = \frac{(LNGDP_{i+1} - LNGDP_i)}{LNGDP_i} * 100$$

3.2 Empirical Approach

To further investigate the effect of macroeconomic variables on foreign investment, co integration tests would be performed. Unit root test procedure was used to find out the order of time series variable stationarity to inform the correct estimation procedures. OLS is used for estimation because of the nature of the stationary properties of time series variables. F-statistics and t-statistics are adopted to accept or reject the above hypotheses using the decision rule criteria of the probability associated with t-cal and F-stat. If the probability is less than 0.05 critical value, we accept H1 that there is significant relationship but if the probability value is greater than the 0.05 critical value, it is not statistically significant.

Table 1: Summary of Result of Augmented Dickey Fuller Test (ADF-Test)

| Variables | ADF Test | Critical Value | Decision | Conclusion |
|-------------|----------|----------------|--------------|----------------------|
| DLNGDP I(0) | -5.3167 | -3.5662* | No Unit Root | It is Stationary |
| DLNGDPI(1) | -4.2579 | -3.5662* | No Unit Root | It is Stationary |
| DLNFI I(0) | -1.6083 | -3.5662 | Unit Root | It is not stationary |
| DLNFI I(1) | -1.2530 | -3.5662 | Unit Root | It is not stationary |
| DLNFI I(2) | -1.2861 | -3.5662 | Unit Root | It is not stationary |

95% critical value for the Dickey-Fuller statistic = -3.5662

**significant at 5% level, ADF test > Critical value, then the variable is stationary*

Table 1 shows that there is no unit among the time series when subjected to ADF-test at various level and order difference in the time series. Gross Domestic product growth rate has no unit root at level I(0) and at order one I(1) as the calculated ADF test values are greater than the critical value at 5% irrespective of sign difference. However, foreign investment growth rate has unit root at level I(0), I(1) and I(2) respectively as the calculated ADF test values are less than the critical value at 5% irrespective of sign difference. In addition, there is no unit in the series of GDP growth rates confirming the time series variables are stationary. While foreign investment is not stationarity at all. The result does not require co integration and possible VAR or ARDLs model but OLS application is used for estimation and relationship. For detail analytical procedural results see appendix 5.

Table 2: Ordinary Least Squares Estimation

Dependent variable is DLNGDP

31 observations used for estimation from 1980 to 2010

| Regressor | Coefficient | Standard Error | T-Ratio[Prob] |
|-----------|-------------|----------------|---------------|
| DLNFI | .22356 | .99448 | .22480[.824] |
| C | 1.5401 | 40.2818 | .038233[.970] |

| | | | |
|----------------------------|-----------|----------------------------|---------------|
| R-Squared | .0017396 | R-Bar-Squared | -.032683 |
| S.E. of Regression | 217.2005 | F-stat. F(1, 29) | .050537[.824] |
| Mean of Dependent Variable | -.71710 | S.D. of Dependent Variable | 213.7358 |
| Residual Sum of Squares | 1368106 | Equation Log-likelihood | -209.7588 |
| Akaike Info. Criterion | -211.7588 | Schwarz Bayesian Criterion | -213.1928 |
| DW-statistic | 2.0495 | | |

From the OLS result output the model estimate show that there is direct relationship between foreign investments

and economic growth rate in Nigeria. Based on OLS empirical result the estimate of foreign investment growth rate is 0.2236 suggests direct relationship between the foreign investment (DLNFI) and economic growth (DLNGDP). Therefore implies that a unit change in foreign investment growth rate will result in 22.4 increase in GDP growth rate (DLNGDP).

To test the overall significance of the model, the value of F-statistics is 0.05054 and the probability associated with it is (0.824) which is less than 0.05 at 5% level of significance. This means that there is no statistical significance between foreign investments and Macroeconomic variables. R-square is 0.0017, implying that the coefficient of determination (R^2) is statistically significant at 0.2% which adjudge the model inaccurate and highly unfitted for prediction purpose. Based on the test of significance arguments, Foreign Investments growth rate (DLNFI), is not statistically significant to the GDP growth rate (DLNGDP) as the probability value of the t-ratio is greater than 0.05 critical values.

5.0 Conclusion

In model of foreign investment as determinant of GDP showed that there is no statistical significance relationship. It also observed that foreign investment to economic growth in Nigeria. Since foreign investment growth rate is found to be directly related to GDP, it is therefore important for appropriate policy formulation and implementation to encourage and boost these variables for effective management of foreign investment in Nigeria.

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