AN EXAMINATION OF THE IMPACT OF NET CAPITAL INFLOWS ON THE FINANCIAL SECTOR OF THE NIGERIAN ECONOMY

ISIWU, George Duhu[1], Ngwu Jerome Chukwuemeka[2], CHUKWU, Sancho N. [3] and OJIYA, Emmanuel Ameh[4]

[1,2] Lecturers, Department of Economics, Enugu State University of Science and Technology (ESUT), Enugu State, Nigeria

[3,4] Lecturer, Department of Economics, Federal University Wukari, Taraba State, Nigeria

ABSTRACT:

This study investigated the impact of net capital inflows on financial sector of the Nigerian economy between 1986 to 2015. Annual secondary time series data obtained from the database of World Bank Development Indicators (WBDI) were employed with a VAR econometric approach for the study. Empirical results emanating from this work revealed the presence of a unique long run relationship among the variables specified in the model. The adjustment parameter was significant and appropriately signed. This shows that economic growth and other key macroeconomic variables in Nigeria adjusts fairly, though sluggishly to financial sector development within the period referenced. Evidence from granger causality testing showed that foreign capital and credit (loanable funds) made available to the private sector by the financial sector contributes significantly to the growth of the Nigerian economy and vice-versa during the period under reference. The study thus concluded that net inflows have a significant impact on broad money supply (M2) to the financial sector in Nigeria. Notwithstanding the above laudable results, the Nigerian government is advised to take more seriously the responsibility of creating an enabling environment for effective, value–adding foreign direct investment, particularly in the banking sector, without losing the prerogative of sovereignty. What this mean is that government should step up efforts in attracting foreign direct investment into the sector by ensuring that investors confidence is protected. Government should evolve an investment friendly interest rate regime supportive of the growth objective of the government. A lower cost of borrowing would induce the desire for credit expansion thereby encouraging investment activities in the country.

KEYWORDS:

Net inflows, Financial Sector; Economic Growth; Causality; VAR

1.0 INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Foreign direct investment is viewed as a major stimulus to economic growth in developing countries. Its ability to deal with two major obstacles, namely, shortages of financial resources, technology and skills, has made it the centre of attention for policy-makers in low-income countries in particular. Only a few of these countries have been successful in attracting significant inflows however. From the early 1970s net resource flows to developing countries have followed an uneven path, but have risen rapidly since 1986 to an unprecedented US285 billion in 1996 and 1.53 trillion in 1997 to 3.12 trillion (World Bank,2015). The fluctuating nature of private capital flows has played a key role in this whereas official flows have continued broadly unchanged after

a peak in 1989-1991. It is worthy of note that private capital flows have experienced two waves of explosive growth, the first from 1975 to 1981, dominated by bank lending involving a high proportion of recycled petrol-dollars, the second since 1990, dominated by foreign direct investment. In the 1970s, FDI made up only 12% of all financial flows to developing countries (World Bank, 1996).

1.2 STATEMENT OF THE PROBLEM

In spite of the laudable benefits the Nigerian financial sector stands to derive from net inflows to Nigeria and its attendant contribution to economic growth, improvement of the living standard of the people and the provision of social amenities, the problem arises as to what extent the Nigerian financial sector and indeed the entire economy should depend on foreign inflows. The challenge of most developing economies today (Nigeria inclusive) is their overdependence on foreign capital which do not bring positive impacts only but negative impacts as well. This work has therefore tried to look at the extent to which such impact is, or should be, on the Nigerian financial sector, with a view to proffering possible recommendations. The following research questions are therefore stated. What impact does foreign capital inflows have on money supply (M2) to the financial sector in Nigeria? What is the relationship between net capital inflows and financial sector of the Nigerian economy? What is the causality relationship between financial sector variables in the model in relation to real gross domestic product in Nigeria?

The main objective of this study is to examine the impact of net capital inflows on financial sector of the Nigerian economy. Specifically, the following objectives will guide the study:

(i) determine the impact of foreign capital inflows on broad money supply (M2) to the financial sector in Nigeria
(ii) examine if there is a long run relationship between net capital inflows and financial sector of the Nigerian economy.
(iii) identify the causality relationship between financial sector variables in the model in relation to real gross domestic product in Nigeria.

Furthermore, the study shall be guided by the following research hypothesis:

H_o1: Net capital inflows have no significant impact on broad money supply (M2) to the financial sector in Nigeria.
H_o2: Net capital inflows have no relationship on financial sector of the Nigerian economy.
H_o3: There is no causality relationship between financial sector variables in the model in relation to Real Gross Domestic Product in Nigeria.

The remaining part of this study is arranged thus: Section two of the study shall briefly discuss some key concepts as well as theoretical framework for the study; section three is methodology while section four is devoted to data presentation, analysis and discussion of empirical results. Finally section five is conclusion and policy recommendations.

2.0 CONCEPTUAL REVIEW

2.1 FOREIGN DIRECT INVESTMENT (FDI)

Foreign direct investment represents a veritable source of foreign exchange and technological transfer, especially to a developing economy like Nigeria. It can be analyzed in terms of inflow of new equity capital (change in foreign share capital), re- invested earning (unremitted profit), trade

and supplier's credit, net inflow of borrowing and other obligations from the parent company or its affiliates (Nwankwo et al, 2013). Agada and Okpe (2012) saw FDI as an attempt by individuals, groups, companies and government of a nation to move resources of productive purpose across its country to another country with the anticipation of earning some surplus. Below is the trend in FDI growth from 1981 to 2015.

The rate of foreign direct investment received into Nigeria, in current US dollars for the period studied remains positive. The volume of FDI was high between 1988, 89 and 1990 but decline between 1991 to 1992 before rising to an all high in the years 1992 to 1994. Foreign inflows remain high even up to 2010 before it trended downwards from 2010 to 2015. The drop within these periods could be as a result of the uncertain political and economic environment due largely to the 2015 General Elections in Nigeria. Many investors lost confidence in the economy and had to repatriate their capital back to their shores due largely to the unstable political climate that beclouded the era (World Bank, 2015).

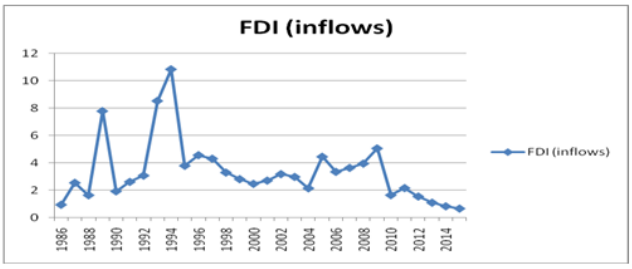

Figure 1: Foreign Development Investment to Nigeria from 1986 to 2015

Source: World Bank Development Indicators (2015)

2.2 THE FOREIGN PORTFOLIO INVESTMENT (FPI)

A portfolio investment is a hands-off or passive investment of securities in a portfolio, and it is made with the expectation of earning a return. This expected return is directly correlated with the investment's expected risk. Portfolio investment is distinct from direct investment, which involves taking a sizable stake in a target company and possibly being involved with its day-to-day management (World Bank Development Indicators, 2015). The phenomenon of Foreign Portfolio Investment in emerging market economies has always attracted the attention of writers from the theoretical and empirical perspective. Proponents of foreign portfolio investment picture it as adding new resources/capital to the host economy in a way that improves efficiency and stimulates economic growth. It is thus viewed as a panacea for economic development by providing the capital underdeveloped countries desperately need to fill their savings-investment gap. Below is the trend in portfolio investment in Nigeria between 1981 to 2015.

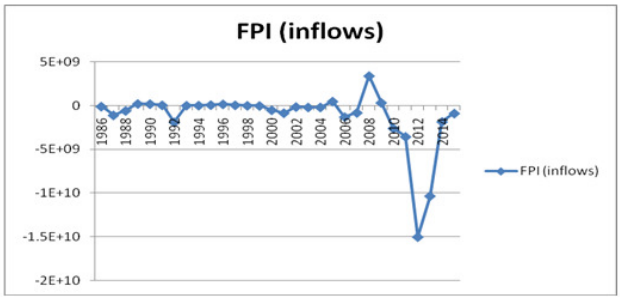

Figure 2: Foreign Portfolio Investment to Nigeria from 1986 to 2015
Source: World Bank Development Indicators (2015)

The inflow of portfolio investment received, in current US dollars to Nigeria for most of the years studied (1986 to 2015) was negative. In 1987 no aid was received as depicted by the graph above. Similar trend followed in 1992, 2001, 2006-07 and 2009 to 2015 as it trended downwards except in 2005 and 2008 when the pattern was different (World Bank, 2015).

2.3 Official Development Assistance Flow To Nigeria

The value of net official development assistance received, in current US dollars, in Nigeria fluctuated between US$3925000 to US$2.43 billion in 2015 according to Development Assistance Committee (DAC) of the Organization of Economic Cooperation and Development (OECD). However, the figure rose astronomically to US$6.4billion and US$11.4billion respectively in 2005 and 2006, due perhaps to debt forgiveness by the Paris Club of creditors. Indeed, the years 1986 to 2004 witnessed a low steady movement of the pattern of assistance to Nigeria (World Bank, 2015).

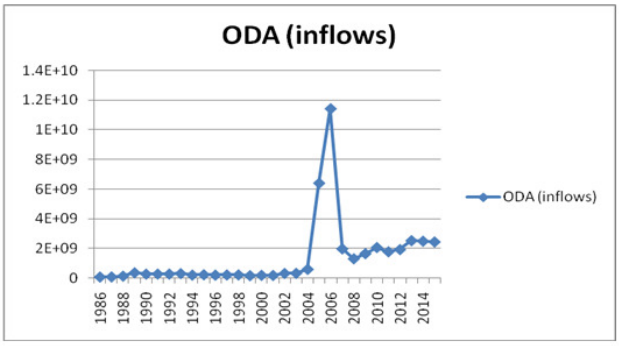

Figure 3: Net official development assistance to Nigeria between 1986 to 2015

Source: World Bank Development Indicators

It is remarkable to observe that aid can be a vital source of financing development although in the case of Nigeria, opinions are divided. Some have argued that Nigeria, given her vast natural and human resources, does not have to rely on ODA as she derives huge revenues from the export of crude petroleum. It is worth observing that there is nothing fundamentally wrong in obtaining ODA provided it is properly managed to derive maximum benefits for growth and development and for the enhancement of peoples' welfare. It has also been asserted that Nigeria's low ODA receipts is due to widespread corruption and looting of national treasury and that if the stolen funds, estimated to be in billions of US dollars, are remitted back to the country, then there will be little or no need for ODA. Generally, aid can contribute to development in two ways: it can take a capital starved country to its ultimate steady-state potential growth rate faster and can equally improve a country's steady state growth rate because foreign capital comes with know-how and also encourages better governance or practices.

2.4 Overview Of The Nigerian Financial System

In the view of Adekunle et al (2014), a financial system consists of different institutions, markets, instruments, and operators that interact within an economy to provide financial services such as

resource mobilization and allocation, financial intermediation and facilitation of foreign exchange transactions.

The Nigerian financial sector can be categorized into two namely;

(i) The informal sector which comprises of the local money lenders, the thrifts and savings associations, etc. It is poorly developed, limited in reach, and not integrated into the formal financial system, but plays a major role in the Nigerian financial system.

(ii) The formal financial system comprises of the capital and money market institutions and these comprise of the banks and non-banks financial institutions.

According to the CBN Annual Report and Statement of Account (2008), the Nigerian financial system consists of the Central Bank of Nigeria (CBN), the Nigerian Deposit insurance Corporation (NDIC), the Securities and Exchange Commission (SEC), the National Insurance Commission (NAICOM), the National Pension Commission (NPC), deposit money banks, microfinance banks, finance companies, bureaux-de-change, stock exchange, commodity exchange, primary mortgage institutions, development finance institutions, discount houses and insurance companies and registered insurance brokers.

The deposit money banks emerged as a result of the adoption of the universal banking system in 2001 and the removal of the divisions between the commercial and merchant banks. These banks accept deposits, provide loans and advances to customers, operate the payment and settlement mechanism and also create money while providing loans and advances. There has been special attention of the regulatory bodies (that is CBN and NDIC) on the activities of these banks since they have a great impact on the soundness and stability of the financial system. There has been rapid growth in terms of service delivery and number of institutions, which later decline from 89 in 2004 to 25 in 2006 and further reduction over the years due to the consolidation of banks. Below is a chart illustrating trend in money supply and credit to private sector between 1986 – 2015.

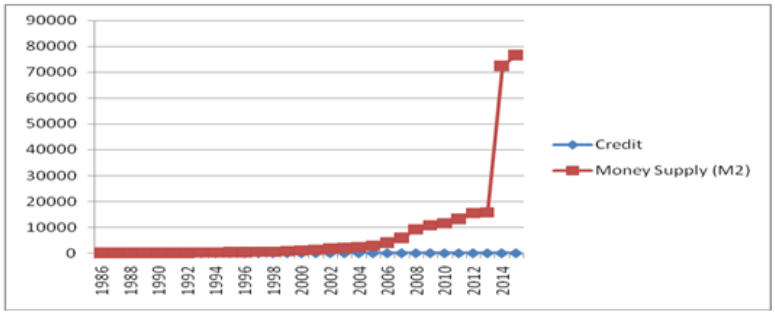

Figure 4: The volume of Broad Money Supply vis-à-vis Credit to the Private Sector in Nigeria between 1986 to 2015

Source: World Bank Development Indicators (2015)

As evident from the graph above, the volume of broad money supply (M2) in the economy was very high while credit to the private sector in Nigeria within the same period was quite low. In fact it exhibited a straight line trending pattern for all the period examined. This is indicative of the long entrenched pattern in the Nigerian banking system where bank managers find it difficult to advance loans to the private sector for purposes of investment. The inability of the private sector to assess these funds is largely due to high interest rate charged which remained a disincentive to investment drive in the economy.

2.5 THEORETICAL FRAMEWORK

Modern growth theory identifies two specific channels through which the financial sector might affect long-term growth: through its impact on capital accumulation (including human as well as physical capital) and through the rate of technological progress. These effects, nevertheless, occur from the intermediation role of the financial institutions, which enables the financial sector to mobilize savings for investment, facilitates and promotes inflows of foreign capital such as foreign direct investment (FDI), portfolio investment and bonds, and remittances, and optimize the allocation of capital between contending issues by ensuring that capital goes to its most productive use. The theoretical foundation upon which the study is based is the neoclassical theory of growth. Growth, in neoclassical theory, is brought about by increase in the quantum of factors of production and in the efficiency of their allocation.

In a simple world of two factors, labour and capital, it is often presumed that low-income countries have abundant labor but scarce capital. This situation arises owing to shortage of domestic savings in these countries, which places constraint on capital formation and hence growth. Even where domestic input in addition to labor is readily available and hence no problem of inputs supply, increased production processes in low-income countries remains. International capital flows (ICFs) readily become an important means of helping developing countries to overcome their capital shortage problem. One of the components of international capital flows is foreign direct investment (FDI). Other components are official flows from bilateral sources (e.g. developed and OPEC countries) and multilateral sources (such as the World Bank and its two affiliates: the International Development Association-IDA, and the International-Finance-Corporation-IFC, concessional and non-concessional terms.

2.6 PREVIOUS STUDIES REVIEWED

The study on the impact of foreign inflows on financial sector development in Nigeria continues to generate diverse debates, giving rise to conflicting outcomes over the years. For example, Narayan (2013), Chigbu, Ubah and Chigbu (2014), Ndlovu, (2013), Obiechina and Ukeje (2013), Nkoro and Uko (2013), Uche (2005), Ndlovu (2013) and Sanni (2012)etc expressed divergent views. After a review of related empirical studies, it was apparent that most studies concentrated on the impact of capital inflows (with particular focus on foreign direct investment) on economic growth with only a few examining the role of net inflows on financial sector development, particularly in Nigeria. This study is an attempt at adding to the literature on this topic from the Nigerian perspective.

3.0 MATERIALS AND METHODS

3.1 DESCRIPTION OF STUDY VARIABLES / SOURCES

As earlier stated in section two of this study, the four variables that have been proxied for net capital inflows include foreign direct investment, foreign portfolio investment and official development assistance. These three component variables are aggregated to collectively represent net inflows. Therefore, the variables adopted for this study are Foreign capital (FCAP) (proxy for foreign net inflows), while broad money (M2), credit to the private sector (CPS), real interest rate (RINTR), are financial sector development indicators in the model. Specifically, real Gross Domestic Product (RGDP) which will be used to measure economic growth and exchange rate (EXCR) are included as control variables in the model to avoid the problem of omitted variable

bias so as to get a more realistic model. Data for the study were secondary in nature, sourced from the World Bank Development Indicators database (WBDI), 2015 edition. The time series data covered a twenty-nine year period ranging from 1986-2015.

3.2 METHOD OF DATA ANALYSIS

The study adopted the econometric method of unit root test (Augmented Dickey-Fuller and Philips-Perron), Johansen cointegration test, Pairwise Granger causality test and Error Correction mechanism to determine the convergence path where a long-run relationship is established. E-views version 8.0 will be used in estimating the various models for the study.

3.3 SPECIFICATION OF THE MODEL

3.3.1 PRE-ESTIMATION TEST

The study employs the Augmented Dickey – Fuller and Philips-Perron unit root. This is because it takes care of the problem of autocorrelation associated with other stationarity test especially the Dickey Fuller Test. If any of the series is found to be integrated, then a co-integration test will be conducted using Johansen Co-integration test to determine if there exists a long run relationship between dependent and independent variables. If the series are co-integrated, then they will be most efficiently represented by an Error Correction Method which is used to tie the short run behavior to its long run value (Wooldridge, 2006; Asterious and Hall, 2007; Gujarati and Porter, 2009). They also perform Granger Causality test between the dependent and independent variables.

3.3.2 VAR EQUATION

To examine the impact of net inflows on financial sector of the Nigerian economy, this study specifies a simple model with suggested explanatory variables from the literature influencing capital inflows in a developing economy like Nigeria. The study employed time series technique of econometric simulations for its analysis and employed the Johansen-JuseliusCointegration test together with multivariate granger causality test (block exogeneity test) VAR method of estimation. Vector Autoregressive Model was developed by Sims (1980) in response to the problem of simultaneity among variables in a system. Following Sims (1980) seminal paper, the vector autoregressive (VAR) model has become one of the leading approaches employed in the analysis of dynamic economic interaction (Adrangi and Allender, 1998, and Palm, 1983). Though this study employs granger causality and cointegration approach in its analysis, it equally adopted the use of Vector Error Correction Model (VECM) to test for the convergence of variables in the model. The VAR model which is the platform upon which the ECM model is built is hereunder specified as follows:

$$\Delta rGdp_t = \alpha_0 + a_1\Delta rGdp_{t-1} + a_2\Delta Fcap_{t-1} + a_3\Delta M2_{t-1} + a_4\Delta Cps_{t-1} + a_5\Delta Excr_{t-1} + a_6\Delta Rintr_{t-1} + \mu_{t1} \quad .(3.1)$$

$$\Delta Fcap_t = \alpha_0 + a_1\Delta Fcap_{t-1} + a_2\Delta M2_{t-1} + a_3\Delta Cps_{t-1} + a_4\Delta Excr_{t-1} + a_5\Delta Rintr_{t-1} + a_6\Delta rGdp_{t-1} + \mu_{t2} \quad .(3.2)$$

$$\Delta M2_t = \alpha_0 + a_1\Delta M2_{t-1} + a_2\Delta Cps_{t-1} + a_3\Delta Excr_{t-1} + a_4\Delta Rintr_{t-1} + a_5\Delta rGdp_{t-1} + a_6\Delta Fcap_{t-1} + \mu_{t3} \quad .(3.3)$$

$$\Delta Cps_t = \alpha_0 + a_1\Delta Cps_{t-1} + a_2\Delta Excr_{t-1} + a_3\Delta Rintr_{t-1} + a_4\Delta rGdp_{t-1} + a_5\Delta Fcap_{t-1} + a_6\Delta M2_{t-1} + \mu_{t4} \quad .(3.4)$$

$$\Delta Excr_t = \alpha_0 + a_1\Delta Excr_{t-1} + a_2\Delta Rintr_{t-1} + a_3\Delta rGdp_{t-1} + a_4\Delta Fcap_{t-1} + a_5\Delta M2_{t-1} + a_6\Delta Cps_{t-1} + \mu_{t5} \quad .(3.5)$$

$$\Delta Rintr_t = \alpha_0 + a_1\Delta Rintr_{t-1} + a_2\Delta rGdp_{t-1} + a_3\Delta Fcap_{t-1} + a_4\Delta M2_{t-1} + a_5\Delta Cps_{t-1} + a_6\Delta Rintr_{t-1} + \mu_{t6} \quad . (3.6)$$

Where $\alpha 0$ and $\alpha_{1\ to}\ \alpha_5$ are coefficients and μ_t is the residual and Δ is the operator for change.

3.3.3 VECTOR ERROR CORRECTION MODEL

Since the evaluation considered both the short-run and long-run simultaneously, the econometric methodology of the Vector Error Correction Mechanism (VECM) was employed. VECM is a dynamic system with the characteristics that the deviation of the current state from its longrun relationship will be fed into its shortun dynamics. Error Correction Models are a category of multiple time series models that directly estimate the speed at which a dependent variable 'Y' returns to equilibrium after a change in an independent variable 'X'. ECMs are a theoretically driven approach useful for estimating both short term and long term effects of one time series on another. ECMs are useful model when dealing with cointegrated data but can also be used with stationary data.

It should be noted that we can determine the long run and short run causality from the VECM. If φ is statistically significant and different from zero, it implies the existence of long run causality. Therefore, we can estimate both unrestricted VAR and VECM to obtain long-run and short-run causal relationships respectively in addition to other useful diagnostics. From the discussion above, if

cointegration is established then, RGDP, FCAP, M2, CPS, RINTR and EXCR may be considered to be generated by error correction models of the form:

$$\Delta rGdp_t = a_i + \sum_{i=1}^{p=5} a_i \Delta Fcap_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta M2_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Cps_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Rintr_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Excr_{t-1} + \varphi_1 ECM_{1t-1} + e_{1t} \quad \ldots (3.7)$$

$$\Delta Fcap_t = a_i + \sum_{i=1}^{p=5} a_i \Delta M2_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Cps_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Rintr_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Excr_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta rGdp_{t-1} + \varphi_1 ECM_{2t-1} + e_{1t} \quad \ldots (3.8)$$

$$\Delta M2_t = a_i + \sum_{i=1}^{p=5} a_i \Delta Cps_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Rintr_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Excr_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta rGdp_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Fcap_{t-1} + \varphi_1 ECM_{3t-1} + e_{1t} \quad \ldots (3.9)$$

$$\Delta Cps_t = a_i + \sum_{i=1}^{p=5} a_i \Delta Rintr_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Excr_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta rGdp_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Fcap_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta M2_{t-1} + \varphi_1 ECM_{4t-1} + e_{1t} \quad \ldots (3.10)$$

$$\Delta Rintr_t = a_i + \sum_{i=1}^{p=5} a_i \Delta Excr_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta rGdp_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Fcap_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta M2_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Cps_{t-1} + \varphi_1 ECM_{5t-1} + e_{1t} \quad \ldots (3.11)$$

$$\Delta Excr_t = a_i + \sum_{i=1}^{p=5} a_i \Delta rGdp_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Fcap_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta M2_{t-1} + \sum_{j=1}^{p=5} \beta_j \Delta Cps_{t-1} + \sum_{k=1}^{p=5} \gamma_k \Delta Rintr_{t-1} + \varphi_1 ECM_{6t-1} + e_{1t} \quad \ldots (3.12)$$

Whereas:

Δ = Difference operator
α = Constant term
φ = Speed or rate of adjustment

p = optimal lag length

ECM_{1t-1}, ECM_{2t-1},ECM_{3t-1}, ECM_{4t-1}, ECM_{5t-1} ECM_{6t-1} andECM_{7t-1} are the error correction terms respectively, while e_{1t}, e_{2t}, e_{3t}, e_{4t}, e_{5t},, e_{6t}, ande_{7t}, are error terms which are identically and independently normally distributed with mean zero and constant variance,

α, β and γ are the error correction coefficients and are expected to capture the adjustment of ΔrGdp, ΔFcap, ΔM2, ΔCps, ΔRintr, ΔExcr towards long run equilibrium, while $\Delta rGdp_{t-1}$, $\Delta Fcap_{t-1}$, $\Delta M2_{t-1}$, ΔCps_{t-1},$\Delta Rintr_{t-1}$, ΔExcr are expected to capture the short run dynamics of the model.

3.4 Economic A Priori

This specifically has to do with sign expectation set by economic theory and it is expected that parameters in this model have the correct signs and sizes that conform to economic theory. If they carry the expected signs, then the hypothesis is accepted otherwise they are rejected.

4.0 Results And Discussion

4.1 Pre-Estimation Analysis (Unit Root Test)

Table 1: Results of Augmented Dickey Fuller and Philip-Perron Unit Root Test

Variable	ADF Test			P-P Test		
	T-statistic value	*5% critical value*	*Order of Integration*	*T-statistic value*	*5% critical value*	*Order of Integration*
rGdp	-5.677279	-2.971853	I(1)	-5.708038	-2.971853	I(1)
Fcap	-9.292745	-2.971853	I(1)	-9.283480	-2.971853	I(1)
M2	-5.740318	-2.991878	I(1)	-7.478409	-2.971853	I(1)
Cps	-4.878497	-2.981038	I(1)	-7.682981	-2.971853	I(1)
Rintr	-5.031670	-2.967767	I(0)	-5.026009	-2.967767	I(0)
Excr	-5.568183	-2.971853	I(1)	-3.423399	-2.967767	I(0)

Source: Author's computation from E-views 8.0

From table 1 above only real interest rate and exchange rate were stationary at level while the rest are fist difference stationary. Attainment of stationarity under both the Augmented Dickey Fuller and Philips-Perron unit root test is when their critical value is less than their t-statistic value in absolute form at the 5% level of significance. The result thus indicates that all variables in the model are either first difference or level stationary. Since all the variables are not stationary at their first difference as well as not integrated at level, co-integration analysis is justified. We therefore proceed to conduct the long-run relationship of the variables and their short term speed of adjustment to equilibrium.

4.4 Optimal Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-2036.956	NA	9.55e+55	145.9254	146.2109	146.0127
1	-1908.244	193.0673	1.36e+53	139.3032	141.3015	139.9141
2	-1845.312	67.42743*	2.94e+52*	137.3794*	141.0906*	138.5140*

* indicates lag order selected by the criterion

Table 2: Lag Length Selection Criteria

Source: Author's computation from E-views 8.0

Prior to testing for cointegration in econometrics, the rule states that an optimal lag length criteria be selected. According to this approach, the lag length of the VAR must be small enough to allow estimation and high enough to ensure that errors are approximately of white noise. As such, using five different information criteria viz: sequential modified LR test Statistic (LR), final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn information criterion (HQ), it is concluded that the optimal lag length for the series is two (2) as shown in table 2 above.

4.2 JOHANSEN COINTEGRATION TEST

Having established stationary of the variables, we determine the existence of a long-run equilibrium relationship among the variables in the model. To realize this, the study employed the Johansen cointegration technique. The series under consideration include real gross domestic product, foreign capital, money supply, credit to the private sector, real interest rate and exchange rate.

Trace Statistic	5% critical value	Prob. Value	Max- Eigen statistic	5% critical value	Prob. Value
198.2672	95.75366	0.0000	77.74322	40.07757	0.0000
120.5240	69.81889	0.0000	42.19617	33.87687	0.0041
78.32784	47.85613	0.0000	36.26183	27.58434	0.0030
42.06601	29.79707	0.0012	34.30859	21.13162	0.0004

Trace and Maximum Eigenvalue test indicates 4 cointegrating eqn(s)at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Table 2: Series: *rGdp, Fcap, M2, Cps, Rintr, Excr*

Source: Author's computation using E-views 8.0

From table 2 above it can be seen that the trace statistic (t*) is greater than the critical value at 5% or since the maximum eigen value are greater than 5% level of significance, we reject H_o and conclude that the variable are cointegrated. Put differently, there is a sustainable long-run relationship (i.e. steady-state path) between real gross domestic product (rGdp), foreign capital (Fcap), broad money supply (M2), credit to the private sector (Cps), real interest rate (Rintr) and exchange rate (Excr). Having established that there is a unique longrun relationship among the series in the mode, an economic interpretation of this relationship is obtained by normalizing the cointegrating coefficients for one co-integrating equation as follows:

4.3 NORMALIZED ESTIMATES OF THE UNCONSTRAINED CO-INTEGRATING VECTOR

$$\underset{\textit{(1.82173)}}{+2.306143(\text{Fcap})} + \underset{\textit{(865619)}}{33484516(\text{M2})} - \underset{\textit{(3.4E+08)}}{2.07\text{E}+09(\text{Cps})} - \underset{\textit{(2.9E+08)}}{1.03\text{E}+09(\text{Rintr})} + \underset{\textit{(4.1E+07)}}{67595913(\text{Excr})}$$

$$\text{rGdp} = 1.000000$$

Note: Standard errors are in parenthesis

The positive sign of the coefficient of foreign capital (proxy for net foreign inflows) indicated a direct relationship between the dependent and independent variable (Fcap). This implies that net

inflows from abroad have potential significant impact on the growth of financial sector of the Nigerian economy. Similarly, there is a positive and significant relationship between money supply and economic growth, meaning that a unit increase in the volume of money stock in the economy translates to a robust functioning of the financial services sector and by extension the Nigerian economy. On the other hand, credit to private sector has an inverse relationship with the dependent variable, implying that the private sector in Nigeria have been starved of credit (loanable fund) thereby adversely affecting businesses and the entire economy in the long-run. In the same vein, interest rate appeared with a negative sign. It revealed that a percentage decrease in the cost of borrowing, holding other factors constant will result to an increase in the overall growth of the national economy. This is realizable because economic theory posits that a low interest rate charge by banks is an impetus to robustness in economic activities in an economy. Finally, the coefficient of exchange rate appeared positive and is statistically significant in relationship to the dependent variable.

4.4 Error Correction Mechanism

The existence of a long-run cointegrating equilibrium provides for short-term fluctuations. In order to strengthen out or absolve these fluctuations, an attempt was made to apply the Error Correction Mechanism (ECM). As noted, an ECM is meant to tie the short-run dynamics of the cointegrating equations to their long-run static dispositions. It is hereunder presented.

Error Correction:	D(log(rGdp))	D(log(Fcap))	D(log(M2))	D(log(Cps))	D(log(Rintr))	D(log(Excr))
CointEq1	-0.004576	0.089620	-0.003662	0.020897	0.328465	***-0.06235***
	(0.02464)	(0.04277)	(0.02824)	(0.02979)	(0.12993)	***(0.02458)***
	[-0.18570]	[2.09519]	[-0.12968]	[0.70145]	[2.52809]	***[-2.53675]***

Table 3: Extract of the Error Correction Mechanism Result

Source: Author's computation using E-views 8.0

From the result the coefficient of error correction term is -0.06235. This value is chosen because it is the most statistically significant in the ECM output with a t-statistic value of -2.53675. The ECM coefficient however revealed a very sluggish adjustment speed, indicating that a longer period is required to adjust back to an equilibrium path from any maladjustments or misalignment of macroeconomic variables under reference. Specifically, empirical evidence revealed that 6.24% of the errors in the short run are corrected each year. Thus, the coefficient captures the speed for adjustment at which the short-run of rGdp ties with its long-run.

4.5 Granger Causality Test

Having ascertained the existence of a unique long-run relationship among the variables, it becomes imperative that there exists granger causality among them in at least one direction.

Null Hypothesis: _____ does not grange cause ____
Decision rule: *'Accept'* *null hypothesis if and only if the F-statistic value is less than 2.5 or the P-value is greater than 0.05%, otherwise* ***'Reject'***

Description	Nature of Causality	Decision	F-Statistic
Fcap does not Granger cause rGdp	Bidirectional	Reject (Causality)	14
rGdp does not Granger cause Fcap	Bidirectional	Reject (Causality)	9
M2 does not Granger cause rGdp	Unidirectional	Reject (Causality)	51
Cps does not Granger cause rGdp	Bidirectional	Reject (Causality)	7
rGdp does not Granger cause Cps	Bidirectional	Reject (Causality)	10
Fcap does not Granger cause M2	Unidirectional	Reject (Causality)	5
Rintr does not Granger cause Excr	Unidirectional	Reject (Causality)	7

Table 4: Extract Granger Causality Test Output

Source: Author's computation using E-views 8.0

The output depicts the nature and significance of the causality that existed between the variables in the model. This is important as it provides answer to the third objective specified in this study. Section one and three of the table revealed bidirectional causality from foreign capital (net foreign inflows) to real gross domestic product (proxy for the Nigerian economy) and credit to the private sector to real gross domestic product at 5% significant level. The implication of this causal flow indicates that foreign capital and credit (loanable funds) made available to the private sector by the financial sector contributes significantly to the growth of the Nigerian economy and vice-versa during the period under reference. Section two, four and five however revealed the existence of a one-way causation between the series M2 to rGdp, Fcap to M2 and Rintr to Excr respectively. This implies that a rise in gross domestic product was a function of the quantum of money in circulation between the periods studied. In the same vein foreign capital caused money supply in the economy to grow as investors from abroad came in with their capital to invest in the economy.

4.6 POST-ESTIMATION ANALYSIS

The insignificant probability value from the Autocorrelation LM test revealed no presence of autocorrelation in the model. In addition, the inverse root of Auto-Regressive characteristic Polynomial suggests that the residuals of the models are stable. This is because the residual points all fell within the acceptable region. Based on the aforementioned, we conclude that the residuals are stable for the study period. This further indicated that the model is stable and valid for policy making

5.0 CONCLUSION AND RECOMMENDATIONS

This study investigated the impact of net capital inflows on financial sector of the Nigerian economy between 1986 to 2015. Data for the study were essentially annual secondary time series obtained from the database of World Bank Development Indicators (WBDI) employed for the

study. Net capital inflow was proxied by an aggregation of foreign direct investment, foreign portfolio investment and official development assistance. Other variables built into the model included money supply, credit to the private sector, real interest rate, exchange rate and real gross domestic product respectively. The empirical results revealed the presence of a long run relationship among the variables specified in the model. The adjustment parameter was significant and appropriately signed. This showed that economic growth and other key macroeconomic variables in Nigeria adjust fairly, though sluggishly to financial sector development within the period referenced. Further evidence from granger causality testing indicated bidirectional causality from foreign capital (net capital inflows) to real gross domestic product (proxy for the Nigerian economy) and credit to the private sector to real gross domestic product at 5% significant level. The implication of this bidirectional causality flow showed that foreign capital and credit (loanable funds) made available to the private sector by the financial sector contributes significantly to the growth of the Nigerian economy and vice-versa during the period under reference. Furthermore, it was revealed that a one-way causation existed between the series M2 to rGdp, Fcap to M2 and Rintr to Excr respectively.

Deriving from the above policy implications, this study thus concludes that net capital inflows have a significant impact on broad money supply (M2) to the financial sector in Nigeria; similarly, there exists a unique longrun relationship between foreign capital (net inflows) and financial sector of the Nigerian economy. Finally, there is evidence of causality among the variables in the model in relation to Real Gross Domestic Product in Nigeria within the period studied. Notwithstanding the above laudable results, the Nigerian government is advised to take more seriously the responsibility of creating an enabling environment for effective, value–adding foreign direct investment, particularly in the banking sector, without losing the prerogative of sovereignty. What this mean is that government should step up efforts in attracting foreign direct investment into the sector by ensuring that investors confidence is protected. The present near zero-relevance of financial institutions in granting credit to the real sector of the economy should give our policy makers sleepless nights. Government should therefore evolve an investment friendly interest rate regime supportive of the growth objective of the government. A lower cost of borrowing would induce the desire for credit expansion thereby encouraging investment activities in the country.

REFERENCES

1. Adekunle, O.A., Salami, G..O. and Adedipe O.A. (2014) Impact of Financial Sector Development on the Nigerian Economic Growth American Journal of Business and Management Vol. 2, No. 4.
2. Asterious, D. and. Hall, S (2007). Applied Econometrics: A Modern Approach. Palgrave Macmillan, London.
3. CBN (2015) Statistical Bulletin, http://www.cenbank.org/out/2015/publications / statistics / 2010/index.html
4. CBN (2008): Central Bank Annual Report and Statement of Account (2008),Chigbu E.E., Ubah, C.P, &Chigbu, U. S. (2014) Impact of Capital Inflows on Economic Growth of Developing Countries. International Journal of Management Science and Business Administration Volume 1, Issue 7, pp 7-21
5. Gujarati, D.N. and D.C. Porter, (2009). Basic Econometrics. McGraw-Hill International, New York.

6. Narayan, S. (2013), Causal Relationship between Foreign Capital Inflows and Economic Growth: Empirical Evidence from India", International Journal of Economics, Finance and Management, 2, No.1. www.ejournalofbusiness.org

7. Ndlovu, G. (2013) Financial sector development and economic growth: Evidence from Zimbabwe.

8. International Journal of Economic and Financial Issues, 3, 435–446.

9. Nkoro, E.; Uko, A.K.(2013) Financial sector development-economic growth nexus: Empirical evidence from Nigeria. International Journal of Contemporary Research, 3, 87–94.

10. Obiechina, M.E and Ukeje E.U. (2013), "Economic Growth, Capital Flows, Foreign Exchange Rate, Export and Trade Openness in Nigeria", International Journal of Economics and Management Sciences, Vol.2, No.9, pp.01-13. managementjournal.org

11. Sanni, G.K. (2012) Foreign capital inflows, financial deepening and economic growth in Nigeria. Journal of Economic and Social Studies, 54, 111–135.

12. Uche, C.U, (2005). Ethics in Nigerian Banking, Journal of Money Laundering Control, 1(3), pp66-67

13. Wooldridge, J.M. (2006) Introductory Econometrics: A Modern Approach. Thomson Learning Mason, USA.

14. World Bank.(1996). World Debt Tables: External Finance for Developing Countries. Vol.1 (Analysis and Summary Tables). Washington, D. C.

15. World Bank (2016). World Development Indicators 2016. Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/23969 License: CC BY 3.0 IGO."