

# Attaining Sustained Economic Growth in Nigeria through the Neo-Classical Growth Model of Capital Accumulation

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## Abstract

The spread of capital accumulation as a result of globalization has many scopes and a variety of economic, political, social, and environmental implications. This paper examines Nigeria's economic growth through the neoclassical growth model of capital accumulation in order to ascertain its applicability as theorized from the model and its spillover effects through globalization. The Vector Auto Regressive (VAR) Model is employed using time series data covering the period of 1981 – 2014. The result reveals that the benefits of capital accumulation through various channels (domestic savings, foreign direct investment, total trade, market capitalization, and trade openness) are yet to be achieved given the small magnitude of some of the coefficients. However, with the statistical significance, there is room for improvement. It is also evident that FDI has been significant, but its inflow is lopsided to the dominant oil sector – thus contributing little to the growth of the real economy. Also, to achieve sustained growth through accumulation, the endemic problems of poor infrastructure, weak regulation and institution, political will and unstable macroeconomic variables need to be readdressed. The study therefore recommends: that domestication of globalization through capital accumulation in Nigeria will go a long way in integrating her into the global economy through: channeling of foreign direct investment into growth enhancing sectors; encouraging savings and widening the capital market as a key organ for sourcing financial resource for sustained economic growth.

**Keywords:** Sustained Economic Growth, Neo Classical Model, Capital Accumulation, Globalization, Foreign Direct Investment

## 1.1 Introduction

Many scholars such as Harrod-Domar, Solow and Duesenberry, have laid emphasis on the role of investment as one of strategic factors in the process of economic development and as such the need for capital inflow into an import dependent country like Nigeria. The role assigned to globalization in Foreign Direct Investment (FDI) cannot be over emphasized since FDI is the largest single source of external financing for less developed countries like Nigeria. As pointed out by Schirato and Webb (2003), “globalization is a process integrating not just the economy but, culture, technology and governance”. Since no nation in the world is economically self-sufficient, there is mutual interdependence among countries. The less developed countries particularly depend on the developed countries for finance, technology and even technical manpower while the advanced countries depend on the less developed countries majorly for raw materials. Therefore the need for inflow of foreign resources beyond a nation's frontier becomes inevitable.

FDI inflows to Nigeria amounted to 588 million dollars in 1990, rose to \$1,079 million in 1995, and declined to \$930 million in 2000 (UNCTAD, 2002b). FDI inflows to the country stood at \$1.14 billion in 2001, \$7.8 billion in 2008, \$8.5 billion in 2009, and \$8.9 billion in 2011; it however dropped by 21.34 per cent to \$7.1 billion in 2012 (UNCTAD, 2013). According to Dandi (2009) out of the \$8.5 in 2009, Nigeria's oil sector alone received 90 percent of the FDI inflow. Notwithstanding, Nigeria is still amongst the top three receipts of FDI along with Angola and South Africa accounting for about 10% of FDI flowing to the region. Nigeria in 2011 emerged as Africa's biggest destination for FDI in Africa, amounting to \$8.92bn, from \$6.10bn recorded in 2010.

Obadan (2004d and 2004e) observed that foreign capital inflows are usually perceived as a good thing and an indicator of success, reflecting a record of prudent macroeconomic management. For instance, inflow of foreign capital when foreign companies or investors invest in domestic securities, provide needed fund for capital development and acts as a channel of widening the broad-based ownership of firms/corporation with the aim of increased operations leading to increase in output/production. According to Al-Faki (2006), the capital market is a “network of specialized financial institutions, series of mechanisms, processes and infrastructure that, in various ways, facilitate the bringing together of suppliers and users of medium to long-term capital for investment in socio-economic developmental projects”.

The Nigerian market capital recorded significant rise in market capitalization during the democratic regime as it stood at ₦1.35 trillion in 2003 and ₦5.12 trillion in 2006 and reached a peak of ₦13.30 trillion in 2007 before the global financial crisis and because of the effect, it shrank to ₦9.56 trillion in 2008 (CBN, 2009). However, the performance of its primary obligation has greatly been limited owing to the structure of the economy; which is dominated by oil activity. Similarly, the full listing of oil producing companies on the stock exchange which ordinarily should complement other listed companies in financing long term projects that will

translate to improvements in living standards and extensive macroeconomic stability is yet to be seen. According to UN Report (2010), close to 54 percent, or 72 million, live on less than \$1 a day. Several factors including widespread corruption, underinvestment in key infrastructure, lack of diversification and ‘Dutch Disease’ have jointly resulted in poor economic performance.

Winters (2002) demonstrated that trade can affect poverty through different channels (economic growth, price changes, market and government revenue). Nigeria signed a treaty to become a global player and an entrepreneur of the World Trade Organization (WTO) in 1983 with the intent to become a competitor in the global market (Igudia, 2003). Ever since then, oil sector has remained the major traded product despite the enormous potentials in non-oil products which Nigeria was known for before the discovery of oil in 1958. This is evident as oil value of trade between 2000 and 2009 amounted to N34.2 trillion while non-oil value of trade was N7.3 trillion, representing 82.36% and 17.64% respectively (CBN, 2009). Total trade value for the year 2013 stood at about N21.261 trillion, which is lower when compared with the N28.071 trillion recorded for the corresponding period in 2012 (NBS, 2013). This shortfall is attributed to decline in exports volume, which also dropped by about 36.5 per cent. In the same vein, Onwuka and Eguaveon (2007) revealed that Nigeria is monocultural exporter, over 80 per cent of her exports is made up of crude petroleum between 1985 and 2001. Food, agricultural raw materials, and manufacturing accounted for only 1 per cent of total export in 1990, but this fell to 0 per cent in 2000. This is a clear indication of lopsidedness in the way and manner FDI inflows are channeled to various sectors of the economy.

With a population of 174 million as at July 2013 (NPC, 2014), the CBN Annual Report (2013) shows a GDP growth rate of between 6-7 percent since 2007 amounting to about \$450 billion in 2013. Besides, the recently rebased GDP shows Nigeria ranked as the largest economy in Africa. However, other major economic indices do not show the robust scenario as depicted by the information above characterized by vicious circle of poverty and very low savings culture which cannot accelerate required domestic investment. The number of Nigerians living below the poverty line rose from 68.7 million in 2004 to 112.5 million in 2010 out of a population of about 174 million (NBS, 2012). The global financial crises, huge debt, and the continuous fall in the price of crude oil at the international market has further constituted much burden and worry, thereby making it difficult for the overall improvement of the economy.

Given the above scenario, it becomes more pathetic and worrisome that Nigeria possesses largely untapped natural resources yet lack the requisite knowledge and technical-know-how in harnessing these resources for the betterment of the general populace. Successive governments since 1960 have pursued several policies geared towards the twin objectives of achieving economic growth and development by influencing foreign investment and putting in place policies aimed at stimulating the flow of investment in the various sectors of the economy. According to Ismaila and Imoughele (2015) long-term broad-based economic growth is essential for Nigeria to increase incomes and enable her reach the potential of becoming a significant trade and investment partner in the world. While rapid growth in China, Malaysia and India for instance, has lifted millions beyond subsistence living, Nigeria and many other African countries have, however, experienced the opposite by recording low growth rates.

It is against this backdrop that this paper seeks to investigate the workability of the neoclassical growth model in the Nigeria economy with emphasis on its core parameter of capital accumulation. Specifically, the objective of this paper includes: (i) to examine the impact of capital accumulation through globalization on the Nigeria economy (ii) to evaluate the relative effect of the various channels of growth on the Nigerian economy. The hypothesis tested is: capital accumulation through globalization does not contribute significantly to the real growth of the Nigeria economy. The method of analysis is the Vector Auto Regressive (VAR) Model under the theoretical framework of neoclassical growth model.

The rest of the paper is structured as follows. Section two covers the theoretical framework and review of related literature. Section three presents the methodology, data analysis and presentation of results while the summary of findings and recommendations is done in section four.

## 2.1 Theoretical Framework

There are several theories of globalization vis-à-vis capital accumulation and economic growth as a framework of developing the third world countries through investment and free trade such as, neoclassical growth theory, endogenous growth model, Solow growth model, global capitalism, external capital deficit theory among others. The theoretical underpinning of this paper centres on the neoclassical growth model and external capital deficit theory.

The neoclassical growth model suggests that integration into the world economy is associated with improvement in economic performance. This school of thought is concerned primarily with the efficient and cost effective allocation of scarce resources and with the optimal growth of these resources over time. This is done through promoting free trade, export expansion, investment, welcoming investors from developed countries, and eliminating the plethora of government regulations and price distortions in factor, product, and financial markets

with which economic efficiency and economic growth is stimulated. Opening up of national markets draws additional domestic and foreign investment and thus increases the rate of capital accumulation. Capital accumulation results when some proportion of present income is saved and invested in order to augment future output and incomes (Todaro and Smith, 2003). Capital accumulation is a component of economic growth and a core parameter in the neoclassical growth theory. The other components include growth in population, growth in labour force and technological progress. All these phenomena and many others are forms of investments that lead to capital accumulation.

The benefit of capital accumulation as a result of globalization is far from been felt in terms of contribution to real gross domestic product especially in an environment with severe socioeconomic inequality which is rooted in institutional and political structure alongside differing value systems and ideologies. Many theories especially linear-staged model, place crucial role on savings and investment in promoting sustainable long-run growth. Even Harrod-Domar model and the Solow neoclassical growth model suggested that savings is an important factor for economic growth. Nevertheless, the lack of sufficient domestic resources, savings and investment to support and sustain the sectors is a major impediment to economic development in the country because of the gap between savings and investment (Imimole and Imoughele, 2012). In the same vein, Rostow (1960) observes that for the process of economic development to actually take-off, there is the need for sustained growth in terms of critical growth in the ratio of investment to national income. Similarly, Lewis (1955) notes that the process of economic development involves transforming an economy from being a 5% saver and investor to that which saves and invest at least 12% of its net income.

Harrod (1939, 1948), Domar (1946), and Solow (1956) based their assumption on increasing capital accumulation; population and technical efficiency as the sources of economic growth. Solow's model was criticized on many factors which have been widely refuted empirically. Hence, Arrow (1962) and Solow (1986) made some modifications to the original model by incorporating human capital into the model. However one cannot doubt the positive relationship between investment and economic growth. Thus, the relationship between investment and growth may be uni-directional or bi-directional. This informed Romer (1986, 1987) and Lucas (1988) to further emphasize the role of investment in the process of economic growth under their new growth theory.

There exists a savings-investment gap in most developing countries. This gap needs to be financed through increased domestic savings or from foreign savings in the form of capital inflows. Although the extent to which an economy is opened depends on macroeconomic environment such as the domestic and foreign investment, level of exchange rate, inflation and interest rate, export and import, output among others; it is pointless for countries to operate in isolation especially with the emerging global economy. It is on this premise that this study focuses on capital accumulation as a core parameter of the neoclassical growth theory to see whether globalization has helped in widening the gains of capital accumulation as enjoyed by other foreign counterparts like China, Brazil, and Malaysia.

## 2.2 Review of Related Literature

The impact of capital accumulation through globalization on economic growth and development has often been analyzed with various data, measures and methods.

Chanda (2001) used index of capital account openness to show that more developing countries have suffered from globalization while Rodrik (1998) as well as Alesina, Vittorio, and Milesi-Ferreti (1994) found no effect of capital account openness on economic growth. With respect to Foreign Direct Investment (FDI), there is evidence of a positive growth effect in countries which are sufficiently rich (Blomstrom, Lipsey and Zejan, 1992) and a negative relationship in low-income countries (Garrett, 2001). While Borensztein, De Gregorio and Lee, (1998) provides evidence of a positive growth effect given a minimum threshold stock of human capital. Dollar (1992) analyzed the relationship between economic performance and trade openness. Frankel and Romer (1996) studied those between growth and actual flows. Their results show that both trade openness and actual trade flows are robustly related to growth. These studies present only cross-sectional estimates. Moreover, they do not adequately control for endogeneity. Their results might therefore reflect unobserved characteristics which do not vary over time instead of being the consequence of globalization or might reflect reverse causality. Streeten (1999) observes that economic liberalization, technological changes, competition in both labor and product markets contributed to economic failure, weakening of institutions and social support systems, and erosion of established identities and values.

Dollar and Kraay (2001) found that an increase in trade flows and foreign direct investment resulted in higher growth rates. Carkovic and Levine (2002) to the contrary, did not find a robust influence of foreign direct investment on growth. Their results show that no robust relationship exists. As observed by Aluko (2003), statistics showed that the third world poor countries representing eighty per cent of total world population accounted for twenty one per cent of world income in 2000 but about eighty five per cent of international capital investment was made in Europe, North America and Japan (called the Triad) in the last decade compared with

similar investments in 1980. His position is that globalization is rather destructive to the developing countries. Aluko (2003) observed further that of the world's gross domestic product (GDP), which was about 25 trillion US dollars in 2000, only about 5 trillion US dollars was produced in the developing countries where about 85 per cent of the world population reside.

In a study based on stylized facts and econometric methods, Uwatts (2004), observed that globalization could potentially benefit the African economy. He concluded that potential benefits derivable by African countries depended largely on how fast they could be integrated into the rest of the world and their preparedness to meet the global financial shocks resulting from globalization. Akinboyo's (2003) study on Nigeria appeared to support the need for preparedness on the part of African countries. This view was supported by Olayiwola and Ogundiran (2003). Akinlo (2003) examined the impact of globalization on the stock market and observed that globalization through foreign direct investment (FDI) has significant positive effect on stock markets in Africa. The study further revealed that FDI stock has a significant impact on capital formation and factor productivity. Dollar and Kraay (2004) studied the effects of globalization on poor developing countries and noted that over half of them that experienced globalization gained large increases in trade and considerable reduction in tariffs. These countries are catching up with the developed ones while the remaining ones are losing. They reported that increase in economic growth lead to a proportionate increase in the income of the poor.

Alimi and Atanda (2011), in their study "globalization, business cycle and economic Growth in Nigeria" investigated the effect of globalization on economic growth in Nigeria between 1970 and 2010 amidst cyclical fluctuations in foreign investments. They employed autoregressive model that regress trade openness, cyclical foreign investment to gross domestic products. External reserves, debt stock and exchange rate on real gross domestic product revealed that globalization has positive and significant effect on economic growth in Nigeria, while the positive relationship of business cycle and real output growth was insignificant. Also, external reserves tends to significantly shield the economy from external shocks and the international relative prices stabilize the growth rate of real output in Nigeria. The study concludes that globalization and cyclical movement in foreign investment have significantly enhanced economic growth in Nigeria. Thus, the study proffers the use of strategic macroeconomic policy framework to enhance the benefits of trade interactions and global competitiveness.

Hassan, (2013) in his study, an appraisal of the effects of globalization on the Nigerian economy using secondary data in his analysis with the aid of Ordinary Least Square (OLS) via multiple regression techniques revealed that there is a strong positive relationship between Nigeria's Gross Domestic Product (GDP) and Foreign Direct Investment (FDI). That is, FDI has impacted on the Nigerian economy positively. However, the study further revealed that import has been growing over time though not at the pace of the GDP, whereas exports has been significant over the period of study. The study, therefore recommended that efforts should be geared towards creating an enabling environment for FDI to thrive in the economy and that imported products that are produced locally should be discouraged from being imported to give room for local industry to thrive as well.

Several scholars have diverse view on the impact of capital accumulation through various channels of economic growth in Nigeria, which have been made possible through economic integration which we tag "globalization". However, the fact remains that, there is no clear consensus as to which of the channels has the potentials to contribute more. This paper seeks to contribute to this line of research and thus proceeds by investigating the long run relationship between channels of economic growth in Nigeria with emphasis on foreign direction investment, domestic savings, total trade, market capitalization, trade openness and exchange rate covering a period of 34 years using the VAR model. Also the findings from the study would enable the researchers to appropriately advise the government on the channels to give priority in the development process.

### 3.0 Methodology

#### 3.1 Estimation Method

To empirically analyze the impact of capital accumulation through globalization on the Nigerian economy, we cover the period 1981 to 2014. Estimates and tests are based on analysis of time series (stationary test, parameter stability test, and VAR)). A cue was taken from the model of Alimi and Atanda, (2011) and modified in order to achieve stated objectives. The time-period is adopted because it spans through the era of structural adjustment programme, post-structural adjustment periods, other economic reforms and the recent global financial crisis – within which globalization has spread across the globe. The model is precisely expressed as follows:

$$RGDP = \alpha_0 + \alpha_1 FDI + \alpha_2 TSV + \alpha_3 TTR + \alpha_4 MCP + \alpha_5 TOP + \alpha_6 EXR + \mu$$

Where: RGDP = Real Gross Domestic Product;

FDI = Foreign Direct Investment

TSV = Total Savings

TT = Total Trade

MCP = Market Capitalization

TOP = Trade Openness  
 EXR = Exchange Rate  
 $\mu$  = Random Variable and  
 $\alpha_0 - \alpha_5$  = Parameters to be estimated.

Based on a priori expectation FDI, TSV, TTR, MCP, and TOP, are expected to have a positive sign while EXR is to be negative. Symbolically, it is expected that;  $\alpha_0 - \alpha_5 > 0$ ; and  $\alpha_6 < 0$ .

### 3.2 Data Analysis

The unit root is used to examine the stationarity of the data series and since the data is time series, the ADF test is employed. It is important because it enhances validity of results and is also a prerequisite to the OLS and Cointegration test. The result of the stationarity test is presented below:

**Table 1: Stationarity Test**

Variable	ADF Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Prob.	Order of Integration
RGDP	-5.37	-3.65	-2.96	-2.62	0.0001	I(1)
FDI	-6.44	-3.65	-2.96	-2.62	0.0000	I(1)
TSV	-7.00	-3.66	-2.96	-2.62	0.0000	I(2)
TTR	-5.03	-3.65	-2.96	-2.62	0.0003	I(1)
MCAP	-5.19	-3.65	-2.96	-2.62	0.0002	I(1)
TOP	-7.62	-3.65	-2.96	-2.62	0.0000	I(1)
EXR	-5.38	-3.66	-2.98	-2.62	0.0001	I(1)

Source: Authors' Computation, Eviews8.

From the result above, the variables achieved stationarity at first difference, that is, I(1), except TSV which is at second difference, that is, I(2). For all the variables, the ADF test statistic is greater (using absolute values) than the critical values at all significant levels. This is further buttressed by the low probability values.

#### Implication of I(1,2)

This shows that the variables exhibit a random walk suggesting short run disequilibrium implying that the outcome of the regression model may be empirically deficient hence yielding misleading results. Thus, estimates of equation will only be valid if all the variables are level stationary. Thus, there is need to correct for short run disequilibrium.

#### VAR Lag Order Selection Criteria

An optimal lag of 2 is chosen for the empirical model based on Schwarz Information Criterion, Akaike Information Criterion, Sequential Modified LR Test Statistic, Final Prediction Error and Hannan-Quinn Information Criterion.

**Table 2: Lag Order Selection Criteria**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1529.544	NA	1.20e+33	96.03398	96.35461	96.14026
1	-1314.932	321.9182	4.14e+28	85.68322	88.24826	86.53346
2	-1059.935	270.9343*	1.72e+23*	72.80841*	77.61786*	74.40261*

\* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

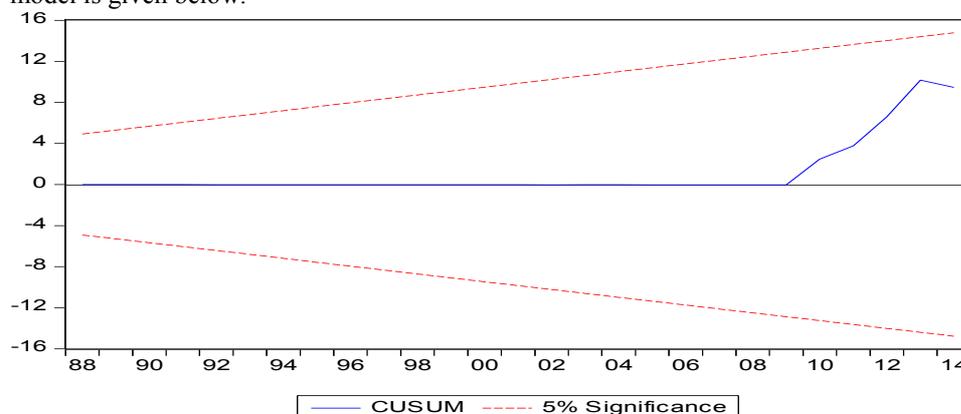
Source: Authors' Computation, Eviews8.

#### Stability Diagnostics

There are several diagnostic tests that examine whether the parameters of the model are stable across various subsamples of given data. The CUSUM test adopted is based on the cumulative sum of the recursive residuals. This option plots the cumulative sum together with the 5% critical lines. The test finds parameter instability if the cumulative sum goes outside the area between the two critical lines. The significance of any departure from the zero line is assessed by reference to a pair of 5% significance lines, the distance between which increases with increases in t (subsamples). The 5% significance lines are found by connecting the points:

$$[k, \pm - 0.948(T - k)^{\frac{1}{2}}] \quad \text{and} \quad [T, \pm \times 0.948(T - k)^{\frac{1}{2}}]$$

Movement of recursive residuals outside the critical lines is suggestive of coefficient instability. CUSUM for the model is given below:



**Fig. 1: CUSUM Recursive Residuals**

**Source: Authors' Computation, Eviews8**

The test clearly indicates stability in the equation during the sample period.

### 3.2.1 Effect of Capital Accumulation on the Nigerian Economy

Since the stationarity test has purported the validity of our results giving rise to the use of the VECM, we proceed to analyse the effect of capital accumulation on the Nigerian economy. The long run model is presented below:

Given the model;

$$RGDP = \alpha_0 + \alpha_1 FDI + \alpha_2 TSV + \alpha_3 TTR + \alpha_4 MCP + \alpha_5 TOP + \alpha_6 EXR + \mu$$

The mathematical coefficients of the stochastic model thus become:

$$RGDP = 1.00 + 34.71FDI - 24.39TSV + 4.71MCP + 0.71TTR - 198.45TOP - 6.55EXR$$

(2.05)            (0.16)            (0.30)            (0.03)            (100.46)            (1.73)

**Source: Authors' Computation from Eviews8**

*Note: Standard Error in Parenthesis*

From the result of the long run model obtained, the variables TSV and TOP do not conform to a priori expectation both displaying negative signs. Total Savings as a ratio of GDP averaged 9% within the study period which indicates a poor savings culture in the Nigerian economy. The result reveals that a 1% change in TSV decreases RGDP by 24.39% of that unit change. This negative relationship accentuates the paradox of thrift thus investment is therefore constrained limiting real growth in Nigeria. The negative sign has further refuted the accelerator investment principle about the positive relationship between investment and economic growth and is in line with work of Carkovic and Levine (2002), Akinlo (2004) and Aluko (2003) but contrary to findings of Alimi and Atanda (2011) and Hassan, (2013).

The coefficient of TOP reveals that a 1% change will result to a 198.45% decrease in RGDP by that unit change. The degree of openness of the Nigerian economy is still weak. This is characterized by over dependence on imports which has relegated the competitiveness of Nigeria's exports in the foreign market and its goods in the domestic market. This implies that emergence of globalization over the years have not enhanced real growth rate in terms of trade integration. This has justified the negative increase obtained in the coefficient of total trade above and this could be attributed to the mono-economy Nigeria operates where everything depends on oil trade. This remains a great challenge in the Nigerian economy.

FDI, MCP, TTR and EXR are correctly signed in consonance with a priori expectation. The coefficients obtained reveal that a 1% change in FDI will increase RGDP by 34.71% of that unit change. It is relevant to note that despite Nigeria being the largest recipient of FDIs in Sub-Saharan Africa, its impact is yet to be felt. For instance, Nigeria's oil sector alone received 90 percent of the FDI inflow in 2009 (Dandi, 2009) which contributes less than 10% to GDP. This implies that FDI inflow into extractive industry might not be growth enhancing owing to the technological mode of production. Also the significant flows of FDIs witnessed is not surprising as studies have indicated that market size, natural resources and liberalization policies have served to attract foreign investments to Nigeria despite political instability (see Dandi, 2009) and weak macroeconomic variables in terms of high inflation, interest rates and exchange rate witnessed in recent times. Most often, we see cases of transfer of profit across national frontier instead of been reinvested.

The positive coefficient of Market Capitalization (MCP) indicates that a unit change in MCP will increase RGDP by 4.71% of that unit change. The test of significance indicates that, the parameter estimate is

statistically significant in influencing positively the long run growth of the economy. However, the small magnitude portends that the Nigerian capital market is yet to be fully integrated into the global economy in-terms of providing long-term needed fund for capital project as is done by foreign counterparts.

The coefficient of TTR is correctly signed and significant in improving the overall economic activity in Nigeria. This positive change in the variable will lead to massive trade activities in the economy and this is in line with the works of Dollar and Kraay (2001). The result shows that a 1% change in TTR will increase RGDP by 0.71% of that unit change. This small magnitude indicates that the benefit of trade as postulated by David Ricardo and Heckscher-Ohlin is yet to be actualized on the real growth of the Nigeria economy. It also salient that Nigeria's trade relation has not improved over time and is invariably unchanged.

The coefficient of exchange rate is correctly signed and conforms to a priori expectation. The higher the exchange rate, the more the Naira required which translates to high cost of goods and services thus impeding real growth. This is a clear picture of the trend in exchange rate which is increasing by the day from ₦92.70 to \$1 in 1999, ₦150.30 in 2010, ₦160.22 in 2014 and currently stands at ₦211 to \$1 as at the first quarter of 2015.

In addition, the coefficients of FDI, TSV, MCP, TTR and EXR are statistically significant ( $\frac{1}{2}b_1 > S.E.$ ). The coefficient of trade openness is however not statistically significant ( $\frac{1}{2}b_1 < S.E.$ ).

In accordance with a priori expectation there exists a positive and significant relationship between globalization through capital accumulation and the growth of the Nigerian economy. It suffices to note that, the small magnitude of the coefficients TSV (inverse effect), MCP and TTR is not encouraging. Sustainable growth can be achieved if there is increased investment and increased productivity. As government continues to provide the enabling environment needed to lay the foundation for investment to strive and boost production, income in turn will be generated and the general welfare of the citizens will be enhanced.

#### Short Run Model

The accompanying short run dynamics of the VAR model is shown below:

**Table 3: Vector Error Correction Model**

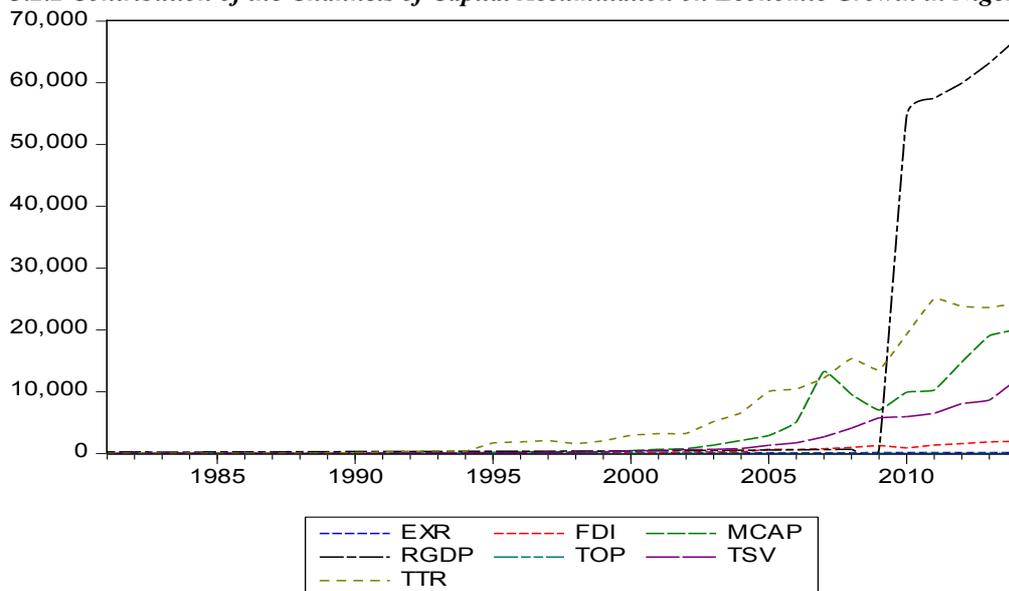
Variable	Coefficient	Standard Error	T statistics
ECM	0.08	0.13	0.62
D(RGDP(-1))	-0.84	0.05	-17.93
D(FDI(-1))	-16.85	3.72	4.53
D(TSV(-1))	11.42	2.35	4.85
D(MCP(-1))	-1.46	0.64	-2.29
D(TTR(-1))	0.55	0.25	2.24
D(TOP(-1))	-71.15	1501.77	-0.05
D(EXR(-1))	-4.83	8.86	-0.54
C	-151.53	213.64	-0.70

**Adjusted R<sup>2</sup> = 0.997, F statistics = 692.46, F<sub>0.05</sub> = 2.56**

**Source: Authors' Computation from Eviews8**

In the short run model, FDI, MCP and TOP are incorrectly signed. In addition, FDI, TSV, MCP and TTR are statistically significant. The adjusted R<sup>2</sup> shows a positive and very strong relationship between capital accumulation and economic growth in Nigeria. The coefficient of 0.997 suggests that 99.7% of the total variations in RGDP are accounted for by the model. Thus, only an insignificant proportion is unexplained by the regression equation. This further reveals that the additional explanatory variables have theoretical relevance to the data series. The F statistics validates the significance of the Adjusted R<sup>2</sup> and further buttresses the result by accentuating the goodness of fit of the model implying that the explanatory variables have joint impact on the dependent variable. The magnitude of the co integration term indicates that if there is any deviation, the long run equilibrium is adjusted slowly where only about 8% of the disequilibrium may be removed in each period. This shows that the speed of adjustment to where RGDP will equilibrate even when there is initial disequilibrium is at the rate of 8%.

### 3.2.2 Contribution of the Channels of Capital Accumulation on Economic Growth in Nigeria



**Fig. 2: Trend of Capital Accumulation on Economic Growth in Nigeria**

**Source: Authors' Computation from Eviews8**

The figure above represents the trend of Real Gross Domestic Product, Foreign Direct Investment, Total Savings, Total Trade, Market Capitalization, Trade Openness and Exchange Rate in Nigeria from 1981 – 2014. It shows that in 1981, the FDI was just ₦0.33 billion. There were no significant improvements in the inflow until 1989 where it amounted to ₦13.92 billion. It further dropped to ₦7.05 billion in 1991. FDI inflow rose gradually until it reached an all time high of ₦1,273.64 billion in 2009, slumped to ₦909.1 billion in 2010, increased to ₦1,360.42 billion in 2011, ₦1,601.2 billion in 2012, ₦1,859.27 billion in 2013, and ₦1,980.12 billion in 2014 respectively. This shows that FDI has been on the increase over the years, but however has little contribution to real gross domestic product as its percentage contribution stood at 2.55% in 2003, 3.93% in 2006, 5.08% in 2009, dropped to 3.07% in 2011 and further fell to 2.7% in 2012. The drastic reduction could be attributed to the 2007/2008 global financial crises where world economic activities shrank. Also improper channeling of FDI inflow to growth enhancing sectors could also account for this little contribution to RGDP.

Total Savings stood at ₦6.56 billion in 1981. It continued to rise steadily till it reached ₦110.97 billion in 1994, dropped to ₦108.49 billion in 1995, ignited in 1996 and rose continually from multi billions of naira to ₦1.32trillion in 2005. The trend of constant increase continued until 2014 with an all time high of ₦12.01 trillion. A salient feature which should be of key interest is that, the rate of savings has been increasing since 1995, however the bulk of savings mobilized is from savings and time deposits of commercial banks – accounting for over 90% of total savings within the study period. National Provident Fund, Federal Savings Bank, Federal Mortgage Bank, Time Deposits with Merchant Banks, Premium Bond, Savings certificate and Savings Stamp, Life Insurance Funds, Peoples Bank, Community Banks and Non Interest Banks account for the remaining 10%. This shows that there is room for higher savings mobilization through other channels. The ratio of savings as a percentage of GDP is low. The year 2009 recorded the highest ratio of 23.25% due to slow growth which emanated from the global financial recession. The study period records an average savings of 9% as a percentage of GDP. This ratio can be significantly improved since the bulk of other savings channels are still deficient.

Total Trade with foreign counterparts stood at ₦23.9 billion in 1981. This continued to rise at an increasing rate where it climaxed of ₦1,705 billion in 1995. Since then, it has continued to maintain a steady increase and in 2011 reached an all time high of ₦25,057.80 billion. It however dropped in 2012 and 2013 and stood at ₦24,358.30 billion in 2014. The value of total trade in Nigeria is still below capacity giving the abundant resources that could be harnessed with the benefits of onward export to other countries. This clearly accounts for the low index of trade openness witnessed in Nigeria between 1981 and 2002 averaging 0.4 which is weak. This performance is similar to the average index between 2010 and 2014. Apart from the period 2003 – 2009 which showed a moderate index of trade openness, the result clearly shows that Nigeria's trade relations has not improved over time. This low index can be explained by the volume of imports and export by the country which is beyond acceptable threshold and in turn impedes real growth of the economy.

In 1986, Nigeria embraced the International Monetary Fund (IMF) and World Bank Structural Adjustment Programmes (SAP) which influenced the economic policies formulated and implemented by her and led to various reforms in the capital market since then. It has continued to record rises in market capitalization year-in-year-out except for the 2007/2008 global financial crisis were many investors withdrew large chunk of

funds to bail their ailing economies. Above all the growth recorded in the FDI inflow, total savings, total trade and market capitalization is yet to translate into significant impact on the real gross domestic product.

#### 4.1 Summary of Findings and Recommendations

This paper examines the impact of capital accumulation through globalization on the Nigerian economy with emphasis on foreign direct investment, total savings, total trade, market capitalization, trade openness, and exchange rate. The empirical analysis reveals that apart from TSV and TOP all other variables are correctly signed and conforms to a priori expectation. Similarly all the variables except TOP are statistically significant. The relative contributions of TSV, MCP and TTR to RGDP are minimal and as such inadequate for sustained growth. This implies that the volume of trade activities in the economy is still low as a result of inadequate savings, insufficient funds for investment and the dominance of the oil sector. The negative relationship TSV and TOP signifies that its present state is injurious to the growth of the economy.

The flow of FDI since the inception of fourth democratic era has been lopsided to the oil sector which contributes little to the real economy. This is a clear indication of poor performance of FDI inflow into Nigeria economy despite its satisfactory magnitude. Also index of trade openness in the past five years averaged 0.4 which is beyond acceptable threshold, and the result clearly portends that Nigeria's trade integration with other countries need to be improved. The magnitude of exchange rate has further buttressed the unstable macroeconomic framework as could be seen in the recent fluctuation in exchange rate of \$1 to ₦211 (CBN, 2015) and this is precipitated by over dependence on oil sector. Above all, giving the statistical significance of the variables understudy, it reveals that if there are adequate measures put in place by the government, it will go a long way in ensuring sustained growth in the economy through the various channels of capital accumulation brought about by globalization.

Based on the above research findings, the following recommendations are made:

1. For Nigeria to benefit from capital accumulation as a result of globalization, efforts should be made by public and private institutions in developing critical infrastructure through sound and stable macroeconomic policies.
2. Globalization should be domesticated through channeling of foreign direct investment into growth enhancing sectors, encouraging savings and widening the capital market as a key organ for sourcing financial resources for investment purposes so as to enhance sustained growth and improve trade.
3. The government need to create a policy environment that enables them to maximize development returns on investment in order to contribute fully to economic and social progress in Nigeria.
4. Finally, the benefit of globalization could be achieved through transparency, good governance, accountability and application of meticulous standards in various economic activities as a desirable tool for a robust and competitive economy.

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