

## **Foreign Direct Investment, Liquidity and Real Country Growth Evidence From Nigeria**

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*The purpose of this study is to examine the various relations among foreign direct investment, liquidity and growth using Nigerian aggregate data. We focus on two questions: Is there evidence of a positive link between foreign direct investment and economic growth? And to what extent does international liquidity enhance this relationship? The paper will equally determine to what degree capacity utilization and index of energy consumption impact on real country growth. The micro-data were analyzed using an OLS methodology which incorporated unit root tests for stationarity and co integration. We find a positive influence of domestic liquidity ratio, financial deepening, capital formation, government expenditure, banking system credit, capacity utilization and cumulative foreign private investment (mirror of FDI); and negative effect of exports, index of energy consumption, per capita income, domestic inflation rate (CPI), international liquidity and stock market trading values (proxy for capital market performance), on economic growth. We equally discover that capacity utilization (CU) significantly leads growth in Nigeria, closely followed by index of energy consumption and financial deepening (mirror of financial development or financial intermediation) ranked third in their order of significance, while international liquidity and stock market trading values profiled fourth and fifth, respectively, in their individual ratings. We therefore recommend rise in capacity utilization, and index of energy consumption, to enable the latter attain the desired positive impact on growth; moderately guided financial intermediation, and capital market performance as well as rise in international liquidity to complement domestic liquidity. In a bid to create the right investment environment for real growth to thrive, savings must be mobilized and made available to genuine investors for increased investments in the real sectors of the Nigerian economy. There is an urgent need to provide adequate infrastructure and industrial energy supplies to enable both the industrial and manufacturing sectors to attain their full capacity utilization among firms, which will invariably increase growth in real terms in the years to come.*

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### **1. Introduction**

In a bid to look for the highest return on capital employed (i.e. return on investment), economists tend to favour the free flow of capital across national boundaries. It is based on this line of thinking that multinational companies seek investment in foreign countries within reasonable assumption of risk. Nigeria used to be seen as a high-

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## Uremadu

risk market for investment destination due to a number of factors like bad political governance, unstable macro-economic policies, corruption and bad corporate governance, among others; foreign direct investment then becomes the way out of Nigeria's underdevelopment and economic growth.

Consequently, the Nigerian government, since the enthronement of democratic rule in May 1999, has taken a number of concrete measures necessary to attract foreign investors into the Nigerian emerging market of the sub-Saharan Africa. Some of these measures include: the repeal of laws that are inimical to foreign investment growth, promulgation of investment laws; initiated policies creating conducive investment environment like ease of registration of businesses; quick exports and imports processing procedures; intensification of wars on advanced fee frauds; instituting economic and financial crimes commission; engaged in various overseas trips for image laundry by the then President, Chief Olusegun Obasanjo and his ministers, among others, (Shiro, 2008). These well thought out and well directed measures are assumed to have been impacting positively on Nigeria's FDI injections profile.

The need for foreign direct investment (FDI) is born out of the underdeveloped nature of the Nigeria's economy which has essentially hindered the pace of her economic development. Generally, Nigerian government policies and strategies towards foreign investments are shaped by two principal objectives: (1) the desire for economic independence and (2) the demand for economic development. According to Shiro (2008), there are four basic requirements for economic development, namely: (i) investment capital, (ii) technical skills, (iii) enterprise (i.e. human capital resources or labour) and (iv) natural resources. These are also forms of foreign direct investments (FDIs) and they are being attracted to the country in different ways as components and structures of FDIs. For instance, Nigeria has abundance of cheap labour which MNCs could utilize while transferring their expertise in different fields to the indigenous workers.

It should be well noted that without these components in adequate proportions, economic and social development of the country would be a mirage. The provisions of the first three necessary components shown above present problems for developing countries like Nigeria. This is due to the fact that there exists a low level of income which prevents mobilization of adequate savings needed to stimulate investment capital at home and or to finance training in modern productive techniques and investment methods. Being so, the foreseeable solution to this problem is through acceleration of growth by attracting external funds (foreign investments) and technical expertise. Foreign direct investment is therefore supposed to serve as a means of augmenting Nigeria's domestic resources in order to effectively execute her development programmes and projects and thereby raise the standard of living of her citizens (Uremadu, 2006 and Agu, 1988).

Similarly, Nwankwo (1988) identifies other factors responsible for the increased need for foreign direct investment by developing Countries like Nigeria to include (1) The World recession of the late 1970s and early 1980s, and the resultant fall in the terms of trade (TOT) of developing countries, which averages 11 percent between 1980 and 1982. (2) High real interest rate (RIR) in the international capital market due to

## Uremadu

low rating of the international liquidity, which has adversely affected external indebtedness of these poor countries. (3) The high external debt burden, and (4) Bad macro-economic management, fall in per capita income and fall in domestic savings. In addition to these, the current (ongoing) global financial meltdown (crisis) has elicited global economic recession since December 2007-todate.

Foreign direct investments consist of external resources, including technology, managerial and marketing expertise and capital. All these combine to generate a considerable impact on the host nations' productive capabilities (Shiro, 2008). At the current level of gross domestic product (GDP), the success of Nigerian government's policies of stimulating the productive base of the economy depends largely on her ability to control adequate amount of foreign direct investments which is comprised of managerial, capital and technological resources, to boost the existing productive capabilities of the country.

The Nigerian government had in the past endeavoured to provide foreign investors with a healthy investment climate as well as instituting generous tax incentives, however, the result has not been very encouraging more especially when consideration is given to the fact that, of late, "a number of multinational companies (MNCs) have relocated their businesses from Nigeria to other African countries, citing concerns like infrastructural decay, poor tariff structure, corruption, growing insecurity, among others", (Daily Sun, 2009). Amidst all these, Nigeria still requires a reinvigorated foreign assistance in the form of managerial, entrepreneurial, infrastructural and technical skills besides improved international liquidity that often engender increased FDI flows. Hence, the present study will seek to find if there exists macroeconomic and financial variables that would engender(prompt) real country growth as well as mobilize adequate resources that will provide liquidity required for capital formation or gross domestic investment(GDI) needed for Nigeria's growth and development. Therefore, the broad objective of this paper among others will be to ascertain macroeconomic and financial factors responsible for real growth and liquidity in our domestic economy in the 21<sup>st</sup> century world.

Many developing countries have, over the years, relied very much on the inflow of financial resources from outside in various forms, official and private capital flows as well as foreign direct investment (FDI), as a means of speeding up their economic development (Olaniyi, 1988; Odozi, 1995; Ekpo, 1997; and Uremadu, 2006, 2008). However, those countries have shown preference for FDI because they regard direct foreign investment as a means of counteracting the sluggish trend in official and private portfolio capital flows.

Generally, capital from outside can be very helpful in speeding up the pace of economic development and can act as a catalytic agent in making it possible to harness domestic resources especially in developing countries.

But foreign capital no matter how large the inflow cannot absolve a recipient country from the task of mobilizing resources for gross domestic investment or capital formation that can lead to real country growth. Therefore foreign inflows of capital can, at best, be complementary to domestic savings (Uremadu, 2008).

## Uremadu

Previous studies have been conducted before by authorities in other lands on FDI and its impact on productivity and real country growth. A few examples here will suffice like those of Alfaro, *et al* (2001), Aitken and Harrison (1999), Borensztein and Gregorio (1988), Carkovic and Levine (2003), Hanson (2001), Hermes and Lensink (2001), Blostron, *et al* (1994) and Contessi and Weinberger (2009). Empirical researches carried out by these foreign authorities centre mostly on FDI, productivity and growth. Some have also looked at the subject from the angle of FDI, financial development and economic growth.

Down home in Nigeria, a few similar empirical studies just dwelt on the determinants of FDI inflows into Nigeria as found in Ekpo (1997); Essien and Onwuoduokit (1999), Ogamba (2003), Asiedu (2006), and Uremadu (2008); while a few others have been superficial theoretical discourses on issues, determinants and performance of FDI in Nigeria. Most of these studies on domestic front, have not looked at it from the point of view of how FDI and international liquidity combined to impact on real country growth. As such some literature vacuum has been created that needed to be urgently filled, more especially now that the global financial meltdown has been ravaging most world economies (including Nigeria) thereby necessitating that FDIs should be attracted to countries presently recovering from the global recession to help shore up their capital resources to embark on development and rise their real GDP growth. To the best of our knowledge, no study in this fashion has existed before now, therefore prompting us to embark on the present study, in the main. The present work when it is completed would definitely meet this aspiration, hence the need for this study.

In section 1, we have introduced the paper and established the need for study. In section 2, we shall review related literature and define theoretical concept on which the study leans. In section 3, methodology to be used to conduct research tests and analysis as well as sources for empirical data would be stated. Section 4, will contain analysis of results and discussions on findings from the study while section 5, will centre on policy evaluation, recommendations and concluding remarks.

## **2. Theoretical Concept and Literature Review**

In this section of the paper, we shall build our discussions on the theoretical framework on which the topic leans and then review a body of related literature on the subject of research.

### **2.1 FDI: Theoretical Concept.**

Inability to mobilize adequate savings needed to sponsor adequate gross domestic investment growth and the need to provide enough investment capital funds, technical skills (technological innovation) and human resource capital (labour productivity) for most national economic growth and developments, stimulate demand for foreign direct investments (FDIs), foreign private investments (FPIs) and international portfolio investments (IPIs) by both developing and industrialized countries the world over. Besides, principle of comparative advantage whereby countries specialize and mass produce products in the areas of productive activities where they are naturally talented (e.g. manpower or labour) and supply to other

## Uremadu

nations at moderate prices, create a fertile investment avenue for FDIs booms and /or MNCs to thrive. And where these expectations are well met the result is growth and development of the host countries.

It is based on this above stated conceptual framework that the premise for this study is built. By the time the study is completed we shall be in a position to state financial and macro-economic indicators or factors which determine quantum of FDIs and international liquidity attracted to Nigeria and their impact on real GDP growth within the period covered. And based on the findings expected from the paper, we shall then project into the future what needs to be done to optimize FDIs enhanced by international liquidity to be injected into the Nigerian economy to engender rise in real growth in this 21<sup>st</sup> century. No doubt, Nigeria is one of the emerging economies of the present era and is in dire need of FDI flows to enable her boost her domestic productivity.

### 2.2 Literature Review<sup>1</sup>

The notable growth of foreign direct investment (FDI) in the past 30 years continues to trigger conflicting reactions, in both industrial and emerging countries (Coughlin, 1992 and Contessi and Weinberger, 2009). In short, FDI is an investor's acquisition of "long-term influence" in the management of a firm in another country. In the developed world, countries that export capital and countries that import capital both raise concerns about FDI: The former are concerned that capital leaving their countries might be detrimental to domestic investment; the latter's politicians and workers fear foreign ownership of domestic firms. Emerging, transition, and developing countries (and at times local governments) usually welcome FDI, assuming that investment through this multinational activity will bring additional capital, managerial expertise, and technology (Contessi and Weinberger, 2009).

In economics, multinational activity is also viewed as a positive contribution to the technological progress of the host economies (Contessi and Weinberger, 2009). An established literature that dates back to Findley (1978) develops models in which multinational firms own and transfer technology-which may not be available in the host country-that allows them to be more productive and profitable than firms that are not multinational in nature. Because such a transfer is assumed to contribute to the technical progress of the host economies, it is also assumed to contribute ultimately to their growth.

Rivera-Batiz and Rivera-Batiz (1991) develop a formal model that allows for increasing returns due to specialization as a result of FDI. Borensztein, De-Gregorio, and Lee (1998) stress the attraction between FDI and investment in human capital. Helpman, Melitz, and Yeaple (2004) and Yeaple (2008) show that only the most productive firms in a country become multinationals, whereas progressively less productive firms enter progressively more attractive countries.

Some other studies highlight reasons why FDI may not accelerate growth: Aitken and Harrison (1999) argue that increased local competition caused by multinationals may crowd out domestic firms; Boyd and Smith (1992) show that FDI distorts resource allocation and slows growth when other distortions are present in the

## Uremadu

financial sector, prices or trade. This would imply that FDI does not necessarily contribute to growth, and countries could be harming their economies with provisions that favour FDI.

As mentioned earlier, overall FDI has increased in many countries. Contessi and Weinberger (2009) plot an index of the time series of the number of national regulatory changes between 1992 and 2006, in which its data was obtained from various annual surveys on national laws and regulations. These series were regarded as proxies for the amount of interventions aimed at expanding and restricting FDI activities and the graph illustrated clearly the existence of a growing trend over the past 15 years of introduction of policies aimed at promoting FDI. Since 1992 at least 80 percent of regulatory changes have been favourable to FDI, particularly those in the 1990s (see Contessi and Weinberger, 2009). Furthermore, the absolute number of favourable changes has steadily increased since 1992, with some countries introducing more provisions now passing legislation to encourage foreign investment. It then means that countries now welcome FDI injections into their countries.

### **3. Methodology: Analytical Framework and Model Building**

In this section, we shall pursue analytical issues behind the model to be used in this research.

#### **3.1 Selected Analytical Issues**

The decision to invest by an enterprise domiciled in an industrialized country in developing countries is often motivated by higher expected profits in comparison to the alternative investment possibilities at home or in other industrialized nations (Chete, 1998, Olaniyi, 1988 and Uremadu, 2008). The relative advantage of such investment is a function of both economic and political influences (Ogamba, 2003). Even if prevailing economic conditions seem favourable and the outlook for the future promising, it is entirely possible that investment may not materialize due to prevailing unstable political conditions. On the contrary, prevailing global and domestic liquidity as well as accumulated savings mobilized by the host country have serious roles to play in attracting FDI injections depending on the country peculiarities of the country in question. Therefore, the need to consider foreign direct investment decisions which will significantly impact on real country growth in Nigeria would be brought into sharp focus in the present study.

There is therefore the need to briefly explain herein the analytical framework underlying the macroeconomic indicators of real gross domestic product (GDP) in a sub-Saharan African country-Nigeria, taking a leaf from (Agarwal, 1980 and Contessi and Weinberger, 2009). This is discussed below.

#### **1. Gross Domestic Product (GDP) and Real GDP**

Gross Domestic Product (GDP) is an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the

## Uremadu

value of their products). The sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, less the value of imports of goods and services, or the sum of primary incomes distributed by resident producer units (Doguwa, *et al*, 2009).

In short, the Gross Domestic Product (GDP) is the money value of goods and services produced in an economy during a period of time irrespective of the nationality of the people who produced the goods and services. It is calculated without making deductions for depreciation. While the Real GDP is GDP at (various base years) Constant Basic Prices equals GDP at (various base years). Market Prices less indirect taxes net of subsidies (Doguwa, *et al*, 2008).

### **2. Capacity Utilization (CU)**

It is the ratio of actual to potential output. It measures the amount of total capacity that is being used. Capacity utilization rates play an important role in evaluating economic activity. They have been used, along with other factors, to explain the behavior of investment, inflation, productivity, profits, and output. In addition, information on capacity utilization can aid businessmen and economists in assessing current economic conditions and forecasting future activity (Ragan, 1976 and Doguwa, 2009).

### **3. Gross Fixed Capital Formation (GFCF)**

Gross fixed capital formation is defined as an addition to stock of capital assets set aside for future productive endeavours in the real sector which will lead to more growth in physical capital assets of the country. Capital formation captures all the real-value-added to the economy in real-asset terms which will lead to further enhancement of savings, investment and generation of more wealth in future. Besides, capital formation derives from savings accumulation. Tsaumi (2005) finds that slow in technical progress accounts for a relatively low proportion of the growth experienced in developing countries. That such was perhaps due to the fact that most of these countries have relatively low savings. In similar perspective, he further states that the disparities in the volume of real savings, available financial and credit institutions and investment of savings between the developed and developing countries have been the latter's major constraints to the accumulation of various forms of real capital that can so greatly increase the efficacy of their productive forces. Tsaumi (2005) asserts that the insignificant level of productive investment evident in the low percentage of national savings in Nigeria buttresses the argument that "capital formation in Nigeria has increasingly been undermined by inefficiency, mismanagement, corruption and poor policy implementation".

### **4. Cumulative Foreign Private Investment (CFPI)**

This will form the proxy for foreign direct investment (FDI) in this study. There is growing consensus that increase in cumulative foreign private investment (CFPI) added to inflow of foreign direct investment would complement domestic savings to meet investment needs in a particular LDC country (Olaniyi, 1988 and Uremadu, 2006). Expectedly, foreign investment should contribute to the development needs of

## Uremadu

the host economies, as such, substantial flows of foreign private investment are usually desired. Therefore the benefits derivable from CFPI are good but they neither substitute for the aids of official development assistance flows more especially in the present era where the effect of the ongoing global financial recession has made most developing economies to need aids more than they ever needed before. There are other direct benefits of FDI which accrue to other income groups other than raising productivity and profitability appropriated by the core investors. These direct benefits can accrue to (i) domestic labour in the form of higher real wages, (ii) consumers by way of lower prices, (iii) the government through higher tax revenue. Beyond this, and most importantly in many cases, there are likely to be (iv) indirect gains through the realization of external economies (Meier, 1964).

Also, direct foreign investment brings to the recipient country not only capital and foreign exchange but also managerial ability, technical personnel, technological knowledge, administrative organization, and innovations in products and production techniques-all of which are in short supply (Meier, 1964).

### **5. Government Capital Expenditure (GCE).**

Capital expenditure measures the value of purchases of fixed assets, i.e., those assets that are used repeatedly in production processes for more than a year. The value is at full cost price. Sales of fixed assets are not deducted (Doguwa, 2009). Most federal government capital expenditures go into development projects and programmes meant to have positive and significant cost-benefit effects on the lives of the people thereby rise economic growth. Such capital expenditure spending can usually be structured into administration, economic services, social community services and transfers (Doguwa, 2008). These are grouped into two core areas and explained as (i) capital expenditure on economic services which includes capital on construction, electrification, transport and communication among others, and (ii) capital expenditure on social and community services which involves capital expenditure on education, health, among others (Tsauni, 2005).

### **6. Financial Intermediation /Financial Deepening (FD) proxied by Total Banking System Credit to the Domestic Economy (TBCRED) and Stock Market Values (STMV)**

McKinnon (1973) and Shaw (1973) argue that financial deepening increases the rate of domestic savings, and this lowers the cost of borrowing and stimulating investment. The core of their argument rests on the belief that developing countries suffer from financial repression. It then posits therefore that the liberation of these countries from their repressive conditions via financial liberation and or interest rate deregulation as it occurred in the mid 1980s and through 1990s in developing countries would induce savings, investment and growth. In this view, investment is positively related to the real rate of interest, in contrast to, the neoclassical theory. The reason for this is that a rise in interest rate increases the volume of financial savings through financial intermediaries and as such increases investible funds- a process that McKinnon (1973) calls the "conduct effect".



## Uremadu

In the present circumstance of global financial meltdown whereby governments intervene by injecting bailout funds to stimulate credit allocation and productivity, efficient intermediation by ensuring that interest rates are lowered ( mostly in developed countries) to enable consumers have access to credit while producers would increase sales volume via consumer patronage, would do the magic in alleviating the pangs caused by devastating global credit crunch and raise productivity. However, this policy should be pursued with an eye on moderating rising inflationary trends prompted by rising money in circulation.

Conceptually, efficient financial intermediation allows a given amount of savings or bank credit to finance a greater amount of investment through efficient money creation and or allocation of available loanable funds by banks (through supervision of the monetary authorities) and stock market exchanges than could have occurred without intermediation (see Greenwood and Javanovic, 1990 and Uremadu, 2006, 2008). Not too long ago, the endogenous growth literature has also emphasized the vital role of investment (King and Levine, 1993). Efficient financial deepening or financial intermediation demands that the banks should be spurred to carry-out financial dissemination process in this period of global credit crunch through effective, efficient, well directed and well targeted bailout financial stimulus channels in emerging markets such as Nigeria. More especially now that the financial crisis has been ravaging virtually all world economies since December 2007-todate.

### **7. International Liquidity (INTLQ) and Domestic Liquidity (DLQR).**

Liquidity generally refers to the ability to buy and sell assets quickly and in large volume without substantially affecting the assets price. In terms of instruments, liquidity generally refers to those assets that can be converted into cash quickly without significant loss in value (Doguwa, 2009). Availability or non availability of liquidity could occur at both the domestic and international levels. If there exists dearth of liquidity at the international levels, that is, inaccessibility of cash or credit to corporate organizations, governments and individual investors, this scenario will worsen credit supplies at the domestic levels.

Since the ongoing global financial meltdown, it has proved difficult for genuine investors and governments to access funds at the global financial markets either via government bonds or attracting FDIs, and financial aids, or through sovereign wealth funds allocations, and this situation has elicited no availability of liquidity at the country levels which, in turn, has compounded the problem of liquidity at global and national levels. The result is that it has not been very easy recovering from this ravaging global recession for both corporate companies and national economies even as at today. Hence, availability of liquidity or lack of it is a serious factor in determining real growth at the country level.

### **8. Index of Energy Consumption (INDEXEC).**

Pfeffermann and Madarassy (1992) in Uremadu (2008) identify, among other macroeconomic indices, that capacity utilization relies much on efficiency of industrial production or energy consumption, which are major determinants of foreign direct investment. They discover that the size of the domestic market and improved

## Uremadu

capacity utilization are positively related to foreign direct investment, while inflation and volatile exchange rates have negative effects on foreign investment. Efficient infrastructural development proxied here by index of energy consumption will create a welcome environment for high foreign private capital flows and increased gross domestic investment (GDI), which will all combine to engender real growth in productivity. A positive relationship with economic growth is therefore expected.

### 3.2 Model Specification

In this study therefore, we set out to present a mathematical model of the effect of foreign private capital flows on real economic growth in Nigeria within the period, 1980-2008, covered. We limited our relevant data coverage to between 1980 to 2008 due to two main reasons: (a). There were non availability of data for some variables like TBCRED, STMV, INTLQ, GFCF, PCY, etc. or there were gaps in some years where there exists at all, back to 1960s period before the 1980. (b). Secondly, consistent data were available up to 2008 from Central Bank of Nigeria as at the time research was conducted. In subsequent studies data will be updated if they are made available so to speak. As such the real gross domestic product (GDP) series to be estimated can be specified as follows below:

$$(1) \quad \text{Real GDP} = f(\text{FDI}, \text{CU}, \text{STMV}, \text{INTLQ}, \text{CPI}, \text{TBCRED}, \text{GCE}, \text{GFCF}, \text{PCY}, \\ \text{INDEXEC}, \text{FD}, \text{DLQR}, \text{EXPORTS})$$

$$\begin{matrix} (+) & (+) & (+) & (+) & (-) & (+) & (+) & (+) & (+) \\ (+) & (+) & (+) & (+) & & & & & \end{matrix}$$

Where:

*Real GDP* is the GDP at (various base years) Constant Basic Prices which equals GDP at (various base years) Market Prices less indirect taxes net of subsidies; *CU* is the ratio of actual to potential output which measures the amount of total capacity that is being used; *STMV* is total stock market value to GDP at current market prices; *INTLQ* is total international liquidity to GDP at current market prices; *CPI* is consumer price index (i.e. mirror of domestic inflation rate); *TBCRED* is total bank credit to GDP at current market prices; *GCE* is government capital expenditure to GDP at current market prices; *GFCF* is gross fixed capital formation to GDP per capita income at current naira income of the people; *CFPI* is cumulative foreign private investment in Nigeria as a percentage of GDP. It is the proxy for foreign direct investment in this paper and they are both used interchangeably here to mean the same thing as proxied; *INDEXEC* is index of energy supply in (consumption) tonnes to GDP ratio; *FD* is financial deepening representing ratio of broad money ( $M^2$ ) to GDP; *DLQR* is total loans-to-deposits ratio which is proxy for domestic liquidity rate; and *EXPORTS* which is total exports and re-exports as a percentage of GDP at current market prices. The term  $\underline{e}$ , is the random error term.

## Uremadu

From the above implicit function, equation (1), we derived an explicit function (2) for the determinants of real country growth (Real GDP) in Nigeria for the period 1980-2008 as follows:

$$(2) \quad \text{Real GDP} = b_0 + \theta_1 \text{CFPI} + \theta_2 \text{CU} + \theta_3 \text{STMV} + \theta_4 \text{INTLQ} - \\ \theta_5 \text{CPI} + \theta_6 \text{TBCRED} + \theta_7 \text{GCE} + \theta_8 \text{GFCE} + \\ \theta_9 \text{PCY} + \theta_{10} \text{INDEXEC} + \theta_{11} \text{FD} + \theta_{12} \text{DLQR} + \\ \theta_{13} \text{EXPORTS} + e$$

### 3.3 Data Source

The secondary data used in this study were sourced chiefly from *Central Bank of Nigeria (CBN) Statistical Bulletin* Vol. Golden Jubilee Edition (December 2008), (various) and *CBN Annual Report and Statement of Accounts* (various), which spans the period (1980-2008), 29 years which we considered representative enough and it never suffered from small sample bias problem as we intended to subject the residuals from our OLS estimations to co-integration tests. These were supplemented with data from the Federal Ministry of Mines, Power and Steel; Federal Bureau of Statistics and World Bank Database (various) and other publications of other multilateral institutions. It should be clearly noted that the hypothesized direction of impact on Real GDP for the relevant variables had been indicated in the real country growth in equation (1).

In order to analyze the data we estimated the model using the OLS regression method. We further subjected the residuals from the OLS regression test to co-integration tests to establish stationarity and non-stationarity of the individual variables contained in the model equation (2). A stationary series is integrated of the order zero I (0) differenced; while a I (2) series will need to be differenced twice to become stationary, etc. (Chete, 1998).

The Dickey-Fuller (DF) and the Augmented Dickey-Fuller (ADF) statistics and the Sargan Bargava Durbin Watson (DW) statistics are the three most commonly used tests for both individual time series, and residuals from OLS regression. These will be applicable here where necessary (see Chete, 1998 and Uremadu, 2008).

## 4. Results/Analysis: Model Estimation and Interpretation of Results

Herein below we estimate the model equation (2) and discuss results of our findings, from the regression tests.

### 4.1 Presentation and Analysis of Results of Stationary Tests

Tests for the stationarity of the relevant variables contained in model equation (2) are presented in Table 1 below. For the ADF statistics (the 95% critical values are shown after each t-Statistic at the next column), the null of non-stationarity is accepted if the reported statistic is greater than (One Tail Test) the critical value. The results show

## Uremadu

that when expressed in levels, eight of the variables are non-stationary (PCY, CPI, INTLQ, STMV, EXPORTS, DLQR, FD, INDEEXEC) and six, are stationary (FPI, GFCE, GCE, TBCRED, CU, real GDP).

To determine if there is a co-integrating relationship existing between the independent variables, the model was estimated with the variables at their levels. The residuals from the regression were tested for stationarity using ADF test. The residuals were found to be stationary indicating the existence of a co-integrating relationship. Using the MacKinnon (1996).

**Table 1: Unit Root Test Result**

Variable	DF	ADF (Test Critical Values)	t-Statistics	P-values	Order of Integration
C	1% 5%	-3.689194** -2.971853***	-5.515277	0.0001	I (0)
ΔCFPI	1% 5%	-3.689194** -2.971853***	-5.515277	0.0001	I (0)
ΔPCY	1% 5%	-3.711457** -2.981038***	-7.381902	0.0000	I (1)
ΔGFCE	1% 5%	-3.711457** -2.981038***	-4.525281	0.0014	I (0)
ΔGCE	1% 5%	-3.689194** -2.971853***	-3.780792	0.0080	I (0)
ΔTBCRED	1% 5%	-3.689194** -2.971853***	-5.957903	0.0000	I (0)
ΔCPI	1% 5%	-3.711457** -2.981038***	-5.272750	0.0002	I (1)
ΔINTLQ	1% 5%	-3.699871** -2.976263***	-5.569767	0.0001	I (1)
ΔSTMV	1% 5%	-3.699871** -2.976263***	-3.832923	0.0073	I (1)
ΔCU	5%	-3.699871**	-3.482826	0.0165	I (0)
ΔEXPORTS	1% 5%	-3.724070** - 2.986225***	-5.293495	0.0002	I (1)
ΔDLQR	1% 5%	-3.699871** -2.976263***	-5.877583	0.000	I (1)
ΔFD	1% 5%	-3.699871** -2.976263***	-4.336768	0.0022	I (1)
ΔINDEEXEC	1% 5%	-3.699871** -2.976263***	-5.685091	0.0001	I (1)

**Source: Author's Calculation**

**Key: \* McKinnon (1996) one-sided p-values**

\*\* Significant at 1% level.

\*\*\* Significant at 5% level.

## Uremadu

(1996) critical values for co-integration, we reject the null hypothesis of no-integration and conclude that the variables are co-integrated at 5% level of significance. This motivated the development of an OLS regression model with an inbuilt ( $\epsilon$ ), the random error term. In particular, we utilized the E-Views computer package to execute our programming which yielded results for the regression coefficients and their associated statistics.

### 4.2 Analysis of Regression Results.

After normalizing the structural equation on change in Real GDP in vector autoregression of the current and lagged first differenced of all the variables, and then starting with an over-parameterized model based on the general-to-specific methodology, regression analysis was carried out. Table 2 below is the empirical results for the OLS modeling of determinants of real GDP in Nigeria.

### 4.3 Discussions on Analysis of Results

A close inspection of the results reveal that capacity utilization (CU) and index of energy consumption (INDEXEC) had the most significant impact on real country growth in Nigeria at 1 percent level of significance. As such both factors lead real GDP in Nigeria. These findings are very convincing as they confirmed a past study by Uremadu (2008a) on a related study on Nigeria and they both confirmed that capacity utilization and index of energy consumption had significant influence on real growth in Nigeria. However, capacity utilization had positive right direction of impact while index of energy consumption maintained a negative wrong direction of influence on growth. A plausible reason for this unexpected negative effect manifestation of index of energy consumption could be as a result of inadequate supplies of industrial energy to the productive sectors of the domestic economy within the period covered by our study.

## Uremadu

**Table 2: Modelling Real GDP Function by OLS**

Variable	Coefficient	Std Error	t-Statistic	Values
bo (Constant)	-18.47312	12.23541	-1.509808***	0.1533
CFPI	0.004755	0.005002	0.950656	0.3579
PCY	-0.286738	0.484121	-0.592287	0.5631
GFCF	0.010556	0.026688	0.395547	0.6984
GCE	0.416986	0.337108	1.236951	0.2365
TBCRED	12.72331	8.652220	1.470526***	0.1635
CPI	-0.060236	0.060382	-0.997578	0.3354
INTLQ	-0.4155053	0.169259	-2.452175**	0.0279
STMV	-0.329181	0.176366	-1.866460**	0.0831
CU	1.100887	0.145778	7.551791*	0.0000
EXPORTS	-1.458636	1.745415	-0.835696	0.4174
DLQR	0.099148	0.117962	0.840510	0.4147
FD	0.540233	0.190185	2.840564**	0.0131
INDEXEC	-0.260215	0.054371	-4.785879*	0.0003
R <sup>2</sup> = 0.969037		96.9%		
Adjusted R <sup>2</sup> = 0.940286		94.03%		
DW – Stat = 2.268443		2.27		
F – Statistic = 33.70417		33.70		
Prob. (F- Stat) = 0.000000*		0.00		
= 4.163817		4.16		
S.E.of regression				

Source: Author's Calculation

Key: \* Significant at 1% level

\*\* Significant at 5% level

\*\*\* Significant at 10% level

The third variable in the order of significant influence on real country growth in Nigeria is financial deepening (proxy for financial intermediation). It is followed by three other variables of importance which are international liquidity, stock market values, total bank credit to the domestic economy and they are ranked 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup>, respectively in that sequence.

Results also reveal that seven of these precision variables (CFPI, GFCF, GCE, TBCRED, CU, DLQR, FD) retained their expected positive direction of impact possibly while five (PCY, INTLQ, STMV, INDEXEC and EXPORTS) toed an unusual negative direction of impact possibly due to massive distortions inherent in the Nigerian emerging markets of the 21<sup>st</sup> century. Consumer price index (CPI) as usual maintained its negative right direction of impact. CPI proxy for domestic inflation is a monetary phenomenon which always exhibits a destabilizing pressure on the economy.

In general, the descriptive statistics (R<sup>2</sup>, Adjusted- R<sup>2</sup>, F- Stat, and DW – Stat) are all within the accepted bounds. Furthermore, the results of the diagnostic tests indicate there may be errors of auto- correlation and conditional heteroscedasticity as value of DW test is slightly above 2.0 limit.

## Uremadu

Specifically, the positive but insignificant impact of foreign private investment (FPI) on real growth in Nigeria is very informative in that it outstandingly shows that the nation has not been attracting enough FDIs that would enable the domestic economy attain its maximum real growth. It shows that the country is yet to maximize benefits accruing from FDI injections into the Nigerian economy despite existence of FDI potentials to rise real GDP growth in the Nigerian economic environment, if well exploited.

On the other hand, index of energy consumption and trade exports which are expected to raise real growth in Nigeria, had negative wrong direction of impact. Increased exports of goods and services are expected to yield a positive trade balance for the economy. And increased supplies of industrial energy are also expected to keep wheels of Nigeria's manufacturing industry running thereby rise growth. That both factors are negatively and moderately significant in affecting real growth in Nigeria go a long way to demonstrate that Nigeria has not been maximizing her export potentials most probably due to the negative influence of the inadequate energy supplies to the manufacturing concerns to enable them produce more for both exports and domestic consumption. It has been established somewhere in this paper that multinational companies (MNCs) are leaving Nigeria to go and establish in other sub-Saharan African countries like Ghana due to infrastructural decay among other factors (Daily Sun, 2009).

Two other variables that have positive and insignificant impact on real growth in Nigeria are government capital expenditure (GCE) and gross fixed capital formation (GFCF). That government capital expenditure is not very significant in affecting real GDP growth shows that the Nigerian government at local, state and federal levels have not been allocating enough funds to core capital expenditure items which help to stimulate growth in real terms. Similarly, governments and corporate outfits in Nigeria have not been mobilizing adequate savings that would be put into gross domestic investment or gross fixed capital formation to rise real growth in Nigeria. The same plausible reason goes for per capita income (PCY) in influencing real domestic growth. Increased per capita income will cause people to save out of their disposable income, and enhanced gross domestic savings would complement FDIs in engendering growth in the domestic economy. That PCY attained untoward direction of impact here with a minimal influence on real country growth could be as a result of several distortions existing in the Nigerian economic environment. And this scenario has greatly reduced the per capita income of her people and by extension, hamper gross national savings, capital formation and had invariably hindered growth in real terms.

Again, adequacy of liquidity at the international levels would complement liquidity at the domestic level to elicit availability of loanable funds and credit for genuine investors in the real sectors of the Nigerian economy. Our result with regard to impact of international liquidity on growth also profoundly confirms our hypotheses. Results of our tests reveal a positive insignificant impact of domestic liquidity and a negative significant effect of international liquidity on Nigerian real country growth. Two plausible reasons could be advanced for this scenario. First, that the domestic liquidity is positive but insignificant in affecting real growth in Nigeria shows that adequate liquidity has not been provided in the Nigerian emerging markets to

## Uremadu

complement liquidity for both to combine to increase investible funds which will, in turn, rise economic growth and profitability. Second, that the international liquidity is significant but had negative direction of impact on real growth in the Nigerian economic environment shows that enough FDI injections have not been attracted into the Nigerian economy to complement domestic liquidity to raise real country growth. Much has to be done by the policy makers to create conducive investment havens that would pull capital from the global capital markets into Nigeria.

In the same vein, the stock market value demonstrated a negative and significant impact on real GDP. That it had a negative direction of influence can only be explained on the burden of massive distortions that exist in the Nigerian financial system. Another plausible reason could be as a result of the relatively underdeveloped nature of the Nigerian capital markets which incapacitates them from providing a good environment for investors in MNCs and other real sectors of the economy to enter the markets to source adequate investible funds to raise domestic growth.

As for the total bank credit to the domestic economy, it attained a positive and insignificant impact on real growth. That it had a moderate effect on real GDP shows that enough bank credits have not been channeled to the domestic economy to stimulate real country growth in Nigeria.

Capacity utilization as earlier established from results of our tests, manifested a positive and leading significant influence on real growth in Nigeria. This is very instructive and a welcome development in that it meets our economic thinking that increased rate of utilized industrial capacity would mean increased real country growth with its attendant benefits. Capacity utilization rates have been used, along with other factors, to explain the behaviour of investment, inflation, productivity, profits, and output and to evaluate economic activity in an economy (Ragan, 1976). For more than two decades now low capacity utilization has been prevalent in the manufacturing sector of the Nigerian economy. This ugly trend must have precipitated the negative economic growth in Nigeria which has adversely affected productivity and profitability levels of the nation as well as led to negative per capita income rating of the people (Uremadu, 2008) and as has been evidenced in the present paper.

Finally, cumulative foreign private investment (CFPI) exhibited positive and moderate impact on real country growth in Nigeria. This is encouraging as it elicits positive influence on real growth. That it did not have very significant effect on real national growth could plausibly be explained out on the fact that Nigerian economic environment has not effectively mobilized adequate foreign capital flows to engender desired real growth in the domestic economy. Hence, much efforts have to be put to create legal and economic framework that would ensure that foreign investors are attracted to the Nigerian emerging market in the sub-Saharan Africa so as to stimulate massive growth in the productive sectors of the economy. No doubt, the country has the potentials to raise her growth status by entrenching policies that would create conducive foreign direct investments (FDIs) injections and gross foreign domestic investments (GDIs) to thrive. By so doing, real country growth would have been sparked off to raise the nation's productivity in the years to come.



## Uremadu

Next, we shall pursue discussions on findings, recommendations and concluding remarks of the paper.

### **5. Policy Evaluation of Findings, Recommendations and Conclusion**

#### **5.1 Policy Evaluation of Findings and Recommendations.**

Here, we conduct policy evaluation of findings of the paper and make recommendations based on our findings.

##### **1. Capacity Utilization (CU)**

Study established that capacity utilization is the most significant variable in influencing growth in Nigeria. It leads real GDP growth. Increase in industrial capacity utilization will make the economy to witness a boom in real economic growth. Therefore, it is recommended that government should pursue policies that will lead to the rise in capacity utilization rates at the industrial levels via policies that target this objective such like providing adequate energy supplies, functioning infrastructure, technical skills and manpower training, investment in research and development, eradicating corruption and entrenching corporate governance among others. The target policy if effectively pursued would boost future real growth of the Nigerian economy.

##### **2. Index of Energy Consumption (INDEXEC).**

Paper found index of energy supplies as the second most important variable in impacting on real growth in Nigeria. Though it showed a negative sign, plausible reason for this abnormal behaviour may mean that Nigerian growth environment has been distorted within the period covered by our investigation. It may possibly mean that available energy supplies or generated power has not been well channeled to productive activities, hence, low capacity utilization exists. Erratic electricity supplies have a lot of cost implications for most manufacturing concerns in Nigeria. Most manufacturers use electricity generators at high cost to carry out their industrial production thereby having a negative impact on real growth instead. Since the nations past governments have not been able to generate cheap energy supplies, it has continued to cost so much to the industrial sector to produce in a bid to raise real growth.

Being so, we make quick to recommend that policy action should be a determined plan to generate adequate energy for industrial use in the future as this would rise real growth in the real sectors of the domestic economy.

##### **3. Financial Deepening (FD) (or Financial Intermediation)**

Financial deepening is a mirror of financial intermediation in this study. Increase in financial deepening is expected to engender rise in growth. Findings established a positive and significant impact of financial intermediation in stimulating growth in real

## Uremadu

terms in Nigeria. Efficiency of financial intermediation arising from effective financial deepening will release investible funds to be channeled into the productive sectors of the economy to rise real GDP growth. In an efficient financial intermediation, an amount of fund will be invested and reinvested via the banking system credit creation process. Repeated investment strides, doubt, will lead to both increase in yield and liquidity which will fund the productive sectors and thereby rise growth.

Since financial deepening has potentials for rising real growth going by the findings of this paper, we recommend that government should pursue policies that encourage banking system reforms that would lead to an efficient financial system and at providing adequate liquidity and credit supplies to investors and industries so as to engender real growth the soonest.

### 4. International Liquidity (INTLQ)

We hypothesized in our model that international liquidity is expected to have a positive impact on real country growth. In the present dispensation of global financial meltdown, rise in international liquidity will lead to rise in FDI flows to domestic economy in order to rise growth. That it has exhibited negative impact here on growth reveals that we have never had enough flows of FDIs (IPIs, IPIs, CFPs), etc. injected into the Nigerian domestic economy.

It is therefore proffered, here and now, that there is serious need to also increase gross domestic investment and or gross national savings accumulation in order to attract adequate FDIs that will lead to growth in Nigeria. Domestic savings mobilization complements foreign private investment flows to fill up existing savings-investment gap in the economy (Uremadu, 2006).

### 5. Stock Market Values (STMV)

It is expected, from the paper, that rise in stock market values would stimulate increase in real GDP. However, evidence from the findings of the paper revealed otherwise. It established a negative and significant trend influence on real growth.

Most FDIs come by way of international portfolio investments (IPIs) or investors buying ownership interest in a multinational company (MNCs) operating in another country (Kolls, 1995 and Wang, 2005). Hence, rise in stock market values as envisaged in a domestic stock exchange will lead to rise in real GDP growth. These flows in form of IPIs pass through national stock exchanges, hence an efficient capital market with depth and effective operational structure would definitely attract investors to release funds to rise real growth in a nation state like Nigeria in the sub-Saharan Africa (SSA).

Moreover, efficient stock exchange system will create an environment for increased liquidity where investors could easily enter the market either to buy or sell shares thereby impacting significantly on growth. That STMV exhibited a negative sign against our *a priori* expectation could only be as result of distortions in the Nigerian economic and financial systems.

## Uremadu

We therefore recommend that government should dismantle all activities that do discourage foreign investors and trading in our stock exchanges. We equally recommend installation of information technology (IT) systems and other infrastructures as well as create favourable legal framework that eases repatriation of profits by foreign investors in a manner that favours growth at the domestic economy. There is also serious need to curb round tripping and insider trading by operators and advanced fee fraud practices endemic in the Nigerian business environments so that foreign investors would develop trust to invest in Nigeria. The legal system must be effective to handle and redress any misunderstanding in business relations amongst traders (investors) in the nation's exchanges.

### **6. Total Bank Credit to the Domestic Economy (TBCRED).**

We also hypothesized that increased banking system credit (TBCRED) to the domestic economy would rise real GDP growth. Results of our empirical analysis confirmed this stance as TBCRED had exhibited a positive and moderate impact on real economic growth in our findings.

Availability of bank credit would complement flows of FDIs via availability of liquidity and or loanable and investible funds thereby raising real GDP as investors borrow to invest in productive activities of the economy. This variable had the right sign of impact.

It is therefore recommended that TBCRED should be adequately increased to the real sector in a bid to meet required growth in the years ahead. Domestic bank credit to complement foreign funds will generate adequate investible funds that will raise real growth in the long run.

### **7. Government Capital Expenditure (GCE).**

No doubt, rise in government capital expenditure to address infrastructural and energy needs of the manufacturing sector would definitely lead to rise in real growth in the nearest future of the Nigerian economy.

That perennial lack of continuous supplies of electricity, bad roads, bad transport system, good health care system, and so forth, has set back our industrial growth potentials is not a mere exaggeration. Of late, most blue chip MNCs in Nigeria like Paterson Zochonis (PZ) and Uniliver have already relocated or are in the process of moving their operations out of Nigeria to neighbouring Ghana, even as several others are on their way out, to take advantage of cheap energy supplies hence a huge loss to growth in real GDP to the Nigerian economy. Earlier, two giant tyre manufacturers, Dunlop and Michelin, had closed shops in the country, due to unfavourable business conditions (Shiro, 2009). Recently, there has been calls for increased electricity generation since it has become obvious that without power (electricity) we can hardly attain full capacity utilization to rise our domestic productivity.

It should therefore be recommended for policy action that drastic measures be taken to well channel amounts budgeted for infrastructural repairs and electricity

## Uremadu

generation. It just has to be so done in a bid to rise capital formation to engender real growth.

### **8. Consumer Price Index (CPI).**

We hypothesized that rise in domestic inflation rate proxied here by consumer price index would distort real GDP growth. Findings from the study have confirmed a negative and moderate significance of consumer price index (CPI) on real growth in Nigeria. It is a fact that rise in inflationary pressures, would normally destabilize productivity and consumption. Since December, 2007 to date, there has been dearth of liquidity and consumer credit at both global and national levels. Consequently, national governments have been fighting inflation via monetary policy to reduce effect of the global recession that started in the United States of America to spread to other nations of the world. Bailout funds injections may rise inflation!

Hence, we therefore advise, that to raise real growth, the government has to stabilize inflationary trends in the country.

### **9. Cumulative Foreign Private Investment (CFPI).**

Study found that cumulative foreign private investment (CFPI) exhibited right positive and moderate influence on real country growth. A rise in CFPI injections will spark off increases in real growth of the economy.

Hence, government has to create conducive and right legal framework to attract all forms of foreign funds (FDIs, IPIs, FPIs) to the domestic economy to complement gross domestic investment in a bid to meet the expectations of rise in real economic growth.

### **10. Domestic Liquidity (DLQR).**

We also hypothesized that increase in domestic liquidity will spark off investment strides that would stimulate growth in real GDP. Like the effect of international liquidity, domestic liquidity has a positive impact on growth. Results from our empirical analysis have confirmed this stance. If there exists adequate liquidity, investors in the productive sectors of the economy would have access to investible funds to aid gross domestic investment otherwise called capital formation which would stimulate growth and further investments. Access to funds occur via effective financial intermediation being operationalised through the agency of the banking system and the stock exchanges.

Since domestic liquidity boost or stimulate growth, we thus recommend policies that will encourage availability and access to credit in the financial system and the banking system of the economy.

### **11. Exports**

Rise in exports are used as a measure of openness to trade. That it had a negative and insignificant effect on real growth in Nigeria portrays that Nigeria still has to create increased atmosphere for transparency and trade openness which would

## Uremadu

attract increased FDI injections in order to rise her real growth. As at present, there is room to curb corruption, create the right legal framework and regulatory practices that would encourage MNCs to thrive in the Nigerian emerging markets of the SSA.

Hence, we recommend that there should be more investments in infrastructure and energy as already stated elsewhere in this paper in a bid to attract and retain FDIs in its various forms to grow output in Nigeria in the 2000s.

### 12. Gross Fixed Capital Formation (GFCF).

The paper besides, hypothesized here that increase in capital formation would engender rise in real economic growth. Findings from the results of our tests and analysis confirmed a positive and insignificant impact of gross fixed capital formation on real domestic growth. The plausible reason for its insignificant rating here could be as a result of existence of inadequate capital formation in our economic base and or environment. It may have been caused by undercapitalization of fixed capital formed within the domestic economy. It then means that rise in capital formation or gross domestic investment would rise real growth as it complements FDIs to do so (see Uremadu, 2008).

### 5.2 Conclusion

The empirical results of our analysis from model equation (2) outstandingly established a number of key policy issues such as (i) that the rates of capacity utilization (CU) positively and significantly impacted on the level of real economic growth (real GDP) in Nigeria; (ii) that index of industrial energy consumption (INDEXEC) also negatively and significantly influenced real GDP in Nigeria; (iii) that financial deepening equally had a positive and significant effect on real growth in Nigeria, (iv) that international liquidity (INTLQ) which complements rate of domestic liquidity to enhance gross domestic investment also had a negative and substantial influence on real domestic growth; (v) that volume of stock market values (STMV) which is also a monetary phenomenon, negatively and significantly influenced real growth in Nigeria against our *apriori* expectations; (vi) finally, but not the least, that foreign direct investment (FDI) proxied by index of cumulative foreign private investment (CFPI) is positively and moderately disposed to real growth in Nigeria. Hence, what we derive from the results of our detailed empirical analysis is that financial deepening, stock market values, index of energy consumption, international liquidity among other factors, have significant and substantial impact on real growth in Nigeria. And that index of industrial energy consumption and international liquidity among other relevant variables, had a negative influence on real growth in Nigeria goes to explain that Nigeria has not been having her fair share from the global financial markets in attracting enough FDIs to enable her attain maximum capacity utilization to raise her domestic growth within the period covered by our investigation. A number of recommendations have been made which if implemented could stimulate real growth in Nigeria. These recommendations include (1) that government at all levels (local, state and federal) should embrace policies targeted at raising the rate of capacity utilization in Nigeria like providing increased power supplies, functioning infrastructural facilities, technical skills and manpower training, investment in R & D, eradicating corruption and entrenching culture of good

## Uremadu

corporate governance, among others; (2) embark on policies that encourage effective banking system reforms that would lead to an efficient financial system aimed at providing adequate liquidity and credit supplies to investors and productive industries alike so as to stimulate real GDP growth; (3) mobilize adequate savings and or capital accumulation which would attract FDIs, all combined to fill existing savings-investment gap to rise real country growth; (4) increase total bank credit to the domestic economy (TBCRED) to the real sector to complement FDIs, IPIs, CFPIs, etc. so as to stimulate desired real domestic growth in the future; (5) eschew corruption at official, industrial and private sector levels while drastic measures are being taken to channel amounts targeted for infrastructural repairs and electricity generation that can engender growth; (6) stabilize domestic inflation rate, raise domestic liquidity rate aimed at entrenching effective planning and embarking on domestic investment strides and enhance efficient financial intermediation, among others, to spur growth in the real sectors of the Nigerian economy in this 21<sup>st</sup> century emerging markets.

Nonetheless, the limitations of this study arise from the fact that we as human agents can never be all round perfect. Hence the present study suffers from a number of limitations ranging from (1). Data is from a secondary source, as such it may have suffered from problem of bias and inaccuracy. (2). Non availability of data and gaps in some periods covered by the study as well as non inclusion of previous years data before 1980 due to these inadequacies. (3). Our inability to present correlation matrix to justify that the model does not have multicollinearity threat which we believe will be taken care of in further studies to significantly improve the work in future.

Notes:

1. This section of the work profited elaborately from S. Contessi and A. Weinberger (2009) "Foreign Direct Investment, productivity and Country Growth: An Overview" *Federal Reserve bank of St. Louis Review* Vol. 91, No. 2

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