

Financial Liberalization and Output Growth in Nigeria: Empirical Evidence from Credit Channel

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ABSTRACT: This study examined the impact of financial liberalization on output growth in Nigeria over the period of 1986-2011. Employing the Ordinary Least Square method of estimation in its analysis, the empirical findings showed that financial liberalization policy (proxied by credit to private sector/GDP) is negatively related to output growth in Nigeria within the period under review. Thus, this suggests that credits to private sector may have been used for buying and selling of consumables, or diverted to some unproductive ventures, rather than production activities, which would have increased economic growth. Moreover, available evidence shows that the amount of credit to the private sector, as a proportion of the total credit to the economy, is too negligible to contribute positively to economic growth. The results also show that there is unidirectional causality running from output growth (LRGDP) to financial liberalization. This implies that policies promoting economic growth in Nigeria will likely stimulate the gains from financial liberalization in the long-run. The co-integration test reveals that there is a long run relationship among the variables in the model. We therefore conclude that the banking sector should not serve only the government and influential borrowers, thereby leaving genuine private sector borrowers with little or no credit. Further, the government needs to encourage banks to increase their lending to the private sector, especially small and medium enterprises that are ready to invest in the real sector of the economy to enhance output growth.

Keywords: Financial liberalization; Credit, Private Sector; Output; Economic Growth

JEL Classifications: B26; D14; E44; F43.

1. Introduction

Prior to financial liberalization, the government of developing countries practiced financial repression thereby subjecting the administrative framework of the financial system to its whims and caprices, such that financial policies implemented will suit its desires. Their development strategies were designed such that the government or its agencies were vested with the responsibility to make decision regarding the allocation of resources thereby giving the market forces a less important role to play in economic development. Due to the widely spread benefits attainable from financial liberalization; many developing countries in order to achieve economic buoyancy have experienced the gradual but apparent liberalization of its financial sector. The state-dominated development paradigm has shifted towards a more market determines strategy of development in the recent years due to the relatively low growth rate of incomes, industrial output and recurring balance of payment crises in the state-dominated paradigm and also influenced by the astonishing success of Japan and East Asian countries in accelerating growth through the market-determined strategy of development (Nair, 2004).

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In the financial liberalization theory, Shaw (1973) and Mckinnon (1973) argued that financial liberalization policies would increase savings which consequently spurs investment and induce economic growth. They argued that higher interest rate brought about by liberalization leads to a more efficient allocation of resources, higher level of investment and economic growth. The focus of liberalization has been to replace the severely constrained ‘command and control’ system with a relatively liberalized regime with prices reflecting economic costs, along with a greater reliance on the private sector as the engine of growth (Bhaduri, 2005).

Financial liberalization has become an important economic policy package in both advanced and advancing countries. For more than a decade now, financial liberalization in developing countries has been cited as a necessary and significant part of an economic policy package promoted by what used to be called the “Washington consensus” (Ghosh, 2005). The developing countries in order to revamp their economy implemented the economy recovery programme famously called “Structure Adjustment Programme” introduced by the Bretton woods institutions (World Bank and International Monetary Fund) aimed at liberalizing prices in distress and melt down economies. The adoption of this programme signals the phasing out of financial repressive policies in the economy.

Financial liberalization serves as a panacea to financial constraints in a financially repressed economy. Under the financial repression regime, the monetary authorities impose high reserve requirements, bank-specific credit ceilings and selective credit allocation, mandatory holding of treasuring bills and bonds issued by the government, and finally a non-competitive and segmented financial system (Achy, 2003). Theories of financial repression associated especially with Mckinnon and shaw postulated that administrative control of financial markets by the government distorts interest rate thereby lowering it. The resultant effect of this is that savings is discouraged, consumption is encouraged and the quantity of investment is crippled.

Following the globalization trend, Nigerian embraced the Structural Adjustment Programme (SAP) in 1986 as a corrective measure to the deteriorating economic situation. The real GDP growth rate averaged only 1.5% per annum during the period 1973 to 1985 thereby registering negative growth rate in 6 years during the period (Adebiyi, 2001). The SAP was proposed as an economic package to rapidly end effectively transform the Nigerian economy. The basic thrust of the economic reforms embodied in SAP is deregulation, particularly financial deregulation (Okpara, 2010).

Given that interest rate policies as an instrument of monetary policy remained flexible and responsive to changes in market conditions the central bank of Nigeria in the year 2000 indirectly influences the level and direction of changes in interest rate movement through its intervention rate on various many market assets, especially the Minimum Rediscount Rate (MRR) as well as the stop rate of the weekly tender for treating bills. The Minimum Rediscount Rate (MRR) continued to be used proactively in line with prevailing economic conditions while the rate of treasury bill is made market related and competitive with comparable money market instruments (CBN, 2006A).

The benefits of financial repression, as opposed to financial liberalization, are debated on several points. In theory, it is believed that financial repression creates a better control over money supply and a lower interest rate (usually below market rate) which can induce a higher investment. Another argument in favour of financial repression is that government controlled usury controls on financial markets are needed, especially for capital scarce economies of developing countries. The main conviction of the advocates for financial repression is that the government knows better than the market.

The Nigeria financial sector, like those of many other less developed countries was highly regulated leading to financial disintermediation which retarded the growth of the economy. Most third world countries (including Nigeria) had in the past used governmental interventions as a tool in allocation of resources. These interventions have been described as not only repressive but a major factor retarding the growth process of the economy in addition to being harmful to the banking sector whose interest in liberalization is aimed at protecting. Indeed, the Nigeria growth performance has become worrisome over the last two decades. During this period, growth was sluggish and dismal to the extent that the efficacy of the various dosages of different reform polices remains an open-ended question. Hicks (1969) holds the view that the financial system play a crucial role in the mobilization of capital for industrialization, while Robinson (1952) argues that economic development creates demand for certain financial instrument, Honohan (2000) argues that the process of liberalization is

expected to increase the variability of interest rates with its associated distribution consequences. The overall effects are to induce competition within the financial services industry.

The issue of financial liberalization has remained controversial especially for developing countries. With the introduction of structural adjustment programme in 1986, Market based reforms were proposed to ensure that the cost of capital would be achieved in Nigeria. The aim of domestic financial liberalization is to improve economic performance through increased competitive efficiency within financial markets thereby indirectly benefiting non-financial sector of the economy. After the prescribed financial liberalization, the domestic economy has failed to experience impressive performance such as attract of foreign investment, increased savings and investment and more so, the banking sector has remained largely oligopolistic and uncompetitive with few large bank controlling the greater segment of the market in terms of total assets, total liabilities and total credit in the banking sector (Akpan, 2004). Thus, the broad objective of this study is to consider the impact of financial liberalization on economic growth in Nigeria. The specific objectives are to: (a) investigate the causal relationship between financial liberalization and output growth in Nigeria (b) examine the impact of financial liberalization on output growth in Nigeria.

1.1. Brief Overview of Nigeria Financial Sector during Structural Adjustment Program (SAP)

The adoption of structural adjustment program (SAP) in July 1986 ushered in an era of Laissez-fair policies, economic liberalization and price deregulation in virtually all aspect of economic life. Financial deregulation began in earnest in 1987 and had far-reaching impact especially on the banking industry. Financial deregulation was accompanied by the rapid emergency of financial innovation, deregulated interest rate and fierce competition among and between various financial institutions.

The deregulation initially provided powerful incentives for expansion in both size and number of banking and non- banking financial institutions. The consequent phenomenal increase in the number of banks and non-bank institution, and between banks and non-bank financial intermediaries. Indeed, commercial banks, merchant banks, mortgage institutions, insurance and finance companies have all expanded the range and volume of their activities since the deregulation exercise began.

Apart from the stiff competition in the range of financial activities, banks also faced problems associated with a stubborn slow-down in economic activities, severe political instability, virulent inflation, worsening economic and financial conditions of their corporate borrowers, and increasing incidence of fraud and embezzlement. Iyoha (1997) has observed that the CBN's surveillance and regulatory resources have unfortunately failed to keep pace with the rapidly of the changes in the financial system. All these factors deregulation, competition, innovation, economic recession, political instability, escalating inflation, and frequent reversals in monetary policy. These have combined to create challenging and precarious financial environment. One major consequence of the new financial environment has been the rapidly declining profitability of traditional banking activities, arising in part from the increasing risk associated with banking.

1.2. Some Issues on Nigeria Financial Sector Reform

The reform of the financial sector occupies a central position since the efficiency of this sector is a necessary condition for the efficient functioning of a nation's economy. According to Calderon and Liu (2003), for a country to gain a sustainable economic growth, it will be imperative for such an economy to undertake financial reform. Several financial restructuring programs have been put in place since early 1990s up to this period of democracy such as recapitalization, merger and acquisition, capital control and deflationary policy, all with the aim of improving the financial system. The on-going reforms in the Nigerian financial sector were as a result of the weaknesses and the liability of the sector to complement the developmental efforts of the country. The banking sector reform is expected to build and foster a competitive and healthy financial system to support development and to avoid systematic distress (Soludo, 2007).

There were reforms in monetary policy which were designed mainly to stabilize the economy in the short-run and to induce the emergence of a market oriented financial sector. Some of these reforms include:

Rationalization of Credit Controls: Although credit ceilings on bank were not completely removed, the sector specific credit distributions target were compressed from 18 in 1985 to 2 in 1987 priority (agriculture and manufacturing) and non-priority (others). Other credit measures enacted were the elimination of expectations within the ceiling on bank credit expansion, giving similar treatment to

commercial and merchant banks in relation to required liquidity ratios and credit ceiling, the modification of cash reserve requirements which is now based on the total deposit (demand, savings, and time deposit), rather than on time deposits only, and the reintroduction of stabilization securities.

Deregulation of Interest Rate: In January 1987, a partial deregulation of interest rate was attempted, but by August, all rates became market determined. The CBN adopted the system of fixing only its Minimum Rediscount Rate to indicate the desired direction of interest rates changes. Interest rate liberalization was aimed at enhancing the ability of banks to charge market based loans rates and also guarantee the efficient allocation of sources. In 1989, banks were encouraged to pay interest on current account deposits.

Deposit Money Banks: Deposit money banks are supposed to facilitate capital formation and promote economic growth. The consolidation exercise started in mid-2004 with the deposit money banks that were required to raise their minimum capital base from N2bn to N25bn by the end of 2005. This, therefore reduced the number of deposit money banks from 89 banks to 25 mega banks (and later 24) after series of mergers and acquisition. The outcome of the consolidation exercise was the emergence of 25 banks in Nigerian which together accounted for about 93.5% of aggregate deposit liabilities and a larger capital base from about \$3 billion to \$5.9 (Soludo, 2006).

According to Sanusi (2010), the Nigerian economy was hit by the second round effect of the crisis as the stock market trended downward by 70.0 per cent between 2008 and 2009 and many Nigerian banks sustained huge losses, particularly as a result of their exposure to the capital market and downstream oil and gas sectors. Sanusi (2010) maintains that following the banking crisis of 2008, the Central Bank of Nigeria articulated a blue print known as “The Project Alpha Initiative” for reforming the Nigerian financial system in general and the banking sector in particular. The reforms were aimed at removing the inherent weaknesses and fragmentation of the financial system, integrating the various ad-hoc and piecemeal reforms and unleashing of the huge potentials of the economy.

2. Review of Related Literature

2.1. Theoretical Literature

The impact of financial liberalization on economic growth like other economic phenomenon has been a source of debate for policy makers. Economists do not hold a consensus on the effect of financial liberalization on economic growth. Most theoretical literature is in favour of financial liberalization leaving a positions effect on economic growth but some empirical literature disagree with effect of financial liberalization on economic growth. In this context, the theoretical perspective on the role of financial liberalization on economic growth can be broadly divided into the following 5 categories:

- (1) The classical theory
- (2) The neo-classical theory
- (3) The Keynesian theory
- (4) The Modigliani-Miller theory
- (5) The financial repression hypothesis

According to the *classical theory*, the prompting of internal and external economies of scale, the process of industrial production evolves into higher and more sophisticated levels of production, giving rise to further specialization, new products and quality improvements, leading to technological acquisition and economic growth. Adaptation to a growing market, widened by international trade, stimulates industrial production and provides additional impetus to the attainment of economic growth. The dimension of international trade has given rise to the contemporary challenges posed by globalization. The export-led economic growth hypothesis is hinged on the stimulation of production as a result of larger demand arising from international trade, which induces economies of scale. This hypothesis was inspired by much earlier trade-led growth expositions by classical economists such as Adam Smith and David Ricardo. Thus, industrialization-driven resource utilization process is the key to economic growth, in that industrialization ensures production and generates positive externalities for spearheading the economic growth path. However, the process of globalization has given rise to greater competition towards markets and investments. Economic development springs-up from economic growth in that the process of generating economic growth give rise to the attainment of basic elements of development and amplifies the urge for further development.

According to *neo-classical theorists*, like Alfred Marshall, Friedrich Von and W.S Jevons, financial liberalization will make the cost of capital to decrease, while productivity and output will grow. In reality, this does not happen. After financial liberalizations both the real interest rate and supply of credit of the non-traded goods sector rise. From a neo-classical point of view, liberalizing financial markets would stimulate savings, and enhance physical capital formulation (Kapur, 1976; Mathieson, 1980). This hypothesis is to influence the financial system ability to provide financial capital needed for firms investment, and at a relative affordable price. According to this analysis, therefore, financial liberalization should facilitate the creation and entry of new firms into industry, as well as enhance the growth and expansion of incumbent firms (Vlachos and Waldenstrom, 2005). According to Robert Solow, the growth model posits that economic growth depends on capital accumulation, increasing the stock of capital goods to expand productive capacity, and the need for sufficient savings to finance increased allocation of resources towards investment.

The Keynesian perspective on the role of finance in economic growth portends that investment decisions are primarily determined by the level of confidence, expected demand and the “Animal spirits” of the private investors. Underlying the Keynesian view is the fundamental message that it is investment that determines savings, and not vice versa. Although, in principle, the rate of interest matters, in practices it is regarded as been reflectively insignificant compared to demand factors. High real interest rate may stifle Investment and growth. The disequilibrium approach within the context of the Keynesians tradition implies that investment depends on prospect for profit and the building constraint on firm’s sales (Sneessens, 1987). Moreover, it is not necessarily the case that a perfect capital market will lead to an optimal allocation of investment. Indeed Keynesian in the General theory link the stock market to a gambling casino dominated by speculator and investor with short-term outlook.

The Modigliani-Miller (1958, 1961) “irrelevance propositions” have dominated modern neo-classical theory of finance and investment until recently. The Modigliani-Miller irrelevance propositions state that in fully developed capital markets, with perfect competition, no transaction costs and no taxation and with full and symmetric information among all investors, the stock-market valuation of the firm is independent of its financing or dividend pay-out decision. The market value of a firm will be determined by earnings prospects and risk of its underlying real assets and would be invariant to its capital structure or the division between internal or external sources for financing its investment plans. At the macroeconomic level, the propositions imply a dichotomy between finance and the real economy. Cooperate growth and investment decision are determined by the real economic factors such as productivity, demand for output, technical progress and relative factor process of capital and labour.

More recent theoretical developments have invalidated the Modigliani-Miller proposition and produced an optimal capital structures which maximizes its stock market valuation by relaxing some of the underlying assumptions. The introduction of corporate tax incentives that allow interest to be deducted as costs would favour debt finance. However, a high level of debt may increase bankruptcy and financial distress during economic recession.

The financial repression hypothesis, have been mainly concerned with advanced economies where the capital markets are well developed. In the case of underdeveloped capital markets, the McKinnon-Shaw framework has explicitly sought to relate capital market developments to long term economic growth in the developing countries (McKinnon, 1973, Shaw, 1973). The McKinnon-Shaw proposition is that a repressed financial sector interferes with development in several ways: savings vehicles are not well developed, financial intermediaries that collect savings do not allocate them efficiently among competing uses, and firms are discouraged from investing because of financial polices repression that reduce the returns to investment or makes them uncertain, as a result to growth is retarded.

Financial liberalization theory argues for improved growth through financial deepening and financial sector reform, the key relations of financial liberalization paradigm are: positive real deposit rate raise the savings rate, a positive correlation between the degree of financial deepening and the growth rate, increased real rate raise the level of investment, and increased real deposit rate promote economic growth (Oshikoya, 1992; Ozturk, 2008).

The McKinnon-Shaw (1973), proposition is based on the underlying classical assumption that savings determine investment and that a full utilization of resources is always guaranteed. This is contrary to the fundamental Keynesian framework which suggests that if is investment that determines

savings and that the supply of loans is endogenous through the money multiplier process which the banking system could create additional credit without increasing the deposit base.

The financial system of many developing countries are characterized by high ownership structure resulting in Oligopolistic practices which created privileged access to credit for large companies but limited access to smaller and emerging companies. A viable equity market can serve to make the financial system more competitive and efficient. Without equity markets, companies have to rely on internal finance through retained earnings. Large and well established enterprises are in a privileged position because they can make investments from retained earnings and bank borrowing while new companies do not have easy access to finance. Without being subjected to the scripting of the market place, big firm get bigger.

Banking institutions are reluctant to provide longer term finance which such companies need to expand existing business, purchase new equipment and penetrate new market. The corporate sector would also be strengthened by the requirements of equity markets for the development of widely accepted accounting standards, disclosure of regular, adequate and reliable information. While closely held companies can camouflage poor investment decisions and low profitability at least for a while, publicly held companies cannot afford this luxury. The information would help investors to make comparisons of the performance and lorry them prospects of companies, corporations to make better investments and strategic decision and provide better statistics for economic policy makers.

Although, equity markets force corporations to compete on an equal basis for the funds of investors, they can be blamed for favoring large firms, suffer from high volatility and focus short term financial return rather than long term economic growth.

2.2 Empirical Review

In pioneering contributions, for example, Levine (2000) constructs liberalization indexes for 13 developing countries since the late 1980s and finds that financial liberalization process in general has eased financial constraints faced by large firms in these countries. Galindo et al, (2001), use Levine's data and find that financial liberalization increases the allocative efficiency of investment. Gine and Townsend (2004), in their study detect a significant positive effect of financial openness on economic growth using a panel of countries over the period of 1960-2007. This happens on only for countries with better financial development, high human capital and good institutions. In addition to long-run effects, short-term considerations may play a role in the relationship. Capital account liberalization is systematically related to greater instability since capital flows are procyclical in nature.

Kenourgios and Samitas (2007) examined the long-run relationship between finance and economic growth for Poland and concluded that credit to the private sector has been one of the main driving forces of long-run growth. Acaravci et al. (2009) found a bi-directional causal relationship between the growth of real GDP per capita and the domestic credit provided by the banking sector for the panels of 24 sub-Saharan African countries.

Aziakpono (2004) used the ratio of liquid liabilities and the ratio of banks, private credit as measures of financial intermediation and found mixed results. He found that growth was negatively related to financial intermediation in Botswana and Swaziland while the relationship was positive in Lesotho and South-African. The above discussions highlight the fact that there is no consensus in existing empirical studies for SSA countries on the relationship between economic growth and financial development. The results seem to be sensitive to the different time periods, countries, and the specifications of the models are not robust enough for definite interference to be made. Allen and Ndikumana (2000) also used the ratio of liquid liabilities, ratio of banks, private sector credit, total credit and an index to include all three measures as proxies for financial intermediation. The authors find that only the ratio of liquid liabilities is positive and significant, and even this variable is significant in fixed effects estimation and when annual dates are used.

Catao and Terrones (2005) using panel data pooled from to developed and developing countries for the 1960–2007 period, found that there is an intertemporal trade-off between financial openness and economic growth greater influential openness appears to have short run negative but long run positive effects on output growth. The data also reveals that financial globalization has no significant short-run effect but strongly negative long-run impacts on output growth uncertainty.

Bussiere and Fratzscher (2008) using a panel of countries over the period 1960-2007 found that one reason for lack of evidence in favour of a robust openness growth in cross and recently and mostly between the late 1980s and the mid 1990s. The order of the ARDL process for each country must be

augmented to ensure that the residual of the error correction model be acrogenous and serially uncorrelated. At the same time, with a limited number of time series observations, the ARDL order should not be over extended as this impose excessive parameter requirements on the data, when the main interest is on the long-run parameters. The lag order of the ARDL can be selected using some consistent information criteria (such as the Schwartl-Bayesian criterion) on a country- by- country basis.

Eatzaz and Malik (2009) who undertake an empirical study of 35 developing countries over the periods of 33 years (1970-2003) on financial sector development and economic growth, their studies reported that domestic credit to private sector is instrumental in increasing per worker output and hence promoting economic growth in the long run. Gourinchas and Jeanne (2006) found that to close the development gap, financial openness would have to raise economic growth. He found that the average deflationary gap (GAP) per capital (in logs) of four countries groups. Countries that never opened, liberalizing countries with a relatively high deflationary gap (GAP) per capital in 1980, liberalization countries with a relatively low GAP per capital, and countries that were already financially open in 1980.

Bhatia and Khatkhate (1975) used correlation graph to examine the relationship between economic growth and financial intermediation for eleven African countries. Financial intermediation is measured by the ratio of currency, demand deposits, and time and savings deposits to GDP. The authors find two definite relationships between growth and financial intermediation for the countries either individually or for the whole group. Splitting the financial intermediation measure into two of the ratio of money to GDP and the ratio of quassi- money to GDP still does not reveal any definite relationship between growth and financial intermediation. Adegbite (2004) used the ratio of broad money supply (M_2) to GDP as the measure of financial sector growth and deepening, found positive correlation between financial sector growth and real sector growth in Nigerian.

King and Levine (1993) examine the links between finance and growth in a sample of 77 developing countries over the period 1960-1989. They constructed four financial indicators, namely: liquid liabilities divided by GDP (usually M_2 divided by GDP), domestic assets in deposit money banks divided by domestic assets of both deposit money banks and the central bank, domestic credit to the private sector divided by aggregate domestic credit and domestic credit to the private sector divided by GDP. They also constructed four growth indicators namely, average rate of growth in per capital GDP, average rate of growth in the capital stock, the residual between first and 0.3 of second as a proxy for productivity improvements, and gross domestic investment divided by GDP. The result from these studies showed that each financial indicator is positively and significantly correlated with each growth indicator at the 99% confidence level.

Chaudhry (2006) examined the impact of financial sector liberalization indicators on macroeconomic performance in Pakistan by using time series econometric analysis over the time period 1972 –2006. The study undertakes bivariate and multivariate models for empirical analysis. In Pakistan, financial sector liberalization was initiated under the broader macroeconomic structure adjustment programs in the early 1990s. The result suggests a significant positive impact of financial liberalization variables on economic growth and investment. The finding of the study also reveals the long-term and short-term relationship between the indicators of financial liberalization and economic growth and investment in Pakistan. Mushin and Eric (2000), used causality test on the Turkish economy revealed that causality runs from economic growth to finance, arguing that economic growth seems to lead to financial development.

Tornell and Westermann (2004) study examined the relationship between financial liberation and financial fragility. They employed data for 52 countries over the period 1980–1999. The dependent variable is financial fragility which is defined as the negative skewness of credit growth. Financial liberalization is measured by an index which captures a more liberalized financial system if cumulative capital inflows exceed 10 percent of GDP or if such series experience a trend break. The study found that financial liberalization is associated with an increase of the mean of credit growth and a fall in the skewness of credit growth.

Loayza and Ranciere (2004) employed the pooled mean group estimate or to examine the effects of financial intermediation and financial liberalization on economic growth and financial crisis. The author used data for 75 countries over the period 1960-2000. The results of estimating growth regression showed that financial intermediation has had a negative effect on economic growth in the

short-run but the relationship has been positive in the long-run. Using the standard deviation of the growth rate of the ratio of private sector credit to measure financial volatility arising from financial liberalization, the authors found that financial volatility increases the incidence of banking crisis and this has had an adverse effect on economic growth. They also concluded that financial liberalization increase financial volatility and this increases the incidence of banking crisis.

Using the panel set for 12 Latin American countries for 1950-1985, Gregorio and Guidotti (1995), however, find a robust and significant negative relationship between financial liberalization and growth in Latin American countries. The authors suggested during 1970s and 1980s financial liberalization without appropriate regulation in the Latin American region caused the financial sector to collapse, which exerted a negative impact on economic growth. These findings suggest that financial liberalization may well be a necessary condition for the financial sector to improve economic growth, but will hardly prove sufficient.

Summarily, the lack of consensus on the impact of financial liberalization on economic growth creates a space for more detailed and improved study on the topic. This research therefore seeks to empirically determine the impact of financial liberalization on economic growth in Nigeria using a disaggregate analysis by augmenting other research works done already and also adding more core variable like the consumer price index which other research works have ignored. Also the ones that did not incorporate the co-integration test which is used to test whether there is a long run relationship among the variables in the Nigerian context.

3. Research Methodology

The Ordinary Least Squares (OLS) of the standard linear regression model was used in the estimation. The choice of this method is informed by the nature of the study. In this study the causal relationship as well as the impact analysis between the relevant variables are taken into consideration.

3.1 Model Specification

MODEL 1: Causal Relationship between Financial Liberalization. And Output Growth.

$$\text{LOG(RGDP}_t) = \sum \alpha \text{LOG(FINL}_{t-i}) + \sum \beta_j \text{LOG(RGDP}_{t-j}) + \mu_{1t} \dots\dots 1$$

$$\text{LOG(FINL}_t) = \sum \lambda_i \text{LOG(FINL}_{t-i}) + \sum \sigma_j \text{LOG(RGDP}_{t-j}) + \mu_{2t} \dots\dots 2$$

where

LRGDP = Log of Real Gross Domestic Product (a proxy for output/economic growth)

FINL = Financial liberalization proxied by Credit to private sector/GDP

\sum = Summation sign

N = number of lags employed

t-i, t-j = lag interval (each model is allowed a total of four lags).

μ_t = stochastic error terms. The choice of this model is formed by the fact that the granger causality test is relatively simple to run, easy to analysis and yield robust result.

MODEL II

Functional form of the model: the functional form of the model is specified thus;

$$\text{LRGDP} = F(\text{FINL}, \text{FD}, \text{CPI}, \text{RINTR}, \text{REXR}, \text{POP})$$

Econometric specification of the model: the econometric model would be specified thus;

$$\text{LRGDP}_t = \beta_0 + \beta_1 \text{FINL}_t + \beta_2 \text{FD}_t + \beta_3 \text{CPI}_t + \beta_4 \text{RINTR}_t + \beta_5 \text{REXR}_t + \beta_6 \text{POP}_t + \mu_t.$$

Where;

LRGDP = Log of Real Gross Domestic Product (a proxy for output growth or economic growth)

FINL = Financial liberalization proxied by Credit to Private Sector/GDP

FD = Financial Deepening. (M2/GDP)

CPI = Consumer Price Index.

RINTR = Real Interest Rate.

REXR = Real Exchange Rate.

POP = Population.

μ_t = Random error term

3.2 Definition and Justification of Model Variables

The choice of the variables employed in this research is a function of the evidence provided by literature on the economic relationship that exists between the dependent and the independent variables. **Output growth or Economic growth** is proxied by the log of real per capital gross domestic product and credit to private sector is a proxy for **financial liberalization**. **In this study, we use Output growth and Economic Growth interchangeably.** Credit to private sector/GDP has been used in several studies as a proxy for financial liberalization. Examples of such studies include Pill and Pradhan (1995), Galindo *et al.* (2002), Cemile (2002), Agu *et al.*, (2014). Although some studies use this variable as a proxy for financial development, we are using it as a proxy for financial liberalization in this paper following Pill and Pradhan (1995), Galindo *et al.* (2002) and Agu *et al.* (2014). It is important to note that Schumpeter's pioneering work in 1912 and Mackinnon-Shaw's hypotheses of 1973, all agree that "creation of credit by banks is essential for economic development, and they also made the assumption that only the entrepreneur needs credit. Credit provides the entrepreneur with purchasing power without which, it would be impossible to produce. Credit can therefore be seen to feed industrial development. However, credit does not just come automatically but has to be borrowed and this can be done only through financial intermediaries".

Thus, financial liberalization provides a mechanism intended to facilitate the flow of fund from private sector development. The improved financial environment is expected to stimulate the level of investment and income, enhance manufacturing capacity utilization, reduce poverty increase per capital income, and by extension lead to economic growth.

Financial deepening simply means an increase in the supply of financial assets in the economy. Economic growth and development of a country depends greatly on the role of financial deepening. This means that the wider the range of such assets as broad money supply, bank and non-bank financial intermediaries, treasury bills, value of shares in the stock market, money market funds *e.t.c.* the better the size of financial deepening.

Consumer Price Index is defined by the United States Bureau of labour statistics as a measure of the average change over time in the price paid by consumers for a market basket of consumer goods and services. It can be used to deflate nominal GDP values. Hence, CPI can impact on economic growth. Nigeria's Consumer Price Index percentage distribution is skewed toward the non-durables, necessitating neck-deep poverty (Moduh, 2011).

Real Interest Rate: This is another core variable that effect economic growth. Interest rate is the cost of borrowing for investment purposes. Keynes theory of investment (1936) established a negative relationship between investment and interest rate. The higher the interest rate, the lower the investment because investors will be facing with high cost of starting a business especially if the cost of borrowing outweigh the return on investment implying negative relationship. The Mackinnon-Shaw (1973) also suggests that a low or negative real interest rate discourages savings and hence reduce the availability of loanable funds, constraint investment and in turn lower the rate of economic growth.

Real Exchange Rate: This is the rate one can offer one currency for another. According to Barth (1992), exchange rate policy involves choosing an exchange rate system and determine the particular rate at which foreign transaction will take place. A country's exchange rate policy ideally should reflect the underlying economic and institution features. According to Fischer (1998), a competitive exchange rate will boost economic growth while overvaluation of exchange rate reduces economic growth.

Population is the total number of people living in a geographical location. Researchers have written widely on the implications of population growth to economic growth from the angle of unemployment increase in an economy. According to Onwuka (2011), a large population could be to the advantage of a country in terms of increased productivity through improvement in the ratio of labour force. Be that as it may, Nigeria's large population has development implications. He argued that population increase in Nigeria has direct link to unemployment rate in recent time which could have severe consequences for socio-economic condition in Nigeria.

Guajarati (2003) defines the μ_t as a random variable that has well defined probabilistic properties. The stochastic error term captures all other factors that affect economic growth but are not taken in to account in the model.

3.3 Estimation Technique

This paper adopted the ordinary least square method of estimation. This method credited to Carl Gauss is preferred because of its attractive *statistical* properties of linearity, unbiasedness and efficiency in the class of unbiased estimator which made it one of the most powerful and popular method of estimation. Also the research made use of E-views 6.0 in its analysis because of the robust estimates of the package.

4. Presentation and Analysis of Results

The causality results of functions specified in the previous section showing the causal relationship between output growth and financial liberalization are hereby represented below.

4.1. MODEL 1: The Direction of Causality between Financial Liberalization Output Growth.

From model 1, we test for causality between output growth (LRGDP) and Financial Liberalization. From the result obtained, we observe, that there is unidirectional causality running from economic growth (RGDP) to Financial Liberalization (Table 1). This implies that promoting economic growth in Nigeria will stimulate the gains from financial liberalization in the long-run. This supports the work of Akpansung and Babalola (2010) who found evidence of unidirectional causal relationship from GDP to private sector credit (PSC) in Nigeria. Akinlo and Egbetunde (2010) also used VECM to establish cointegration relationship between financial development and economic growth in selected ten Sub-Saharan Africa countries (1980-2005). The study revealed different directions of causality in the countries. Bidirectional causality was found in Chad, Saraland, Sierra Leone, South Africa, and Kenya. It was also found that economic growth granger causes financial development in Zambia while financial development also granger causes growth in Nigeria, Gabon, Central Africa Republic and Congo Republic.

Table 1. Causality results

Null Hypothesis	Observation	f- statistic	Probability
LOG(FINL) does not granger cause LOG(RGDP)	25	0.04434	0.8352
LOG (RGDP) does not granger cause LOG (FINL).		5.06178	0.0348

4.2. MODEL II: Impact of Financial Liberalization on Output Growth

The result shows that the coefficient of financial liberalization (FINL) is -0.268406 (table 2). This implies that FINL proxied by credit to private sector/GDP has a negative relationship with output growth (RGDP). This means that holding other variable constant, a one percentage (1%) increase in credit to private sector would on the average lead to significant decrease in output growth by 0.27 percent. This variable did not conform to economic a prior expectation, but the reason is not far-fetched. In Nigeria, over the years; the banking sector serves only the government and influential borrowers and hence, private sector borrowers are left with little or no credit. It also implies that credits to private sector are used for commerce (buying and selling), or diverted to some unproductive ventures, rather than production activities, which would have increased economic growth. Moreover, the amount of credit to the private sector, as a proportion of the total credit to the economy, is too negligible to contribute positively to economic growth.

The result also shows that the coefficient of financial deepening (FD) is 0.281701. This implies a positive relationship between financial deepening and output growth (RGDP). Holding other variables constant, a one percentage (1%) increase in FD would on the average lead to an increase in RGDP by 0.28 percent. This variable actually conforms to a prior expectation although it is not statistical significant.

The coefficient of population is 1.618183. This implies that population have a positive relationship with output growth (RGDP). This means that holding other variable constant, a one percentage (1%) increase in population would on the average lead to increase in RGDP by 1.61 percent. This variable conforms to economic a prior expectation and it also has a statistical significant effect on RGDP as indicated by the t-statistic of 3.450600. This can be attributed to the high rate of population in Nigeria and the nature of the domestic system of production which is more labour intensive than capital

intensive. A lot of Nigerians depends on labour intensive production and this underscores the more than proportional increase in real gross domestic product.

Table 2. The result of the estimated model

Dependent variable LOG (RGDP)

Variable	Coefficient	Standard error	t-Value	t- Prob
C	-17.54321	8.641565	-2.030096	0.0566
LOG(FINL)	-0.268406	0.132034	-2.032852	0.0563
LOG(FD)	0.281701	0.146433	1.923758	0.0695
LOG(POP)	1.618183	0.468957	3.450600	0.0027
REXR	-0.002104	0.001008	-2.087946	0.0505
RINTR	0.000219	0.001076	0.203432	0.8410
CPI	0.005061	0.001407	3.598494	0.0019

$R^2 = 0.980527$

DW= 1.442471

$\bar{R}^2 = 0.974378$

F-STAT= 159.4525

The result shows that the coefficient of real exchange rate is -0.002104, which show a negative relationship between real exchange rate and output growth. So holding other variable constant, a unit increase in real exchange rate would on the average lead to a decrease in output growth by 0.0021 percent.

From the estimated results, the coefficient of real interest rate is 0.000219. This shows a positive relationship between real interest rate and output growth (RGDP). Therefore, holding other variable constant, a unit increase in real interest rate would on average lead to an increase in output growth (RGDP) by 0.00022 percent. This result does not conform to the Keynesian postulations but agrees with the Mackinnon-Shaw hypothesis. Thus, the Nigeria financial instrument (interest rate) is can be effective in achieving economic growth of Nigeria through the savings and investment channels.

The coefficient of consumer price index is 0.005061. This shows a positive relationship between consumer price index and output growth (RGDP). Holding other variable constant, a unit increase in consumer price index would on average lead to an increase in output growth (RGDP) by 0.0051 percent. This variable did not conform to economic a prior expectation. But this result tends to support some of theories of a positive relationship between consumer price index and output growth. If a commodity has higher income elasticity, or can be possibly substituted by imports or can be exported in an increased amount, its price will be less affected by the increase in supply. The high-income elasticity implies that with increased income generated from growth (price level), consumers prefer to allocate more of their income to consume such commodities and in so doing increasing the output level of the economy. However, in the case of Nigeria, the growth of consumer price index is unlikely to have high-income elasticity for most economic variables.

The coefficient of determination (R^2) shows the proportion of the variation in RGDP explained by FINL, FD, CPI, POP, RINTR, and REXR. It measures the goodness of fit of the estimated model. The R^2 of this study is 0.980527. This implies that the explanatory variables (credit to private sector, financial deepening, consumer price index, real interest rate, real exchange rate and population) explained about 98% of the total variation in the dependent variable (RGDP). This signifies that the model in a good fit.

4.3. Co-Integration Test

The co-integration test is conducted to test whether there is a long run relationship among variables in the model.

The co-integration equation is specified as;

$$RGDP = \beta_0 + \beta_1 FINL_t + \beta_2 FD_t + \beta_3 CPI_t + \beta_4 RINTR_t + \beta_5 REXR_t + \beta_6 POP_t + \mu_t$$

The residual for equations above was obtained and the ADF test employed to test for co-integration among the variables in the model

HYPOTHESIS TEST

Ho: There is no long relationship between the variables at its level form

H₁: There is long relationship between the variables at its level form.

Decision Rule: Reject Ho if absolute value of the ADF-statistic of the error term at level form is greater than the critical ADF; otherwise do not reject.

From the table 3, we can observe that all the variables are co-integration at 1%, 5% and 10% level of significance that is $-7.300194 > -3.737853 > -2.991878 > -2.632604$.

Table 3. Result of Co-Integration Test

Value Residual term μt	ADF Test statistic	Critical Value/ ADF
	-7.300194	1%
		-3.737853
		5%
		-2.991878
		10%
		-2.635542

Since the ADF statistic test is greater than the ADF critical Value, we reject H_0 . Thus, there is exists a long relationship between the variables. This implies that RGDP, CPS, FD, CPI, RINTR, REXR and POP are all co- integrated at the level form.

5. Conclusion and Policy Implications

The negative effects of rigid financial sector controls especially on savings, and hence on the process of financial intermediation, have led many countries, including Nigeria, to undertake reforms of their financial sector. The reform placed greater reliance on the use of market forces and it has led to changes in interest rate policy and expansion of financial activities. This also shows that Nigeria still falls short of achieving the efficiency and depth of full-fledged market- based financial sector. The intermediation role and investment of the financial sector are not targeted on a long-term basis which is making the real sector of the economy to remain continuously weak and therefore reducing the productivity level of the economy. The main finding emerging from this study indicates that financial liberalization in Nigeria has been significant in encouraging output growth. Although we agree that financial development is significant for output growth; financial liberalization has not really increased the depth of the financial system which would consequentially impact on the economy positively.

Finally, for the future, the availability of data could allow the extension of the empirical investigation to include some other financial indicators not considered in this study. Moreover, it will also be useful to investigate the existence of structural breaks in analyzing the impact of financial liberalization on Economic growth or output growth.

The starting point in reclaiming and reinventing ‘project Nigeria’ is to squarely adopt better policy procedures as a means of checking financial system mismanagement which pose as threat to the economic growth of Nigeria. The importance of achieving macroeconomic stability prior to reform is well known, yet structural reform and institutional development in the financial sector, especially prudential financial supervision, are equally essential as liberalization proceeds. Measuring the results of reform is extremely important if policy is to be well designed and implemented. The effects of liberalization itself may distort the inferences drawn from conventional measures of financial deepening about the success of reform. Consequently, a wide range of performance indicators should be monitored by policymakers. In order to consolidate the gains of the reform programme, government should avoid drastic policy reversal but rather, it should concentrate efforts in fine-tuning the existing policy measures which will not only compel prudence on the part of major operators in the financial market but also will stimulate saving behaviour of all economic agents. This will go a long way at enhancing fund’s mobilization in the country. Also there should be an enhancement of private sector investment through financial sector credits and through a combination of macroeconomic stabilization policies, financial sector deepening, improved governance and accountability and more openness to trade which would surely enhance the performance of economic growth in Nigeria.

Based on foregoing discussion, the following policy measures should be adhered to:

- i. There is the need for the monetary authorities to take cognizance of the level of growth and development in the domestic economy when designing monetary policy. Advancing policy measures that are meant for highly developed economies to be implemented locally may not work optimally unless such policy prescriptions are tailored to suit our own level of development. It is also advisable to adopt monetary policy measures that are forward looking. This enhances price stability and supports economics growth. This recommendation stems from the result of our granger causality model.

- ii. As observed from our result, financial liberalization as proxied by credit to the private has negative impact on growth. To reverse this trend, there is need for banks and other financial institutions to revise the modalities for lending to the private sector. Loans should be made available to those who have profitable business plans and are ready to invest in the domestic economy. This is how economic growth can be activated.
- iii. To support the liberalization process, the monetary authorities should create and maintain a stable macro-financial environment based on stable macroeconomic policies, low inflation and flexible interest rates.
- v. Finally, the government should ensure that the business climate is conducive for investments to thrive. This can be done by establishing an incentive framework and a business climate supportive of entrepreneurship and private sector development. When this is done, economic growth will be enhanced.

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