FINANCIAL SECTOR LIBERALIZATION AND PERFORMANCE OF THE NIGERIAN ECONOMY

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Abstract

This study examined the relationship between financial sector liberalization and performance of the Nigerian economy following the McKinnon and Shaw (1973) thesis by developing two models with modifications.Increase in savings through real interest rate and credit to the private sector are the two channels through which financial liberalization impacts on economic growth in the McKinnon and Shaw (1973) thesis. All the variables used in this study were sourced from CBN statistical bulletin. The study adopted Engel-Granger cointegration/error correction mechanism as analytical method. The result of the unit root and cointegrtaion test showed that the variables were integrated of order one, I(1) and evidence of long run relationship respectively. The parsimonious error correction results revealed that in the first model, with the exception of prime lending rate (PLR), real deposit rate (RDR), market capitalization as a ratio of GDP (MCGDP) and broad money supply as a ratio of GDP (MSGDP) all impacted on savings. However, while RDR and MCGDP impacted positively on SAGDP, the impact of MSGDP was negative on SAGDP. The results of the second model on the other hand revealed that while RDR, MCGDP and MSGDP maintained significant impact on credit to the private sector as a ratio of GDP (CPGDP) with PLR negative and insignificant, MSGDP impacted positively on CPGDP. Consequently, the study concluded that the impact of financial sector liberalization on the performance of the Nigerian economy is mixed. That is, while the significant positive impact of RDR on SAGDP indicates that financial liberalization stimulates growth in savings, the insignificant negative impact of prime lending rate on credit to the private sector indicates that financial liberalization does not stimulate credit to the private sector. The study thus recommended thatmonetary authorities particularly the Central Bank should determine an appropriate monetary policy rate that will keep both real deposit rate and the prime lending rate moderate. This will ensure that the prime lending rate is not too high to discourage borrowing for productive investment by the private sector and at the same time the real deposit rate is kept not too low to encourage saving.

Keywords: Financial Liberalization, Economic Growth, OLS, Parsimonious Error Correction Model.

Introduction

Economic growth relates to the sustained increase in the productive capacity of an economy evidenced in rising output of goods and services as well as national income over time. This growth is contingent on productive investment and the financing of such productive activities can be obtained through two channels, via capital markets and banks. In modem economies, these two channels are complementary and constitute the financial system.The capital market and banks are key players in the financing of economies and when their own inherent conditions prevent them from performing this function, economic growth is compromised. As McKinnon and Shaw (1973) observed in their seminal work on the key roles of banks as propellants of growth and development in developing economies, a feeble banking system is repressive, distortionary and disconnects the intermediation process, thereby, precipitating macroeconomic instability. This requires that policy makers, must articulate robust policies that will deepen the financial system to enable both the capital market and banks to play their roles most efficiently. Financial liberalization became a useful and important monetary policy in many countries following the directive from the "Washington Consensus" or "Bretton Woods"in the early 1970s due to the seminal work of McKinnon and Shaw (1973) in which they argued that liberalization of the financial sector will lead to increase in savings, encourage investments and induce economic growth. Hence, many countries especially developing countries have embraced financial liberalization as the way forward for their economies.

A feeble financial system characterized by repression, as argued by McKinnon and Shaw (1973) is the existence of interest rates ceilings, high reserve ratios, regulated lending, restriction to entry and exit in the banking activities, restriction of foreign currency transactions and directed ceilings in an economy. This entails that government imposes control over financial sector activities which engendersdecrease in savings, discourage investment, and lack of investment in an economy thereby retarding economic growth. They argued that financial liberalization is the way forward in an economy especially a developing economy. This thesis gained a lot of attention as many

developing economies liberalized their respective financial sectors following the directive of the Bretton Woods Institutions and the Washington Consensus. The International Monetary Fund, and the World Bank also made it part of the economic policy prescription by developing a programme called "structural adjustment programme (SAP)" aimed at liberalizing distressed economies.

Financial liberalization thus, refers to the removal of controls and restrictions placed on the financial sector by a governing authority. More particularly, domestic financial liberalizationentails allowing market forces to work by eliminating controls on lending and deposit rates and on credit allocation and, more generally, by reducing the role of the state in the domestic financial system. Financial liberalization also borders on capital account liberalization which involves removing controls on both the movement of capital in and out of a country and also the restrictions on the convertibility of the currency.

Prior to liberalization of the financial sector, Nigeria had a repressed financial sector in which the government and the Central Bank of Nigeria (CBN), restricted and controlled the activities of the financial sector. However, following the adoption of SAP, Nigeria liberalized her economy in August 1987. This policy initiative commenced with the liberalization of interest rates. Apart from the liberalization of interest rates, the reform also involved promotion of market-based system of credit allocation, enhancingcompetition, and efficiency of the regulatory and supervisory framework (Jegede and Mokululu, 2004; Agu et al., 2014). The adoption of this economic package was motivated by the need to proactively put the Nigerian financial sector and the economy at large on the path of global competitiveness. Interest rate liberalization which was the first financial reform to be undertaken was aimed at enhancing the ability of banks to charge market-based loan rates and hence guarantee the efficient allocation of scarce resources (Ikhide and Alawode, 2001). Other aspects of liberalization followed the liberalization of interest rates subsequently.

Thegrowth performance of the Nigerian economyin real terms has shownthat the economy has been fluctuating since the 1970s,the second decade after independence. For example, from 1970 to 1979, real gross domestic product (RGDP) grew at an average of 16.25%. This high growth rate could be

attributed to the increase in government revenue at the time due to the global crude oil boom. This is seen on table 1 below where industry which contains the mining sub-sector contributed 22.5% of RGDP growth rate and which possibly spilled over to the trade and service sectors of the economy with 15.6% and 15.5% respectively. The period between 1980 and 1989 had RGDP growth rate averaged at 10.3. During this decade characterized by the crash in the global crude oil price which compelled the adoption of austerity measures in the economy, agriculture took the lead roleand contributed 12.7% of RGDP growth rate, industry's contribution declined by over 100% to 9.1% as a result,the trade and service sectors declined to 10.5% and 8.9% respectively. Between 1990 and 1999 RGDP growth rate declined to a low of 2.7% after the adoption of the World Bank's structural adjustment programme in 1986 and liberalizing the financial sector in 1987. Agricultural RGDP fluctuated downwards from 12.7% in the previous decade to 3.4%, industry nosedived further to 1.4% and accordingly, the trade and the service sectors declined to 2% and 4.9% respectively. Real GDP fluctuated upwards to 7.2% in the 2000 to 2009 decade with agriculture contributing 17.9%, industry 12.6%, with tradeand service sectors rising accordingly. However, the improvements recorded in the real sector declined in the period between 2010 and 2018 as seen on the last column of table 1 below.

Table 1: Growth Performance of the Real Sector

Item	Average Real Sector Growth in Percentage				
	1970-79	1980-89	1990-99	2000-09	2010-18
1. Real GDP Growth Rate	16.3	10.3	2.7	7.2	3.6
(a) Agriculture	9.1	12.7	3.4	17.9	3.8
(b) Industry	22.5	9.1	1.4	12.6	1.0
(c) Trade	15.6	10.5	2.0	19.2	3.7
(d) Service	15.5	8.9	4.9	19.9	4.5
2. Gross Fixed Capital Formation	8.0	4.9	18.0	22.9	8.3
3. Total Savings	20.9	15.7	21.2	25.6	8.7

Source: CBN Statistical Bulletin 2008 and 2018

This interaction of the real sector sub-sectors is shown in figure 1 as seen below. Corroborating the real sector performance, we explore the behaviour investment and savings following the McKinnon and Shaw (1973) hypothesis

that liberalization of the financial sector would spur up savings and investment through increase the deposit rate. In table 1 above, gross fixed capital formation growth rate which represents total investment in the economy was reported in the 1980 to 1989 decade as 4.9%.

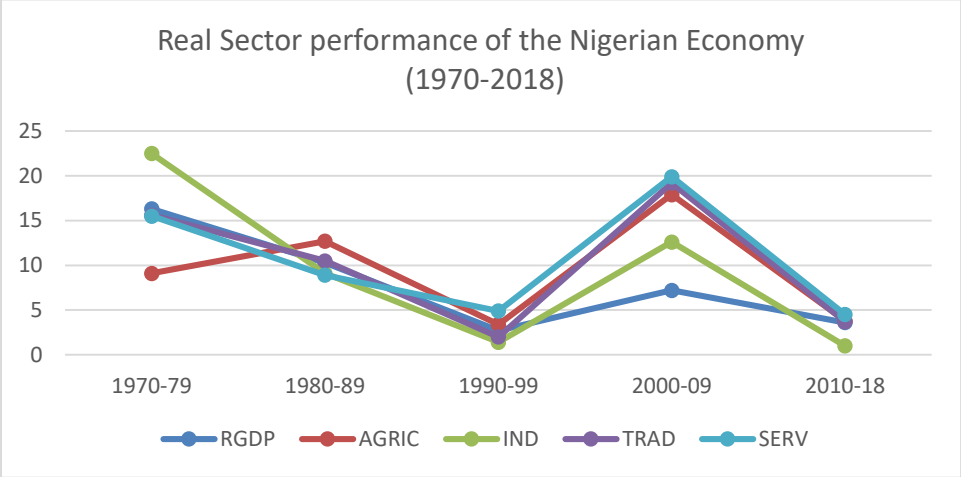


Figure 1: Performance of Sub-sectors of the Real Sector in Nigeria, 1970-2018.

Source: Authors' Derivation Using Microsoft Excel.

The growth rate of investment rose to 18% on the average between 1990 and 1999, further rose to 22.9% in the following decade before dropping to 8.3% between 2010 and 2018. It was seen that savings dropped from 20.9% to 15.7% on the average in the 1970 to 1979 decade. It rose to 21.2% between 1990 and 1999, further rose to 25.6% in the following decade before dropping to 8.7% between 2010 and 2018. It is obvious that savings exceeded investment in all the decades.This is further illustrated in figure 2 below.

The average growth rate of savings and investment revealed that though both savings and investment rose and declined relatively proportionately, the higher savings over investment is indicative of imbalance and calls for research to verify the channel through which financial liberalization impacts on economic growth in a developing economy like Nigeria. Financial liberalization according to theory is meant to foster economic growth through increase in savings via an increase in real deposit rate and increase in private investment

in high priority sectors, but how this policy has contributed to the growth of the Nigerian economy remains an empirical question. Against this background therefore, the basic thrust of this paper is to empirically investigate the impact of financial liberalization on the performance of the Nigerian economy using the McKinnon– Shaw model.Specifically, this research is set to examine the McKinnon and Shaw (1973) thesis that financial liberalization impact on economic growth through two channels: increase in savings and the credit to the private sector.

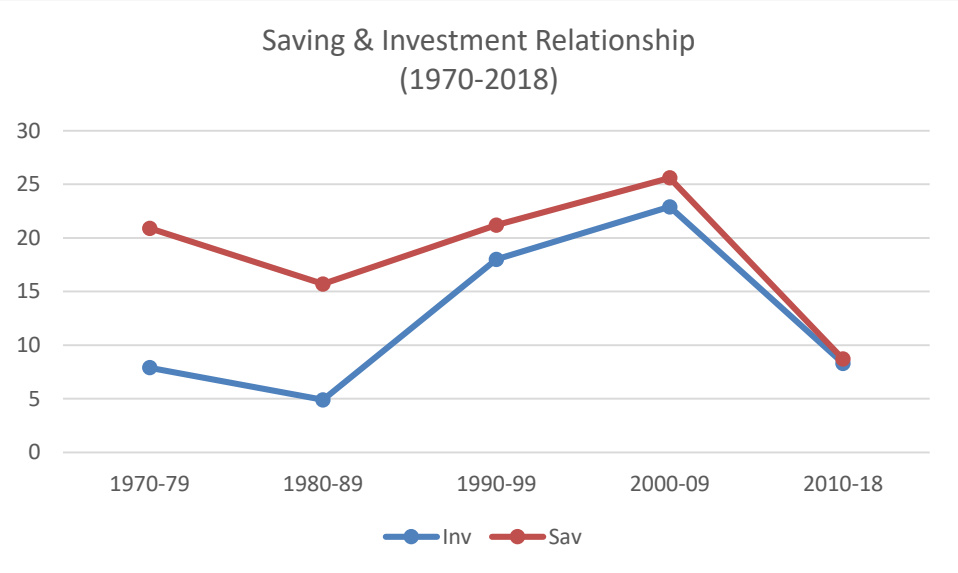


Figure 2: Relationship Between Savings and Investment in Nigeria, 1970-2018.
Source: Authors' Derivation using Microsoft Excel.

The rest of this paper is divided into the following sections: section two is literature review and theoretical framework; section three is material and methodology; section four unveils data analysis and results; section five is conclusion and recommendations for policy.

Literature Review

Theoretical Framework

The McKinnon–Shaw Thesis (1973)

McKinnon (1973) and Shaw (1973) postulated that in a developing country especially, when interest rate is liberalized, it will lead to increase in the real interest rate which will lead to increase in savings, spur investments and eventually lead to economic growth. The initial framework of McKinnon (1973) and Shaw (1973) focused on financial repression and the need to alleviate financial repression through allowing the market to determine real interest rates, removal of credit control among others. The outcome of repression, according to McKinnon (1973) and Shaw (1973) will be low savings, high consumption, low investments and repressed economic growth. The McKinnon–Shaw framework is centered on the distortions in the market caused by financial repression (Savanhu et al., 2011).

Shaw (1973), proposed the "debt-intermediation hypothesis" whereby expanded financial intermediation between savers and investors resulting from financial liberalization (higher real interest rate) and financial development increases the incentive to save and invest, stimulates the investment due to increased supply of credit and increased level of average efficiency of investment. For Shaw, the investment (I) is a decreasing function of real interest rate (r) and the saving is an increasing function of economic growth rate (g) and real interest rate (r). i.e., he further argued that increased financial intermediation provided the impetus for growth more directly. Liberalization would result in an expanded, improved and integrated financial sector that would lead to an increase in the savings rate, an increase in the rate of investment (by facilitating more- lumpy investment); and a direct enhancement to growth (by improved financial technologies). Thus, McKinnon–Shaw (1973) viewed financial liberalization as (i) market-determined interest rates (ii) greater ease of entry into the banking sector to encourage competition (iii) the elimination of directed credit programmes (iv)

the integration of formal and informal markets (v) reduced fiscal dependence of the state on credit from the banking system (to allow for greater expansion of credit to the private sector) (vi) movement towards equilibrium exchange rates and, eventually, flexible exchange rate regimes with open capital accounts (Serieux, 2008).

McKinnon (1973) and Shaw (1973) further assert that higher real interest rate also aids the channeling of funds to the most productive enterprises and facilitate technological innovation and development. This they explain that paying an interest rate that is above the marginal efficiency of investment can induce some entrepreneurs to disinvest from inferior processes to improved technological processes and high yielding enterprises. Thus, generating new positive net savings which is important for reducing foreign dependence and stimulating more investment and consequently growth (Orji, Ogbuabor, and Anthony-Orji, 2015).

According to Mamoon and Nicholas (2017), there are two legs through which interest rates and financial development improves real economic activity after liberalization in McKinnon and Shaw thesis. The first leg implies that through liberalization of repressed financial markets in a developing country, the financial sector enables to offer higher returns on its saving instruments (e.g. deposits) and thus attracts higher levels of savings from the household. In addition to this financial development takes place with the abolishing of restrictions (i.e., credit ceilings) prevailing in the system. In response to liberalized/improved financial system, financial savings would increase and so does the private savings which then be utilized by investors. Thus, private investments increase and ultimately economy undertakes a positive growth path. The second leg concentrates on the increased level of allocative efficiency of the financial sector after its liberalization.

The liberalized financial system allocates the resources it has generated to more efficient investments. One indicator of such efficiency is that financial sector increase allocations to the private sector which is considered to be more efficient than public. The efficient private sector utilizes these allocated resources investing in capital intensive projects and the country's productive efficiency improves. This once again affects economic growth positively.

The Endogenous Growth Theory

Romer (1986) relaunched the growth literature with a paper that presented a model of increasing returns in which there was a stable positive equilibrium growth rate that resulted from endogenous accumulation of knowledge. This was an important break with the existing literature, in which technological progress had largely been treated as completely exogenous.In Romer's model, firm j's production function is of the form

$$Y_t = A_t F(K_{t,j} L_{t,j}) \quad (1)$$

where aggregate output-augmenting technological progress is captured by A_t. Its capital accumulates without depreciation,

$$\acute{K}_{t,j} = i_{t,j} \quad (2)$$

Firms and individuals are distributed along the unit interval with a total mass of 1, as in Aggregation (and, importantly, there is no population growth). Thus, aggregate investment is, e.g.,

$$I = \int_0^1 it,j \; dt \quad (3)$$

Romer assumes that the aggregate stock of knowledge in the economy is proportional to the cumulative sum of past aggregate investment

$$\Sigma_t = \int_{-\infty}^{t} Iv \, dv \quad (4)$$

which, not coincidentally, is identical to the size of the aggregate capital stock,

$$K_t = \int_{-\infty}^{t} Iv \, dv \quad (5)$$

Romer makes the crucial assumption that the effect of the stock of knowledge determines
productivity via

$$A_t = \sum_t^{\eta} \quad (6)$$

Where $\eta < 1$. Thus, suppressing the t subscript, with a firm-level Cobb-Douglas production function. A balance growth path can occur in this economy if $\alpha + \eta = 1$, in which case

$$C_t^{\cdot} / C_t = \rho^{-1} (\alpha - v) \quad (7)$$

so there is constant growth forever at a rate that depends on the degree of impatience and capital's share in output. Finally, the steady-state growth rate that would be chosen by the social planner is

$C_t^* / C_t = \rho^{-1} (\alpha + \eta - v)$ 8

Because, the social planner would take into account the fact that the externalities imply that there are higher returns to capital accumulation at the social level than at the individual level. Thus, this model implies that capital accumulation should be subsidized if the social planner wants to induce the private economy to move toward the social optimum.

This study is thus anchored mainly on the McKinnon and Shaw (1973) thesis and supported by Romer (1986) increasing returns and long run growth theory.

Empirical Literature Review

There are several studies on the impact of financial liberalization and economic growth in the literature. This section explores some of the findings in this area in a bid to filling the gap in the literature as well as contributes to the existing stock of knowledge. Exploring the nexus at the global level, Romain and Aaron (2016) in their study broadly looked at the relationship among financial liberalization, debt mismatch, allocative efficiency and growth in the United States. The authors submitted that financial liberalization increased growth, but led to more crises and costly bailouts. They presented a two-sector model in which liberalization, by allowing debt-denomination mismatch, relaxes borrowing limits in the financially constrained sector, but endogenously generate crisis risk. When regulation restricts external financing to standard debt, liberalization preserves financial discipline and may increase allocative efficiency, growth, and consumption possibilities. By contrast, under unfettered liberalization that also allowed uncollateralized option-like liabilities, discipline broke down, and efficiency fell. The model yielded a testable gains-from-liberalization condition, which holds in emerging markets. It also helped to rationalize the contrasting experience of emerging markets and the recent US housing crisis.

In Asia, Wang and Luo (2019) examined the effect of financial liberalization on bank risk-taking, using bank-level data of 169 Chinese banks from 2000-2014. Empirical results showed that bank stability increases with the development of financial liberalization. The study also provided evidence indicating that banks with larger size, longer operating periods, and state ownership were more salient with the development of financial liberalization.

However, such positive effects of financial liberalization on bank stability may be weakened by worse macroenvironment gauged by low economic growth, poor law enforcement, and instable political conditions.

James and Warwick (2005) examined whether financial development led toeconomic growth or vice versa in the small open economy of Malaysia.Using time series data from 1960to 2001, they conductedcointegration and various causality tests to assess the finance-growthlink by taking saving, investment, trade and real interest rate into account. They argue that theresults obtained from cross-sectional studies are not able to address this issue satisfactorilyand highlight the importance of country specific studies. Contrary to theconventional findings, their results supported the view that output growth causes financialdepth in the long-run.

Saqib (2016) evaluated the impact of banking sector liberalization on long-term economicgrowth in Pakistan by using a time series data for the period 1971–2011. The results show that there existed a significant positive long run relationship between banking sector development and economic growth in the country. The sensitivity analysis also showed that the relationship remained positive and significant no matter what combinations of the omitted variables are used in the basic model. Thus, the findings support the core idea that banking sector development stimulates long term economic growth in a country.

Covering about the same period but differing in technique of analysis and variables, Munir, Chaudhry and Akhtar (2013) investigated the empirical linkages between economic growth and financial liberalization in Pakistan during 1972-2010 by using annual time series data. ADF unit root test was used to check the stationary of variables. Long run relationship was confirmed through Johansen co-integration test. VECM was employed to check short run dynamics among variables. The empirical results showed that there existed a positive relationship between financial liberalization and economic growth. Deposit rate has positive impact on economic growth while lending rate has negative impact on economic growth which was according to financial liberalization theory.

Mamoonand Nicholas (2017) evaluated the impact of financial liberalization on economic growth in Pakistan from 1980 to 2016 using ordinary least square technique. The variables included in the study were: the ratio of private saving to GDP as the dependent variable while credit to private sector, credit to domestic sector, real deposit rate, ratio of broad money supply to GDP, ratio of stock market turnover to GDP and ratio of market capitalization to GDP were used as explanatory variables in the study. Following McKinnon and Shaw (MS) thesis (1973), it was assumed that financial liberalization through deepening and eliminating distortion and segmentation of financial markets, improves the process of the mobilization of savings as well as the efficiency of investment, thereby accelerating the overall rate of economic growth. Financial liberalization exerted positive effects on the financial system through a more efficient banking sector and more actively performing securities market in Pakistan. In addition to this, a considerable financial deepening was also witnessed after the 1990s in the financial sector through improved banking mechanism. However, since the OLS analysis explicitly assumes the exogeneity of financial variables with respect to real economic variables and could not address the time series data problems, it suffers from some theoretical and empirical handicaps Thus some advanced time series econometric techniques are to be employed to have a more accurate analysis.

Zeeshan, Naeem and Malik (2019) examined the effect of trade and financial liberalization on economic growth in Pakistan. Specifically, two proxies for each trade and financial openness were taken for Pakistan that is common in this area of research. Trade liberalization measures were export to GDP ratio and ratio of exports plus imports to GDP while net Foreign Direct Investment as percentage of GDP and foreign assets of central bank were taken as measures for financial liberalization. The results showed that the both measures of trade liberalization found significant and more elastic and net FDI found insignificant and foreign assets with central bank was found statistically significant but less elastic. Model was found stable successfully validating the necessary stability checks like CUSUM and CUSUMSQ, heteroscedasticity, autocorrelation and normality tests. The study was important and significant in understanding the behavior of liberalization measures in determining GDP in Pakistan but it's an opening debate for many other measures for future research

where literature is enriched and suggested as many factors of liberalization determining economic performance.

Bumann, Hermes and Lensink (2012) investigated the relationship between financial liberalization and economic growth by conducting a meta-analysis based on 441 t-statistics reported in 60 empirical studies. The study focused on explaining the heterogeneity of results reported in the studies of the sample, investigating the importance of study, dataand method-specific characteristics. Although the results indicated that, on average, there was a positive effect of financial liberalization on growth, the significance of this effect was weak. The analysis further found that financial liberalization policies carried out during the 1970s had stronger negative relationship with growth. Moreover, the results showed that studies that took into account a measure of the level of development of the financial system reported lower t-statistics for the relationship between liberalization and growth.The studyheld that, since on impact, financial liberalization provoked financial instability and crises owing to weak institutions andover the medium to long run, unrestricted capital flows stimulated institutional development such that financial markets can stabilize the economy. Further research is needed to be able to draw meaningful conclusions on the different effects of the short and long-term growth effects of financial liberalization, for example by employing meta-regression analysis.

In Africa, Roux and Moyo (2015) investigated the relationship between financial liberalization and economic growth in Southern African Development Community (SADC) countries. Annual data for the 15 SADC countries for the period 1985-2011 was used to develop a fixed effect model, generalized method of moments (GMM) as well as the fully-modified OLS (FMOLS) cointegration test. The results revealed that there was a positive relationship between financial liberalization and economic growth in SADC but there is no long-run relationship between the two variables. This suggested that the relationship between financial liberalization and economic growth is a short-run phenomenon. It was recommended that the SADC adopt measures to increase the level of financial openness in the region in order to increase economic growth. However, prior to the increase in the level of financial openness, well-defined property rights and a sound regulatory framework

should be in place to monitor the financial liberalization process in order to avoid financial crises.

Njikam (2017) examined whether the effect of financial liberalization on economic growth depended on reform complementarities. A non-linear growth regression specification that interact a proxy of financial liberalization with proxies of reform complementarities was estimated using a panel of 45 Sub-Saharan Africa (SSA) countries. The cross-country, panel-data evidence showed no clear relationship between financial liberalization and growth. The study however, found that financial liberalization was more likely to positively and significantly increase growth across the SSA region if the following complementary reforms were undertaken: improvement in educational attainment, macro-economic and external stability, and overall governance.

Egbetunde, Olusola and Ademola (2017) studied the structural interaction of the interest rate liberalization-growth nexus; through the inclusion of financial development variables, for sub-Saharan African economies spanning the periods 1980-2012. Coupled with the institutional theory of growth, the study relied on the McKinnon-Shaw framework. Using panel unit-root tests to purify the data off spurious regression estimates, both panel cointegration and panel error correction models were employed for empirical investigations. From the results obtained, it was evident that other factors such as the openness to trade and price stability were much more significant for interest rate liberalization and economic growth in sub-Saharan African countries. More so, the extent as well as degree of financial development relatively assisted in reducing interest rate; further facilitates investment and then engendered growth. Interestingly, the results showed that public institutions have been found significantly detrimental at driving the growth process of the sub-Saharan African economies. Thus, the study recommended that the level of financial development, price stability and institutional arrangement should be properly attended to for effective and far-reaching policy suggestions in sub-Saharan African economies

In Nigeria, Omopintem and Chukwu (2019) examined the effect of financial liberalization on Nigerian economic growth (1990 - 2018) using error correction model(ECM) to test the effect of the independent variables (Foreign

Direct Investment, Interest rate, Trade openness, Foreign portfolio investment, Currency exchange rate Aggregate savings) on the dependent variable, economic growth (proxy by Gross Domestic Product). The study found that financial liberalization had negative and insignificant effect on economic growth of Nigeria. The study therefore recommended among others that Government should aim at creating conditions which make private investment attractive, avoid drastic policy reversal and implement appropriate interest rate policies.

Orji, Anthony-Orji and Mba (2015) investigated the impact of financial liberalization on output growth in Nigeria over the period of 1986-2011. Employing the Ordinary Least Square method of analysis, the empirical findings showed that financial liberalization policy (proxied by credit to privatesector/GDP) is negatively related to output growth in Nigeria within the period under review. Thus, this suggested 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 showed 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 showed that there is unidirectional causality running from output growth to financial liberalization. This implies that policies promoting economic growth in Nigeria would stimulate the gains from financial liberalization in the long run. The study recommended government should 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.

Nwadiubu, Sergius and Onwuka (2014) examined the impact of financial liberalization on economic growth in Nigeria from 1987 to 2012. The study employed an empirical examination usingthe Johansen Co-integration test and the Error Correction Mechanism (ECM). The results obtained from the econometric model showed the existence of a long-runequilibrium relationship among the variables and a very high coefficient of multiple determinations in both the Over-parameterizedand the Parsimonious Models. However, the descriptive statistics shows that financial liberalization hasimpacted minimally

on economic growth in Nigeria for the period under review. The particular sequencing ofthe liberalization process and the hostile macroeconomic environment in Nigeria over the years combined tominimize the expected benefits of financial liberalization. The study recommended that government shouldpromote monetary stability, ensure sound macroeconomic environment and provide critical infrastructures toenable the economy grow in a sustainable manner.

Okwuchukwu and Ariwa (2017) examined the impact of financial system liberalization, Savings and Investment on the economy of Nigeria between 1970 and 2014 using ordinary least square technique. The selected indicators of financial liberalization used were ratio of liquid liabilities to GDP (M2GDP) and real interest rate (INT). Other explanatory variables of interest are savings (SAV) and investment (INV). The results of the estimation revealed that the explanatoryvariables were able to influence the growth process positively and significantly in the economy of Nigeria except interest rate which had negative impact and the dummy variable that was not significant. The study thus recommended that monetary policies should be geared towards increasing the level of money supply to enhance savings and investment. Furthermore, for financial system liberalization to yield result in Nigeria there is need to lower the lending interest rate to ensure that potential borrowers' costs are reduced and return on investment increased.

Kaita (2015) examined the financial liberalization experience in Nigeria. In particular, the study established the long-run and short-run relationship between financial liberalization and real output using the ARDL framework with annual observations over the period 1981-2012. The study used three measures as proxies to indicate the degree of financial liberalization: KAOPEN-a financial openness index; money supply as a ratio of GDP, M2; and credit to the private sector as a ratio of GDP, CPS. The results obtained showed positive long-run equilibrium relationship between financial liberalization and economic growth. This supports the view that financial liberalization plays a crucial role in the process of economic development; the financial liberalization process in Nigeria stimulated financial development leading to significant contribution to economic growth. The study thus recommended that since financial development is important to economic

growth, measures should be taken to reduce government inefficiencies in order to release resources for the development of financial institutions.

Ubesie (2016) evaluated the effect of financial sector liberalization on the economic growth of Nigeria from 1980 to 2013 using the.In the vector error correction model (VECM) which had, real gross domestic product (real GDP) was used to proxy economic growth while Real Interest Rate, Real Exchange Rate, Inflation Rate, Total Deposit and Foreign Direct Investment were used to capture financial sector liberalization. The results of the co-integration test showed existence of a long run relationship between the dependent and independent variables at a 5% significance level. The error correction model (ECM) showed a very high coefficient of multiple determinations of 92%. The study found that financial sector liberalization positively reinforced economic growth in Nigeria. It was recommended that advantage of reform programmes in Nigeria should be consolidated by the government by avoiding drastic policy reversal but concentrate effort in perfecting the existing policy. This will induce prudence on the part of major operators in the financial market and encourage saving behavior of all economic agents.

Ikeora, Igbodika and Jessie (2016) evaluated the relationship between financial liberalization and economic growth in Nigeria using data spanning (1987-2013). Using the vector error correction model (VECM), the study showed long-run equilibrium relationship between financial liberalization and economic growth in Nigeria and the result confirms that about 73% short-run adjustment speed from long-run disequilibrium. The coefficient of determination indicates that about 63% of the variations in economic growth can be explained by changes in financial liberalization variables. There was no causality between financial liberalization and economic growth in Nigeria. The study therefore recommended that, strong macroeconomic policies such as (monetary and fiscal) should be pursued to maintain and stabilize the economy. Monetary authorities should lay down strict prudential rules and regulations to stabilize and strengthen the banking industry. The monetary authority (CBN) should implement policies that will increase the flow of investable funds and improve the capacity of banks to extend credit to the economy.

Fasanya and Olayemi (2020) examined the impact of financial liberalization on economic growth in Nigeria for the period of 1981–2013 using the autoregressive distributed lag bounds testingapproach. The findings of this study revealed strong relationship between the indicators of financial liberalization and economic growth in Nigeria. They found that very high levels of financialopenness generally erode the growth-promoting role of financial development. From the policy perspective, there is an ardent need to stabilize the performance of financial system in Nigeria.

Having reviewed the literature particularly the empirical literature, it crystal clear that the focus of most studies was on the nexus between financial liberalization variables and economic growth proxied by the gross domestic product (GDP) of the economies under study, with the exception of Mamoon and Nicholas (2017) which spanned from 1980 to 2016 in Pakistan and Egbetunde, Olusola and Ademola (2017) from 1980 to 2012 in a number of Sub-Saharan African economies. These studies differed from the other studies by focusing on the channels through which financial liberalization impacts of the economy. The current study filled the gap in the literature by taking a clue from Mamoon and Nicholas (2017) in terms of verifying the channels through which financial liberalization impacts on the Nigerian economy. Particularly, it focused on savings growth and the efficiency of the transmission of savings to productive investment that eventually culminate to economic growth as separate models using the same explanatory variables.Besides, our study has larger time frame from 1970 to 2018 and uses a dummy variable of zero (0) for pre-structural adjustment era and one (1) for post-structural adjustment era to capture the effect of liberalization of the financial sector in Nigeria.

Methodology

Data and Source

This study used secondary data obtained from CBN statistical bulletin, various issues. The data covers the period, 1970 – 2018. The variable used in the model specifications are the ratio of domestic savings to GDP (SAGDP). This is also called savings deepening, the ratio of credit to the private sector to GDP (CPGDP), the real deposit rate (RDR) (this is the interest rate paid on savings deposit), the prime lending rate (PLR) (this the interest rate paid for

borrowed funds in the money market). Together they determine the interest rate spread in the money market in Nigeria. Market capitalization as a ratio of GDP (MCGDP) and broad money supply as a ratio of GDP (MSGDP) measures capital and money markets deepening.

Model Specification

This study follows the McKinnon and Shaw (1973) framework of financial repression and as adopted by Mamoon and Nicholas (2017) with modification.We breakdown our models into two such that model one x-rays the link with which financial liberalization impact on saving. This implies that through liberalization of repressed financial markets in a developing country, the financial sector will be able to offer higher returns on its saving instruments (e.g. deposits) and thus attracts higher levels of savings from the household.

On the other hand, in our first leg and model the ratio of domestic savings to gross domestic product (SAGDP) is the dependent variable, while real deposit rate (RDR) represents real interest rate, prime lending rate (PLR), market capitalization as ratio of gross domestic product (MCGDP) and broad money supply as a ratio of gross domestic product (MSGDP), represent financial deepening in the capital and money markets respectively. The functional form for this first model whose variables are explained above is given as:

Model 1

SAGDP= f(RDR, PLR, MCGDP, MSGDP,) 1a

Where:

SAGDP = Savings deepening (the ratio of savings to gross domestic product)

RDR = Real deposit rate (real interest rate)

PLR = Prime lending rate (the interest rate paid for borrowed fund in the money market

MCGDP = Market capitalization as a ratio of GDP (capital market deepening).

MSGDP = Money supply as a ratio of GDP (money market deepening).

The econometric model to be estimated for this first model takes the form of

$SAGDP_t = \alpha_0 + \alpha_1 RDR_t + \alpha_2 PLR_t + \alpha_3 MCGDP_t + \alpha_4 MSGDP_t + \mu_t$ 1b

μ_t is the stochastic element

A priori Economic Expectations

The a priori economic expectations of the relationship between the explanatory variables and the dependent variable in model 1, are as shown below:

$$\alpha_1 > 0, \alpha_2 < 0, \alpha_3 > 0, \alpha_4 > 0.$$

From the theoretical view point increase in real deposit rate (RDR) is expected to increase SAGDP and thus positive, while increase in prime lending rate (PLR) theoretically decreases SAGDP and as such inversely related to it. Capital market deepening and money market deepening represented by MCGDP and MSGDP are both expected to increase SAGDP and lastly, financial liberalizationis expected to increase SAGDP.

Model 2

The second model is built on the premise that the liberalized financial system allocates the resources it has generated to more efficient investments. One indicator of such efficiency is that financial sector increase allocations to the private sector which is considered to be more efficient than the public sector. Thus, in this model credit to the private sector as a ratio of gross domestic product (CPGDP) is a function of the same set of exogenous variables as in model (1).The functional form of this model is as:

CPGDP = f(RDR, PLR, MCGDP, MSGDP,) 2a

Where:

CPGDP = Financial deepening (Credit to Private sector as a ratio of savings to gross domestic product)

RDR = Real deposit rate (real interest rate)

PLR = Prime lending rate (the interest rate paid for borrowed fund in the money market

MCGDP = Market capitalization as a ratio of GDP (capital market deepening).
MSGDP = Money supply as a ratio of GDP (money market deepening).

The econometric model is given as

$$CPGDP_t = \beta_0 + \beta_1 RDR_t + \beta_2 PLR_t + \beta_3 MCGDP_t + \beta_4 MSGDP_t + \mu_t \quad 2b$$

μ_t is the stochastic element

A prior Economic Expectations

The a priori economic expectations of the relationship between the explanatory variables and the dependent variable in model 2, are as shown below:

$$\beta_1 > 0, \beta_2 < 0, \beta_3 > 0, \beta_4 > 0.$$

From a priori economic expectation increase in real deposit rate (RDR) is expected to increase CPGDP through increase in savings and thus positive, while increase in prime lending rate (PLR) theoretically decreases CPGDP and as such inversely related to CPGDP. Capital market deepening and money market deepening represented by MCGDP and MSGDP are both expected to increase CPGDP and thus financial liberalization is expected to increase CPGDP.

Method of Data Analysis

As methods for data analysis, we make use of Engel-Granger cointegration/error correction mechansim. The choice of this method is informed by a leading argument that when the order of integration is the same, hence, it becomes imperative to explore Johasen cointegration/error correction approach. This justification is hinged on an implicit assumption that this approach gives realistic and efficient estimates and provides the basis to *reparameterize* the equation(s) into error correction mechanism. Given the above, the unit root test was conducted using the Augmented Dickey Fuller (ADF), the ADF unit root test is to ascertain the stationarity of the variables. The Engel-Granger cointegration test was also carried out to ascertain the existence of the long run relationship of the variables and, this is followed by the error correction mechanism (ECM) used for the adjustment of any short run disequilibrium to the long run equilibrium of the variables.

Results and Discussion

This section begins with descriptive statistics for each of the models in this study followed by the unit root test result using the Augmented Dickey Fuller (ADF) test to ascertain the stationarity and order of integration of the time series data. The Engel-Granger co-integration test is carried out to determine if long run relationship exist among the variables followed by the Parsimonious error correction model.

Model One

Table 2: Descriptive Statistics Analysis

	SAGDP	RDR	PLR	MCGDP	MSGDP
Mean	7.668776	6.587959	15.16163	8.342449	15.20000
Median	6.880000	4.190000	16.85000	3.880000	13.29000
Maximum	14.14000	18.80000	29.80000	39.95000	25.51000
Minimum	3.560000	1.410000	6.000000	0.270000	9.150000
Std. Dev.	2.765227	4.682846	6.094930	8.517280	4.443881
Skewness	0.664706	1.166306	0.050901	1.414381	0.525941
Kurtosis	2.442532	3.053839	2.333995	5.101561	2.066339
Jarque-Bera	4.242807	11.11478	0.926767	25.35433	4.038782
Probability	0.019863	0.003859	0.629151	0.000003	0.032736
Sum	375.7700	322.8100	742.9200	408.7800	744.8000
Sum Sq. Dev.	367.0311	1052.594	1783.112	3482.115	947.9078
Observations	49	49	49	49	49

Source: Authors' computation with the use of E-views9

The descriptive statistics show positive mean and median values for all the variables. The mean values were greater than their respective median values except for prime lending rate (PLR) which was less than its mean value. This implies that variables are expected to increase over the study period since the mean values are greater than the median values. However, the prime lending rate (PLR) was expected to decrease over the study period. The maximum value of the dependent variable is 14.14 while the minimum value is 3.56 and the standard deviation is 2.77 approximately. Skewness indicates values

greater than zero in all the variables implying that all the series are skewed to the right and have long right tail. The kurtosis which measures the peak or flat distribution of the series indicates that all the variables were moderately peaked and mesokurtic in shape and nature. The Jarque-Bera indicates that the error is normally distributed within the period under study.

Unit Root Test Result

The unit root test for stationarity of the series using the Augmented Dickey Fuller test is shown in Table 3 below.

Table 3: ADF Unit Root Test Results

Variables	ADF Statistics		Probability Values		Order of Integration
	Levels	1st Difference	Levels	1st Difference	
SAGDP	-1.391103	-7.669951***	0.5789	0.0000	I(1)
RDR	-2.220188	-2.171633**	0.2022	0.0302	I(1)
MCGDP	-1.813200	-6.893848***	0.3699	0.0000	I(1)
MSGDP	-2.313082	-7.477601***	0.1721	0.0000	I(1)
PLR	-1.686657	-10.89770***	0.4313	0.0000	I(1)

Notes: ***, ** and * denote rejection of the null hypothesis of stationary at the 1%, 5% and 10%, significance level, respectively. The null hypothesis is stationary around a trend and intercept.
Source: Authors' computation with the use of E-views9

The result of the unit root test revealed that all theseries were stationary after first difference. That is, all the variables were integration of order I(1). Consequently, we proceed to examine the long run status of the variables using the Engle-Granger cointegration test.

Cointgration Test Result

Table 4: Engle-Granger Cointegration Test Result
Series: SAGDP RDR MCGDP MSGDP PLR
Sample: 1970 2018
Included observation: 49
Null hypothesis: Series are not cointegrated

Cointegrating equation deterministic: C
Automatic lags specification based on Schwarz criteria (maxlag=9)

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
SAGDP	-4.891910	0.0613	-27.79369	0.0662
RDR	-6.155600	0.0353	-28.48127	0.0340
PLR	-3.977020	0.4813	-14.24288	0.4838
MSGDP	-5.300146	0.0138	-29.30710	0.0133
MCGDP	-6.488202	0.0282	-38.58708	0.0221

*MacKinnon (1996) p-values.
Source: Authors' computation using E-views 9

The Engle-Granger single equation cointegration test result in Table 4 above revealed that both the tau-statistic and z-statistic coefficients were negative for all the variables and three (3) out of the five (5) variables including RDR, MSGDP and MCGDP had long run relationship as shown by the probability values. Since 60% of the variables are significant at the 5% level, we conclude that a long run relationship exists among the variables included in this model. This implies that SAGDP, RDR, PLR, MCGDP and MSGDP converge together in the long run in Nigeria.

Parsimonious ECM Result

The parsimonious error correction model results in Table 5, showed the short run dynamic explanatory variables. The coefficient of the error correction term (ECT) is found to be negative and statistically significant with a speed of approximately 0.26 or 26% of long-run disequilibrium adjusted from lagged period error shocks. The variables included in the model explained 0.69 or 69% of changes in the dependent variable SAGDP as revealed by the adjusted R-square. The entire model is seen to be 100% significant by the probability of the F-statistic. The Akaika Information Criteria (AIC) was used for model selection.

Table 5: Parsimonious ECM Result
Dependent Variable: D(SAGDP)
Method: Least Squares
Sample (Adjusted): 1975 2018
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.041928	0.139096	0.301431	0.7648
D(RDR)	0.187336	0.087108	2.150632	0.0381
D(RDR(-4))	0.255678	0.094001	2.188042	0.0351
D(PLR(-4))	-0.049415	0.042266	-1.169145	0.2498
D(MCGDP(-2))	0.088481	0.032341	2.735906	0.0095
D(MSGDP)	-0.404130	0.046705	8.652839	0.0000
ECT(-1)	-0.248324	0.114600	-2.166760	0.0368
R-square	0.733230		AIC	2.798171
Adj. R-square	0.692067		DW. Stat	1.629199
Prob(F-statistic)	0.000000			

Source: Authors' computation with the use of E-views 9

The results revealed that, change in current real deposit rate D(RDR) and its lagged value D(RDR(-4) were positive and statistically significant to SAGDP. This confirms the a priori economic expectation. Specifically, the coefficients of D(RDR) and D(RDR(-4)) imply that a unit increase in RDR increased SAGDP by 0.187336 and 0.255678 approximately 19% and 26% respectively within the period of this study. Following the objective of this study to examine the impact of financial liberalization on economic growth through the channel of savings, it is seen that increase in real deposit rate stimulates growth in saving in Nigeria. Lagged value of prime lending rate D(PLR(-4)) was negative affirming the a priori expectation but statistically insignificant to savings as a ratio of income (SAGDP). This implies that the cost of borrowing does not impact on savings in the economy. Change in the lagged value of capital market deepening D(MCGDP(-2)) was positive which also affirmed the a priori expectation and statistically significant to SAGDP. This implies that a unit increase in MCGDP increased savings in the economy (SAGDP) by

0.088481 approximately 9%. This calls for monetary authorities such as the Central Bank of Nigeria and the Security and Exchange Commission to deepen the capital market to stimulate more savings in the economy. Change in broad money supply as a ratio of GDPD(MSGDP) was however negativecontrary to the a priori expectation but statistically significant. The coefficient of -0.404130 implies that a unit increase in broad money supply in the economy decreased savings by approximately 40%. This impact is likely to be felt through higher prices of goods and services which retard household and business savings in the economy. It is therefore imperative that broad money supply as a ratio of GDP is checked to correct damaging effect on the gains of financial liberalization to savings and thus economic growth in Nigeria.

Post Estimation Results

For clarity of the behavior of the series used in this study and to ascertain the accuracy of the estimated results and their forecasting powers, this sub-section looked at the serial correlation, heteroscedasticity and CUSUM test for residual stability.

Table 6: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.143789	Prob. F(2,35)	0.8666
Obs*R-squared	0.358580	Prob. Chi-Square(2)	0.8359

Source: Authors' computation using E-views 9

The Breusch-Godfrey serial correlation LM test result in table 4.5 with a probability chi-square value of 0.8359 higher than the 0.05 or 5% level of significance retains the null hypothesis ofno serial correlation in the series.

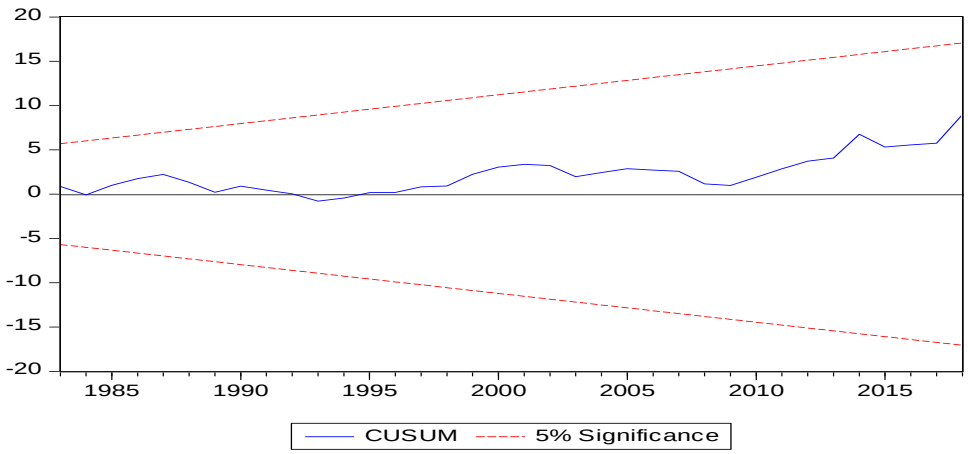
Table 7: Breusch-Pagan-Godfrey test for Heteroscedasticity

F-statistic	0.436005	Prob. F(6,37)	0.8500
Obs*R-squared	2.905522	Prob. Chi-Square(6)	0.8206
Scaled explained SS	4.794183	Prob. Chi-Square(6)	0.5705

Source: Authors' computation using E-views 9

Similarly, in Table 7 the Breusch-Pagan-Godfrey heteroscedasticity test showed that the probability chi-square results of 0.8206 and 0.5705 were both greater than 0.05 or 5% indicating the absence of heteroscedasticity in the series.

The CUSUM test result validate the null hypothesis that the residuals are stable, since the CUSUM line fell in between the two 5% lines as seen in figure 3 below.



Source: Authors' derivation using E-views 9

Figure 3. CUSUM test result for Residual stability

Model Two

Table 8: Descriptive statistics analysis

	CPGDP	RDR	PLR	MCGDP	MSGDP
Mean	10.74898	6.587959	15.16163	8.342449	15.20000
Median	8.200000	4.190000	16.85000	3.880000	13.29000
Maximum	20.80000	18.80000	29.80000	39.95000	25.51000
Minimum	5.100000	1.410000	6.000000	0.270000	9.150000
Std. Dev.	4.961440	4.682846	6.094930	8.517280	4.443881
Skewness	0.984881	1.166306	0.050901	1.414381	0.525941
Kurtosis	2.374824	3.053839	2.333995	5.101561	2.066339
Jarque-Bera	8.719559	11.11478	0.926767	25.35433	4.038782
Probability	0.012781	0.003859	0.629151	0.000003	0.132736

Sum	526.7000	322.8100	742.9200	408.7800	744.8000
Sum Sq. Dev.	1181.562	1052.594	1783.112	3482.115	947.9078
Observations	49	49	49	49	49

Source: Authors' computation with the use of E-views 9

The descriptive statistics show positive mean and median values for all the variables similar to model one. The mean values were greater than their respective median values with exception of prime lending rate (PLR) which was less than its mean value. This implies that the variables are expected to increase over the study period since the mean values are greater than the median values. However, the prime lending rate (PLR) was expected to decrease over the study period. The maximum value of the dependent variable is 20.80 while the minimum value is 5.10 and the standard deviation is 4.96. Skewness indicates values greater than zero in all the variables implying that all the series are skewed to the right and have long right tail. The kurtosis which measures the peak or flat distribution of the series indicates that all the variables were moderately peaked and mesokurtic in shape and nature. The Jarque-Bera indicates that the error is normally distributed within the period under study.

Unit Root Test Result

The unit root test for stationarity of the series using the Augmented Dickey Fuller test is shown in table 4.8 below.

Table 9: ADF Unit Root Test Results

Variables	ADF Statistics		Probability Values		Order of Integration
	Levels	1st Difference	Levels	1st Difference	
CPGDP	-1.614612	-3.764552**	0.4641	0.0287	I(1)
RDR	-2.220188	-2.171633**	0.2022	0.0302	I(1)
MCGDP	-1.813200	-6.893848***	0.3699	0.0000	I(1)
MSGDP	-2.313082	-7.477601***	0.1721	0.0000	I(1)
PLR	-1.686657	-10.89770***	0.4313	0.0000	I(1)

Notes: ***, ** and * denote rejection of the null hypothesis of stationary at the 1%, 5% and 10%, significance level, respectively. The null hypothesis is stationary around a trend and intercept.
Source: Authors' computation with the use of E-views 9

The result of the unit root test revealed that all thevariables were stationary after first difference. That is, all the variables were integration of order I (1). We therefore proceed to examine the long run status of the variables using the Engle-Granger cointegration test.

Cointgration Test Result

The Engle-Granger single equation cointegration test result in Table 10 below revealed that both the tau-statistic and z-statistic coefficients were negative for all the variables and four (4) out of the five (5) variables including CPGDP, PLR, MSGDP and MCGDP had long run relationship as shown by their probability values.

Table 10: Engle-Granger Cointegration Test Result
Series: CPGDP RDR MCGDP MSGDP PLR
Sample: 1970 2018
Included observation: 49
Null hypothesis: Series are not cointegrated
Cointegrating equation deterministic: C
Automatic lags specification based on Schwarz criteria (maxlag=9)

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
CPGDP	-5.312324	0.0520	-21.82805	0.0442
RDR	-2.956818	0.6307	-14.83212	0.6400
PLR	-7.710853	0.0029	-31.74545	0.0068
MSGDP	-6.263226	0.0185	-29.77214	0.0163
MCGDP	-6.561513	0.0431	-28.16915	0.0393

*MacKinnon (1996) p-values.
Source: Authors' computation using E-views 9

Since 80% of the variables are significant at the 5% level, we conclude that a long run relationship exists among the variables included in this model. This implies that CPGDP, RDR, PLR, MCGDP and MSGDP converge together in the long run in Nigeria.

Parsimonious ECM Result

From the parsimonious error correction model result in Table 11, the coefficient of the error correction term (ECT) is found to be negative and statistically significant with a speed of approximately 0.24 or 24% of long-run disequilibrium adjusted from lagged period error shocks as in the previous model. The variables included in the model explained approximately 0.83 or 83% of changes in the dependent variable CPGDP as revealed by the adjusted R-square which is an improvement over model 1. The entire model is seen to be 100% significant by the probability of the F-statistic. The Akaika Information Criteria (AIC) was used for model selection.

Table 11: Parsimonious ECM Result
Dependent Variable: D(CPGDP)
Method: Least Squares
Sample (Adjusted): 1975 2018
Included observations: 44 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.157933	0.144359	1.094030	0.2812
D(RDR)	0.233009	0.096481	2.415086	0.0209
D(PLR)	-0.051017	0.048571	-1.050365	0.3006
D(PLR(-4))	-0.054972	0.040464	-1.358517	0.1828
D(MCGDP(-2))	0.099641	0.033515	2.972983	0.0052
D(MSGDP)	0.591048	0.048787	12.11481	0.0000
ECT(-1)	-0.242418	0.071341	-3.398035	0.0017
R-square	0.855043		AIC	2.894698
Adj. R-square	0.826857		DW stat	1.831982
Prob(F-statistic)	0.000000			

Source: Authors' computation with the use of E-views 9

Theresults revealed that, change in real deposit rate D(RDR) is positive and statistically significant to CPGDP. This confirms the a priori economic expectation. Specifically, the coefficient of D(RDR) implies that a unit increase in real deposit rate increased CPGDP by 0.233009 or23%. Following the second objective of this study to examine the impact of financial liberalization on economic growth through credit to the private sector, it is

seen that increase in real deposit rate stimulates CPGDP in Nigeria. Change in prime lending rate D(PLR) and its lagged value D(PLR(-4)) were negative confirming the a priori expectation but were both statistically insignificant to CPGDP. This implies that prime lending rate does not have impact on credit to the private sector in the short run in Nigeria. Change in the lagged value of capital market deepening D(MCGDP(-2)) and D(MSGDP) were both positive and statistically significant to CPGDP. Specifically, a unit increase in MCGDP and MSGDP increased credit to the private sector (CPGDP) by 0.099641 and 0.591048 approximately 9% and 59% respectively.

Post Estimation Results

Table 12: Breusch-Godfrey Serial Correlation LM Test

F-statistic	0.362342	Prob. F(2,34)	0.6987
Obs*R-squared	0.918255	Prob. Chi-Square(2)	0.6318

Source: Authors' computation using E-views9

The Breusch-Godfrey serial correlation LM test result in Table 12 with a probability chi-square value of 0.6318 higher than the 0.05 or 5% level of significance retains the null hypothesis of no serial correlation in the series.

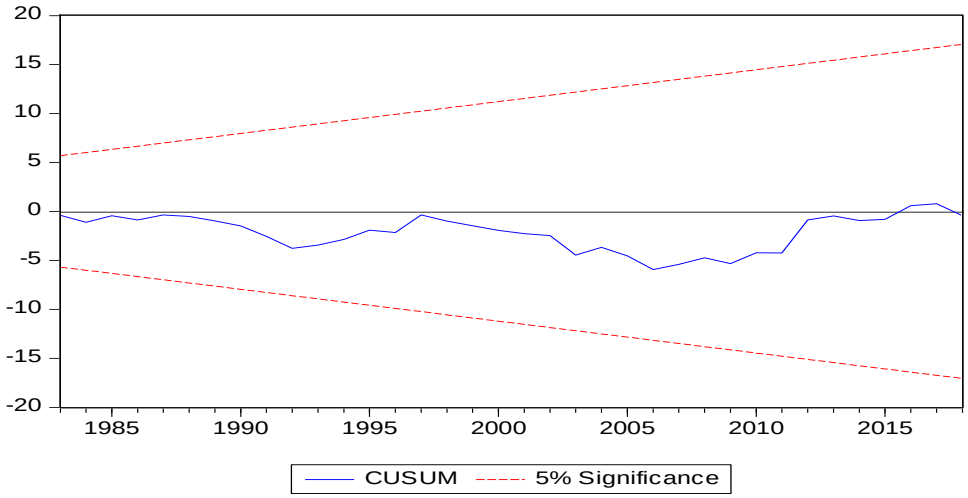
Table 13: Breusch-Pagan-Godfrey test for Heteroscedasticity

F-statistic	0.249777	Prob. F(7,36)	0.9690
Obs*R-squared	2.037997	Prob. Chi-Square(7)	0.9577
Scaled explained SS	2.820940	Prob. Chi-Square(7)	0.9011

Source: Authors' computation using E-views 9

Similarly, in Table 13 the Breusch-Pagan-Godfrey heteroscedasticity testshowed that the probability chi-square results of 0.9577 and 0.9011 were both greater than 0.05 or 5% indicating the absence of heteroscedasticity in the series.

The CUSUM test result validate the null hypothesis that the residuals are stable, since the CUSUM line fell in between the two 5% lines as seen in figure 4 below.



Source: Authors' derivation using E-views 9

Figure 4 CUSUM test result for Residual stability

Conclusion and Recommendations for Policy

There are two channels through which financial liberalization impacts on the performance of the economy in the McKinnon and Shaw (1973) financial repression thesis.This study verified the relationship between financial sector liberalization and economic growth in Nigeria following the McKinnon and Shaw thesis by developing two models with modifications. Induced savings through real interest rate and the efficiency of transmission channel are the two channels through which financial liberalization impacts on economic growth in the McKinnon and Shaw (1973) thesis. In the first model, savings as a ratio of gross domestic product (SAGDP) is a function of real deposit rate (RDR), market capitalization as a ratio of gross domestic product (MCGDP), broad money supply as a ratio of gross domestic product (MSGDP) and prime lending rate (PLR) while in the second model, credit to the private sector as a ratio of gross domestic product (CPGDP) is a function of the same explanatory variables in model one. All the time series variables were integrated of order one I (0) and showed evidence of long run relationship following the ADF unit

root and Engel-Grangercointegration tests respectively. The parsimonious error correction results revealed that in the first model, with the exception of prime lending rate, real deposit rate, market capitalization as a ratio of GDP and broad money supply as a ratio of GDP all impacted on savings. However, while RDR and MCGDP impacted positively on SAGDP, the impact of MSGDP was negative on SAGDP. The results of the second model on the other hand revealed that while RDR, MCGDP and MSGDP maintained significant impact on credit to the private sector as a ratio of GDP (CPGDP) with PLR negative and insignificant, MSGDP impacted positively on CPGDP.

Consequently, the study concluded thatthe impact of financial sector liberalization on the performance of the Nigerian economy is mixed. That is, while the significant positive impact of RDR on SAGDP indicates that financial liberalization stimulates growth in savings, the insignificant negative impact of prime lending rate on credit to the private sector indicates that financial liberalization does not stimulate credit to the private sector.

Recommendations for Policy

Based on the findings of this study, the following implications for policy are presented:

1. The Central Bank of Nigeria and the Securities and Exchange Commission shouldmandate the banks and the capital market to create more modern savings instruments with attractive interest rates particularly market based interest rates to attract more domestic and foreign savings in Nigeria. This it is believed will increase the volume of savings in the economy which would be further transmitted to productive investment and consequently increase the real interest rate paid on deposit.
2. The insignificant negative impact of the prime lending rate (PLR) on credit to the private sector is an indication that financial liberalization has no impact on credit to the private sector and thus impeded investment and growth of the economy during the period of study. Since this rate is determined by several factors including socioeconomic, political as well as the state of infrastructure and environmental factors, there is urgent need for governments at all

levels in the country to provide the enabling environment for business to thrive.

3. The significant negative impact of broad money supply on savings indicates that money supply erodes the value of money through higher prices which retard savings. Monetary authorities particularly the Central Bank have the imperative to determine an appropriate monetary policy rate that will keep both real deposit rate and the prime lending rate moderate. This will ensure that the prime lending rate is not too high to discourage borrowing for productive investment by the private sector and at the same time the real deposit rate is kept not too low to encourage saving.

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