

**FINANCIAL LIBERALIZATION AND BANKING
SECTOR PERFORMANCE**

BY

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**BEING A PROJECT SUBMITTED TO THE
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CERTIFICATION

This is to certify that this project titled “**FINANCIAL LIBERALIZATION AND BANKING SECTOR PERFORMANCE**” was carried out by **ETUMUDON STEFAN IKECHUKWU** with matriculation number **SSC1708001**.

. It has been read and recommended for acceptance in partial fulfilment of the requirement for the award of Bachelor of Science (B.Sc.) Degree in Economics.

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DEDICATION

This project is solely dedicated to almighty God for the grace, wisdom and courage he bestowed upon me throughout my years of academic pursuits in University of Benin.

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My in-depth gratitude goes to God Almighty for his blessings in my life. I am grateful for his endless love, protection, guidance, grace and showers of blessings upon my life.

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ABSTRACT

This study examined the impact of financial liberalization on bank performance in Nigeria for the period of 1981-2019. The main objective of this research work is to examine the impact of financial liberalization on bank performance in Nigeria. The study used Error Correction Mechanism (ECM) to examine the relationship between financial liberalization and bank performance in Nigeria. The study found that the level of financial deepening is positively and significantly related to the real interest rate. Also, money supply is positively and significantly related to the real interest rate. Also, private sector credit was found to be negatively and significantly related to the real interest rate. Finally, loan-deposit ratio is positively related to the real interest rate, it had no significant impact. The study recommends that due consideration should be given to the private sector lending which was one of the variables used to capture financial liberalization in Nigeria. Also, in order to enhance financial deepening (M2/GDP) contribution to banks profitability in Nigeria, government policy should therefore be geared towards strategically increasing money supply and promoting efficient capital market that will enhance overall economic efficiency, create and expand liquidity, mobilize saving, enhance capital accumulation, transfer resources from traditional sector to growth inducing sectors (such as manufacturing and industry, agriculture and services sectors) and also promote competent entrepreneurial response in various sectors of the economy. However, it is pertinent to ensure that it (money supply) does not lead to financial excessiveness.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The financial sector is a section of the economy made up of firms and institutions that provide financial services to commercial and retail services. This segment of the economy is made up of financial institutions including banks, investment houses, lenders, finance companies and insurance companies. The banking sector is an integral parts of the financial system with the main function of holding financial assets and investing this financial assets as a live raged way to create more wealth. It helps to mobilize savings and direct these funds into the productive sector of the economy. According to Levine (2005) mobilizing savings involves overcoming the transaction costs associated with collecting savings from different individuals and overcoming the informal asymmetric associated with making savers feel comfortable in relinquishing control for their savings. The banking sector that is more effective in savings mobilization may affect economic development by increasing savings, thus exploiting economics of scale and overcoming investment indivisibilities. According to Okpara (2010) a well functioning financial system is a necessary condition to reach steady economic growth in developing countries. Following the varying importance of the financial

sector it is imperative to give a critical examination on how the financial sector should operate.

Financial sector liberalization refers to the removal or losing of restrictions imposed by the government on the financial sector. However various definitions have been given to explain the concept of financial liberalization.

Kaminsky and Schmukler (2003) have provided a broader definition. Financial liberalization consist of deregulation of the foreign sector capital account, domestic financial sector, and stock market. From this definition they put forward that full liberalization occurs when at least two of the three sectors are fully liberalized and the third one particularly liberalize.

Johnson and Sundarajan (1999), view financial liberalization as a set of operational reforms and policy measures designed to deregulate and transform the financial system and its structure with the view to achieving a liberalized markets oriented system within an appropriate regulatory framework.

Financial liberalization refers to measures directed at reducing regulatory control over the institutional structure, instruments and activities of agents in different segments of the financial sector. These measures can relate to internal or external relations (Chandrasekhar, 2004). Following the various definition it can be inferred that financial liberalization simply entails the elimination of control that restrict financial activities.

Through the removal of the elements of financial repression, particularly controlled interest rates, is expected to lead to high nominal and real interest rate. This is the postulate of Mackinnon (1975) and Shaw (1975) that a high interest rate will make people will make people to substitute consumption for savings. They said that administrative control of the financial market by the government will distort interest rate there by lowering it. The resultant effect is that savings is discouraged, consumption is encouraged and the quantity of investment is crippled there by discouraging economic growth. They argued that higher interest brought about by financial liberalization will lead to an efficient allocation of resources which will boost investment and economic growth.

The Nigerian financial sector has been highly repressed for more than two decades after independence. The financial sector was controlled by the government. This was clearly seen by the interest rate administration, restriction of entry into the banking sector, high reserve requirement and limitation of Domestic ownership of foreign assets (Ikhinde and Alawole, 2001). During this period interest rate in sector was artificial and possesses the potential for inhibiting effecting performance of the sector, and most times they are adjusted arbitrarily in the wrong direction without recourse to market forces Edo (2004).

Basically, financially repression has the ability of inhabiting efficient performance of the financial sector. Okpara (2010) observed that financial

liberalization grants market forces a more dominant role in setting financial assets prices and returns, allocating credit, and developing a wide array of financial instruments and intermediaries. The focus of financial liberalization is to replace the several constrained command and control system with a relatively liberalized regime with prices reflecting economic costs. (Ogumike and Ikenna, 2012).

Financial liberalization has therefore been described as an important policy package in both advanced and advancing countries over two decades (Nzotta and Okereke 2009). Developing countries in a bid to revive their economy implemented the economic recovery programme called the structural adjustment programme introduced by Bretton woods institution (world bank and international monetary fund) aimed at liberalizing prices in distress and melt down economics (Gosh, 2005). The adoption of the structural adjustment programme signals the phasing out of the financial repressive policies in the economy.

Following the ongoing shift to liberalization in the 1980's, the Nigerian government adopted the structural adjustment programme to solve the deteriorating economic situation in Nigeria. Prior to the adoption of the structural adjustment programme, the real GDP growth rate averaged only 1.5% per annum during the period 1973 to 1985 thereby registering a negative growth rate in 6years during this period. (Adebiyi, 2001). Interest rates and entry into the

banking system were liberalized and credit allocation quotes loosened. At the same time, while ending direct rationing of foreign exchange for the real sector, the government maintained a multiple exchange rate regime, thus opening a new era of arbitrage and rent seeking for financial institutions that had privileged access to foreign exchange actions (Jerome et al, 2003:6). This resulted to the quick entry of many new players into the banking system, especially merchant banks. In the following years, the number of banks tripled from 41 to over 120, employment in the financial sector doubled and the contribution of the financial system to GDP almost tripled (Lewis and Stein, 2002).

However, it is worth noting that after the introduction of the structural adjustment programme (SAP, 1986), the domestic economy has failed to experience impressive performance such as attraction of foreign investment or halt capital flight (Okpara, 2010).

1.2 Statement of Research Problem

It has been argued that financial liberalization have affected banking performance positively. Though financial liberalization may be helpful in most cases, may also be detrimental to savings mobilization which has the ability to inhibit investment and overall economic growth. Over the years, empirical literature finds it difficult to resolve this theoretically especially in less developed countries like Nigeria. According to Eichengreen, (2005), financial liberalization

has the ability to instigate financial instability and misappropriation of capital which also hinders macroeconomic performance. Hawey and Lundblad, (2005) concluded in their studies that the effect will differ in countries based on the stage of institutional and economic development prevalent in such countries and macroeconomic framework adapted.

According to Olubayo et al., (2011), unguided financial liberalization exposes the banks and indeed the economy to excessive financial shocks. Also continuous reforming of the financial system makes the system unstable, planning difficult and indeed creates an unfriendly operational environment that may affect the efficient operational performance of the banks. For instance the ripple effect of the universal banking introduced in 2001 have not been settled before the recapitalization effect was introduced in 2004 (Olubayo et al, 2011). Financial liberalization in banking sector aimed to increase the efficiency of banks, improve the allocation of credit, stimulate savings and thus bring about higher economic growth. Some studies indicate that the bank performance in emerging countries is increasing with financial and banking reforms. Still, financial liberalization increases the likelihood of banking crises especially in conditions of very weak regulation and supervision.

1.3 Significance of the Study

The results of the study will be of great benefit the following:

1. The government: Data given will provide policy makers with secondary data on the effects of financial liberalization on banking sector performance.
2. To students: this research is important to students because it will help them to have a detailed analysis of the effectiveness of financial liberalization on the performance of banks. Such a detailed analysis of this topic will result to knowledge will be enhanced.

1.4 Objective of the Study

The objectives of this study is to:

1. Examine the extent to which financial liberalization affects bank performance in Nigeria.
2. To evaluate the extent to which financial liberalization affects bank efficiency.
3. To examine the extent to which financial liberalization has affected domestic savings in Nigeria.

1.5 Research Hypothesis

In this study the hypothesis below shall be tested;

Ho₁: There is no significant relationship between financial liberalization and the performance of banks.

Ho₂: There is no significant relationship between financial liberalization and bank efficiency.

1.6 Scope and Methodology

This study investigates the impact of financial liberalization on bank performance in Nigeria from 1986 to 2016 making use of secondary data specifically from CBN statistical Bulletins and Reports in Nigeria.

1.7 Limitation of the Study

Time constraint is one of the major limitation of this research. The time available to study the research problem and to measure change overtime is constrained by the deadline of the project submission. Also there is limited availability of data.

CHAPTER TWO

LITERATURE REVIEW

2.1 Financial Liberalization: Conceptual Issues

Financial liberalization is the process of breaking away from a state of financial repression. The term Financial repression is when the government has direct control of the Financial system by interfering in them. It achieves this by distribution of credit while holding interest at low level synthetically (Sould Guesmi, 2015). Under the Financial repression regime, the monetary authorities imposed high reserve requirement, bank specific credit ceilings and selective credit allocation, mandatory holding of treasury bills and bond issued by the government and non-competitive and segmented financial system (Achy 2003). Financial liberalization is defined as the removal of government intervention from financial markets. Liberalization includes eliminating the restrictions which are placed by the government which includes bank interest rate ceilings, compulsory reserve requirements, barriers to entry, particularly foreign financial and credit allocation decision. These policies reduce government interference in the financial markets leading to privatization of state owned banks, introducing the convertibility of the currency on the capital account, improving Prudential regulations and promoting local stock markets.

Auerbach and Siddiki (2004: 231) defined financial liberalization as the elimination of a series of impediment in the financial sector in order to bring in line with that of the developed countries. According to them there are three types of financial liberalization. Firstly the term is used to describe domestic financial sector reform such as privatization and increase in credit reform such as privatization and increases in credit extension to the private sector. Secondly, financial liberalization may be used to refer to stock market liberalization. In this case stock market liberalization occurs when a country opens up its stock market to foreign investors at the same time allowing firms access to international market. Finally, financial liberalization may refer to the liberalization of capital account. This is a situation where special exchange rates for capital account transactions are relaxed, where domestic firms are permitted to borrow funds from abroad and where reserve requirements are allowed.

The concept of financial liberalization from the works of McKinnon (1975) and Shaw (1975) who attributed economic development in developed countries to financial liberalization. They argued that financial liberalization is a necessary ingredient in the generating of high savings for investment. Financial liberalization entails the abolition of explicit control of pricing and allocation of credit. Direct government intervention in bank credit decision is brought to an end. Liberalization may also the abolition of controls on the international capital movement. However government policies will continue to play a central role in

determining how the financial sector performs. Financial liberalization does not mean free banking. Government will continue to play a central role on how the financial sector performs.

2.2 Financial Liberalization in Nigeria

Financial liberalization has been dubbed as one of the growth ingredients in developing countries (Adam, 2011). 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 prompted by what use to be called the Washington consensus (Gosh, 2005). Long before the popular Nigerian financial sector reform in 1987, the Nigerian government and the CBN had so much control of the banking sector. There were restrictions placed on entry into the banking industry regulation of exchange rate, control of interest rates and other monetary policy instruments were directly used (Emenuga, 2005). The central bank of Nigeria embarked on a transition process from a direct to indirect technique of monetary management (Zainab Dabo, 2012). Interest and entry into the sector were liberalized and credit allocation quota loosened. At the same time, while ending the direct rationing of foreign exchange for the real sector, the government maintained a multiple exchange regime, thus opening a new era of arbitrage and rent seeking for financial institutions that had privileged access to foreign exchange auctions. (Jerome et al, 2003:6). Deregulation of interest was intended

to enable banks charge loan rates based on the market. With the adoption of the indirect mechanism of monetary management required that interest rate was to become the most important instrument for monetary management. This resulted to the quick entry of many new players into the banking system, especially merchant banks. In the following years the number of banks tripled from to over 120, employment in the financial sector doubled and the contribution of the financial system to GDP almost tripled (Lewis and Stein, 2012). Apart from the liberalization of interest rates, the reform also involved the promotion of a market based system of credit allocation, enhancing competition and efficiency of the supervisory and regulatory framework (Jegede and Mokulolu, 2004; Agu et al., 2014). Despite the adoption of the financial liberalization policy the Nigerian economy has failed to experience remarkable performance such as attraction of foreign investment or halt capital flight. Evidence in Nigeria implied that neither the domestic savings nor investment has significantly increased since the adoption of the financial liberalization program (Omopintem et al; 2018).

2.3 Banking in Nigeria

Banking in Nigeria can be divided into three parts as discussed from 1892 to 1952 referred to as era of free banking, 1952 to 1985 described as the pre reform era and 1986 till date described as the post reform era.

2.3.1 1892-1952 (Era of free banking)

This period was described as a period of free-for-all banking. This was because at that time there were no regulations to restrict movement in the 10 licensing in banking operations in Nigeria which led to bank failure as well as closure of banks and losses to depositors .Banking in Nigeria dates back to 1892 when the African banking corporation (ABC) was established. the African banking corporation commenced its activities in Lagos. The African banking corporation was a South African based bank which came to Nigeria and took over business from elder Dempster merchants, which had before engaged in banking activities in Nigeria. Two years after the establishment of the African banking corporation, the bank of British West Africa (now called first bank) was established and this new bank acquired the African banking corporation. the British bank of west Africa headed by sir Alfred Jones started a trust fund in 1893. Banking activities fully commenced in 1894 in Lagos and a branch was established in Calabar in 1900. The British bank of West Africa was registered as a limited liability company when it commenced operations in England before establishing the Lagos branch to same year. The BBWA had support from the colonial government. The BBWA changed its name in 1957 to the bank of West Africa and also to the standard bank of west Africa limited and it again to standard bank of Nigeria the 1965, before it finally became the first Bank of Nigeria (FBN).

The Anglo African bank was established in 1899 it was later called Bank of Nigeria but its activities were halted as its operations were absorbed in 1912 by the BBWA. In 1917 colonial bank was established which later became the Barclays Bank in 1925. There was a boom in the establishment of indigenous banks from the 1940s into the early 1960s but none of these banks lasted and failed within few years. Generally many of these indigenous banks did not survive why the expatriate banks fared better. The reason for this included the fact that many of the indigenous banks lacked an effective managerial expertise to effectively run various Banks. Another reason was the fact that the foreign banks were limited to their head offices in developed countries and they had access to more capital and most of the indigenous banks could not compete with them (Babajide Fowowe 2010). For example in 1933 the national Bank was established which survived for a few years and was later taken over by the western region.

The Agbonmagbe bank was established by Adekoya Okupe Agbonmagbe in 1945 which was taken over by the Wema board in 1969. In 1987 the bank was transformed to Wema bank Plc as it's known till date the only longest surviving indigenous bank in Nigeria. Also in 1947 the Nigerian Farmers and Commercial Bank was established which also failed in 1953 with severe losses of people's deposits. In 1936, the post office savings Bank was established under the savings Bank ordinance it was succeeded in 1974 by the federal savings Bank which was established under the federal savings Bank act 1974.

In 1948 the Patons commission was established to investigate into the causes of bank failure in Nigeria. According to patina commission the reason for bank failure were;

Inadequate capital base, lack of banking regulation and acceptable Prudential guidelines, unskilled or poor management, illiquidity, inexperienced staffing, fraudulent directors and operators, reckless and rapid expansion of branch network and inability to meet the demand of new government regulations (Olubisi Friday Oluduro 2015)

2.3.2 The period of 1952 (Referred to as the Era of Banking Regulation)

From the beginning of banking in Nigeria till 1952 there was no regulation of Banks. The collapse of one bank after the other during the various crisis periods of banking resulted in a significant loss of deposit is. A commission set up to enquire into banking business in Nigeria and make recommendations to the government and the extent as well as the form of control that was required in the country. The committee was set up this era marked the beginning of banking regulations in Nigeria. in this era the 1952 banking ordinance was enacted. 1952 banking ordinance define banking business as the business of receiving from the public on current account money which is to be repayable on demand by cheque and on making advances to customers.

The ordinance stipulated the amount of paid-up capital required if a licence was to be granted by the financial secretary. It was (25000 naira) for indigenous banks and 200,000 for expatriate Banks. Banks also had to maintain a reserve fund into which at least 20% of their profits has to be paid annually. The ordinance became operational immediately for new banks while existing banks it took three months before it became operational. The 1952 banking ordinance was seen as a great advancement in developing a sound financial sector. The period of intense regulation was in 1958 with the establishment of the Central Bank. The CBN was and the power to stipulate measures to curb bank failures of the type that occurred during the banking boom in Nigeria. There were a number of amendments to the 1958 ordinance all of which resulted in more stringent banking regulations and restrictions to entry. Amendments to the 1958 ordinance were made in 1961 1962 and 1964 and a new decree was enacted with the 1969 banking decree. All these banking legislations for the regulated banking and notable developments with the increase of paid-up capital for banks, guidelines regarding liquidation of banks and stipulation of capital deposit ratio (Babajide Fowowe 2010).

2.3.3 The Period 1986 till date (Post Reform Era)

The introduction of the structural adjustment program sap brought into being a new face of banking Nigeria .The underlying philosophy with institute in

more efficient system for the allocation of resources. Financial liberalization started in Nigeria in 1987. Financial operations following the liberalization policy included freeing of activities in the financial sector. Most notably there was a big increase in the number of commercial Banks within the country to stop the number of commercial banks operating in the country. The peak of this period was probably reached with the deregulation of interest when the CBN ceased to administer interest rates chargeable on loans and advances on payable deposits for stock has been characterized by an increasing number of commercial and merchant banks. Between 1986 and May 1st 1989 a total of 38 new commercial banks and merchant banks open their doors were 25 others were granted licences to start operation for the end of that year (Inanga and Soyibo, 1989).

The period of deregulation has also witnessed strategic changes in banking operations in Nigeria among which changes the creation of Nigerian deposit insurance corporation decree number 22 on 15 June 1998. The NDIC is charged with the responsibility of ensuring safe banking practices through effective supervision assisting the CBN to formulate banking policies with a view to ensuring the stability of the financial system.

In essence the industry was established to carry have the final mortality process of healing banks who licenses have been revoked by the Central Bank of Nigeria. The Current reform in the Nigerian banking began in 2004 with the

consolidation program. The policy trust at Inception was to grow the banks and position them to play a pivotal role in driving development across sectors of the economy (Arodoye, and Izevbigie 2016). In 2010 the asset management corporation of Nigeria was established (AMCON). Its sole aim is to address the problem of non-performing loans in Nigerian banking industry among others. AMCON acquired the non-performing risk assets of some banks worth 1.7 trillion naira which is expected to boost their liquidity as well as enhance the safety and Soundness . With the intervention of AMCON banking industry ratio of non-performing loans to total credits significantly reduced from 34.4% in November 2010 to 4.95% (Sanusi 2012). The Central Bank has also introduced cashless policy as part of ongoing reform to address currency management challenges in Nigeria as well as enhance the national payment system. This is aimed at de-emphasizing the heavily cash oriented transactions of goods and services in Nigeria economy. The huge cash transactions increased operational costs of the banking sector which was passed on to customers in form of high service charges and high lending rates. These operational costs are significant due to the high cost incurred in cash management, currency sorting, cash movement and frequent printing of currency notes (Sanusi, 2012).

2.4 Theory of Financial Liberalization by McKinnon (1975) and Shaw (1975)

The financial system has been recognized to play an important role in economic development which dates back to the works of McKinnon (1975) and Shaw (1975) who demonstrated that financial liberalization is a catalyst to economic growth if it is developed and healthy. Mackinnon and Shaw in their financial liberalization theory advocated that financial liberalization is necessary to address the distortions caused by repressive financial policies of developing countries. Their hypothesis pushed that the removal of elements of financial repression particularly controlled interest rates is expected to lead to high nominal and real interest rate. McKinnon (1973) defines financial repression as follows: Bank credit remains a financial appendage of certain enclaves exclusively licensed import activities, specialize large scale mineral exports highly protected manufacturing, large international corporation and various government agencies. Even ordinary government deficits on current account frequently preempt the limited lending resources of the deposit banks. Financing the economy must be made from meager resources of money lenders, pawn brokers and cooperatives. It is this phenomenon that he calls financial repression (McKinnon, 1973). This underlying hypothesis shows that higher real interest rate will encourage individuals to substitute consumption for savings and will enable savers to achieve their saving target with lower stock of savings. According to them interest

rate under control among the various components of the financial system undermine how efficient the financial sector operates. The negative interest substitution rate brought about by financial repression has negative effect on savings which leads to lower amount of funds for investment effect through financial intermediaries. According to them, this would overweigh the income effect, thereby boosting the financial savings by shifting savers wealth portfolio from non-financial assets to financial assets. Both MacKinnon and Shaw maintain that financial liberalization involving the establishment of higher interest rate that equates the demand for and the supply of savings will lead to increased savings. Shaw suggested that real growth in the financial institution provide more investors with access to borrowings and gives them incentives to save and to accumulate the equity that makes borrowing cheaper. McKinnon and Shaw supported that when financial repression is destroyed and financial system is liberalized, financial deepening will exist and economic growth will increase. Financial repression is said to have a depressing effect on savings thereby resulting in capital shortages and adversely economic growth. The McKinnon Shaw school of thought proposes that government restriction on the operation of the financial system, such as direct credit programs, reserve and liquidity requirements may inversely affect the quality and quantity of investment and thus hinder financial development. Shaw stresses that financial liberalization can strengthen financial intermediaries among savers and investors, increase

investment efficiency and reduce the cost of borrowing. Increased savings will allow banks to diversify their portfolio, reduce cost and improve their operational efficiency.

2.4.1 Extension of the McKinnon Shaw Financial Liberalization Theory

The McKinnon Shaw approach was also worked on by Kapur (1976), Galibis(1977), Mathieson(1980), and Fry(1988) add little to the existing idea of McKinnon Shaw model. Kapur limits the analysis by assuming the constancy of investment efficiency following the financial liberalization while Galibis and Fry consider the case of efficiency increases.

In Kapurs model, an increase in the deposit rate of interest raise real money demand and hence the real supply of bank credit, resulting in the acceleration of economic growth.

Galibis (1977), constructed a two sector model analyses the effect of financial liberalization on average efficiency of investment. In his model, financial liberalization will lead to a higher level of efficiency by shifting savings from self investment to uses with higher rate of return. Fry also lays emphasis increases in investment efficiency following financial liberalization. Goldsmith (1969) argued that the main impact of financial liberalization was on the efficiency of capital. Bekerat et al (2003) shows that financial liberalization increase the bank performance through the following two channels.

1. The financial liberalization increases the aggregate savings and investment in the economy eventually increases output growth
2. Eliminates market distortions caused by capital control while increasing efficiency and productivity growth.

Stulz (1999) and Mishkin (2001) asserts that financial liberalization promotes transparency and accountability, reducing adverse selection and moral hazard while alleviating liquidity problems in financial markets. These authors argue that international capital markets help to discipline policy makers, who might be tempted to exploit an otherwise confined domestic capital market. The prime benefits are expected to accrue from a financially liberalized system to the users of financial services include; the reduction in the cost of services to both savers and borrowers with the introduction of more competition and improvement in services from more efficient, customer friendly financial institutions. Savers expect to receive higher rates of return, a broader choice of saving instrument and easier access to financial products. Borrowers benefit from more accurate appraisal of risk; reduced waiting period and expanded access to funds through more sophisticated lending instruments available in a wider range of maturities. The benefits of financial liberalization can therefore be grouped into increased access to domestic and international capital markets and increased efficiency of capital allocation. In the other way the critics of the McKinnon approach are Vanwijnbergen (1983) and Taylor (1983). They made use of the Tobin's portfolio

framework for household sector set allocation. According to Vanwijnbergen the result obtained by the McKinnon Shaw analyses depends crucially on one hidden assumption on asset market structure, an assumption that is never stated explicitly. According to him they assume that the portfolio shifts into the deposits coming out of unproductive assets like gold, cash, commodity stocks etc.

In theory, financial liberalization has the ability to improve bank efficiency (Berger et al., 1977). (Bonin et al., 1996) claimed that bank efficiency has five determinants. First competition among banks will result in low rate of interest on deposits and loans. Secondly banks offer variety of financial instruments and develop new products. Third, the financial market in which banks operate is stable and liquid. Fourth, the payment is well developed and financial resources are allocated adequately. Fifth, financial transaction costs are low. They also pointed out that an efficient market oriented banking sector requires the government to withhold direct control over bank operations and participate only in developing financial markets. There was also the argument that financial liberalization may lead to increased incidence of financial crisis. Further argument was that information asymmetric which are endemic to financial markets and transactions in developing countries can be detrimental to liberalization and as such it was contended that emerging markets do not have the capability to assemble information relevant to financial transactions and thus cannot guarantee

the capital flow where its marginal productivity exceeds opportunity cost compared to their developed counterparts.

Although, scholars who advocate for financial liberalization argued that financial liberalization would lead to a drop in the cost of debt and equity through integration of segmented markets. They argued that liberalization will result in liquidity stock. This implied that increased liquidity leads to further development of the underlying market as both the local and foreign investors are assured of getting in and out of a position without much difficulty. Furthermore the advocates argue that through financial liberalization, foreign investors' pressure local institutions to adhere to institutional standards, can improve local corporate governance and reduces the division between internal and external finance. (Bekaert, Harvey and Lundblad 2004; Levine 1996). In literature, several factors had been highlighted as having influence on the performance of the banking sector. A liberalized financial sector with its attendant high rate of interest on deposit leads to a rise in savings and credit. Given the negative impact of financial repression, it is argued that financial liberalization policy should be pursued to stimulate savings and enhance growth of the sector (Edo, 2004).

2.5 Theories of Banking

From the past century, three main theories of banking can be viewed

1. The financial intermediation theory of banking which says that banks collect deposit and lend them out.
2. The fractional reserve theory of banking that says that each individual bank is a financial intermediary without power to create money and
3. The credit creation theory of banking which does not consider banks as financial intermediaries that just gather deposits and lend out but argues that each individual bank creates credit and money newly when granting out bank loan

2.5.1 Financial Intermediation Theory of Banking

The presently dominant financial intermediation theory holds that banks are merely financial intermediaries, not different from other non-bank financial institutions: they gather deposits and lend these out. In the words of recent authors, Banks create liquidity by borrowing short and lending long (Dewatripont, Rochet, & Tirole, 2010), meaning that banks borrow from depositors with short maturities and lend to borrowers at longer maturities. The financial intermediation theory of banking is publicized by highly ranked economics journals, and also includes some well-known economists. Examples are Keynes (1936); Gurley and Shaw (Earlier proponents of this theory include von Mises (1912), who wrote that the activity of the banks as negotiators of credit is characterized by the lending of other people that is of borrowed money.

While Mises argued that this was only one of the functions of banks, Keynes (1936) in his *General Theory* clearly states that for investments to take place, savings first need to be gathered. This view has also been reflected in the Keynesian growth models by Harrod (1939) and Domar (1947), which are based on the financial intermediation theory of banking, although not explicitly modelling banks.

Gurley and Shaw (1955, 1960) argue that banks and non-bank financial institutions largely share the function of being financial intermediaries, thus arguing that there is nothing special about banks. Tobin (1963) backed this view in his influential work. He argued that The difference between commercial banks and other financial intermediaries has been too sharply drawn. The differences are of degree, not of kind. In particular, the differences which do exist have little intrinsically to do with the monetary nature of bank liabilities. The differences are more importantly related to the special reserve requirements and interest rate ceilings to which banks are subject. Any other financial industry subject to the same kind of regulations would behave in much the same way (p. 418). Riordan (1993) holds that Banks simply serve as financial intermediaries between borrowers and Lenders. More precisely, banks borrow from depositors and lend to investors. In a capitalist economy most investment projects are owned and managed by private entrepreneurs and firms. Generally these investors lack enough equity fully to finance their projects and consequently seek loans to

complete financing. Banks, on the other hand, aggregate deposits to make the loans.

2.5.2 The Fractional Reserve Theory of Banking

Fractional reserve banking is a system in which only a fraction of bank deposits are backed by actual cash on hand and available for withdrawal. This is done to theoretically expand the economy by freeing capital for lending. The fractional banking theory came into place as a solution to the problems encountered during the great depression when depositors made many withdrawals, leading to bank runs. This theory of banking argues that each bank is a financial intermediary. However, it disagrees with the former theory concerning the collective, macroeconomic role of banks. It argues that, together, the banking system creates money, through the process of multiple deposit expansion. Thus when Gurley and Shaw (1955) argued that banks and non-bank financial institutions are largely similar in that they were both financial intermediaries able to create financial claims, they were challenged during the 1950s and 1960s. Crick (1927) argues that while each bank is a financial intermediary, the system as a whole can create money. Stiglitz also favors the fractional reserve theory, and mirrors The process of multiple-deposit creation may seem somewhat like a magician pulling rabbits out of a hat: it seems to make something out of nothing. But it is, in fact a real physical process. Deposits are created by making entries in records; . The rules of deposit creation are rules specifying when you may make certain entries in the books. It is these rules – in particular, the fractional reserve requirements – that give rise to the system’s ability to expand deposits by a multiple of the original deposit increase (Stiglitz, 1997, p. 737). The

bottom line is that the fractional reserve banking has pros and cons. It permits banks to use funds (the bulk of depositors) that would be otherwise unused to generate returns in form of interest rates on loans and to make more money available to grow the economy.

2.5.3 The Credit Creation Theory of Banking

The credit creation theory proposes that individual banks can create money, and banks do not solely lend out deposits that have been provided to the bank. Consequently, the amount of money that can be created is not constrained by their deposit taking activities, and the act of bank lending creates new purchasing power that did not previously exist. So banks do not need to first gather deposits or reserves to lend. Since bank lending is said to create new credit and deposit money, an increase in total balances takes place without a commensurate decrease elsewhere (Richard A. Werner). Therefore according to this theory, over time bank balance sheets and measures of the money supply tend to show a rising trend in time periods when outstanding bank credit grows — unlike with the financial intermediation theory, where only existing purchasing power can be re-allocated and the money supply does not rise.

2.6 Financial Liberalization and Banking Sector Performance Evidence

Denizer et al., (2000) study the bank efficiency in pre and post liberalization period. The sample includes the Turkish banks from the period 1970 to 1994. Their findings show that financial liberalization reforms were followed

by a decline in bank efficiency. Koeva 2003 analyses the impact of financial liberalization on Indian commercial bank performance during 1991 to 2001. The empirical results of study presents that industry concentration profitability and bank spread in banking system have declined during the period of liberalisation process.

Williams and Ngugen (2005) investigate the relationship between financial liberalization and bank performance. The study examines 231 commercial banks from South East Asia between 1990 to 2003. Their results suggest that bank privatisation reform which is a reform of the financial evaluation process increases bank performance than other types of liberalisation process.

Hermes and Nhung (2008) analyse the impact of financial liberalization on bank efficiency using bank data from the emerging countries during the during 1991 to 2000 the data envelope analysis to calculate bank efficiency and financial liberalization index developed by laeven 2003. The results showed that financial liberalization has a positive impact on bank efficiency.

Gilbert and Wilson (1998) found that privatization and financial liberalization positively affect the output of Korean banks from 1980 to 1994. By employing Malaquist productivity technique, they observed that Korean banks increase their output as a result of privatization and liberalization of the banks

which helped the bank's to largely vary their input and output alongside advanced technology which encouraged banks to accelerate their productivity.

Leightner and Lovely (1998) revealed that financial liberalization results in an increased efficiency and output in Thailand banks from 1989 to 1994. Also, large banks owned domestically in Thailand were observed to be the most efficient financial institutions with that of foreign banks at par with medium domestic banking institutions.

Demetriades et al., (2001) investigated the impact of financial liberalization on the volatility of bank and financial sectors stock returns by focusing on two areas of reforms namely; domestic financial liberalization effects of interest rate liberalization and relaxation of reserve requirements on domestic deposits and the relaxation of controls on capital flows on banking and financial risks and capital account liberalization from the period 1987 to 1997. The empirical findings suggest that financial liberalization reduced banking and financial risks as implied by the significance of the coefficient of policy measure in the conditional variance and covariance equation.

Elryah (2014), provided empirical evidence concerning the impact of financial liberalization and reforms on Islamic Bank performance in Malaysia. Data were collected from 16 Islamic Banks. The paper considered annual data from 2002 to 2012. The researcher used panel regression model to investigate the

relationship between Islamic Bank performance and financial liberalization. The findings indicate that financial liberalization and openness assets profitability returns on assets and inflation have significantly positive impact on Islamic Bank performance.

Njie (2006) study the impact of financial liberalization on bank spread in Malaysia. The author uses these two stage regression framework of Ho and Saunders 1981 and finds that despite the level of government intervention, financial liberalization have efficiency enhancing effects on Malaysian Banks.

Angkinand et al., (2010) try to offer an explanation regarding their their that financial liberalisation leads to banking crisis. They achieve a cross-country analysis of 48 countries from the period of 1973 to 2005. We found that the relationship between financial liberalization and banking crisis can be explained by the type of liberalisation level of deposit insurance coverage type of country and strictness of reforms.

The financial liberalization exercise in the Nigerian banking sector must enable the banking system develop the required flexibility to support the economic development of the nation by efficiently performing its functions as the pivot of financial intermediation (Lemo 2005).

Zainab (2012) examines whether the financial performance of Banks improved after the liberalisation policy using the Willcoxon signed rank test for

changes in the following performance measure variables; profitability, deposit lending, and operating efficiency. The study lends support for liberalization policy as its impact had increased the performance of banks in Nigeria.

Olokoyo (2012) studied the effect of bank deregulation on bank performance in Nigeria for the. 1986 to 2010 and plus the ordinary least square technique OLS and found that the deregulation of the banking sector has positive and significant effect on bank performance.

Sobodu and Akiode (1998), assess the performance of Nigerian commercial banks over the period 1983 to 1993 using data development and analysis. They found an initial improvement in performance right after the beginning of financial liberalization in 1986 and a steady decline thereafter.

Idowu and Babatunde (2010), on their study on financial reform on capital market in Nigeria using time series data from 1986 to 2010 and apply the ordinary least square method and found a negative relationship between the two variables

Edo (2004), study on the problem of regulated interest rate in the financial sector of Nigeria he employed the ordinary least square technique and found that regulation which according to the government is aimed at preventing financial

distress in the sector has instead discourage the sector from maximizing its growth potential

CHAPTER THREE

Theoretical Framework and Methodology

3.0 Introduction

The broad objective of this study is to examine the relationship between financial liberalization and banking sector performance in Nigeria. To achieve this objective, there is need for possible replication of the study. The thrust of this chapter is to bring to the fore the research method and theoretical framework. It is against the background of the procedure outlined here under that the problem of this study is addressed.

3.1 Theoretical Framework

The model of this study is built on Monti-Klein model of bank performance. Most of banking firm models were derived from Monti-Klein model. The model explains about bank musts choose their variable decisions in order to maximize the profit and it's performance. The Monti-Kleinmodel is extended for two banks that involved in the two-stage Cournot game. The banks simultaneously decided their volume of deposits first, then they decided the volume of loans later. The model is stated as follows:

$$\frac{dD}{dt} = g_L D \left(1 - \frac{D}{K_D} \right) - wD \quad (1)$$

$$\frac{dL}{dt} = g_L L \left(1 - \frac{L}{K_L \frac{D}{K_D}} \right) - bL \quad (2)$$

The above model is simply showing that the performance of banks depends on the bank's loan and deposit. All parameters are positive. Parameter g_D is the growth rate of deposit, w is the withdrawal rate of deposit, and K_D is the carrying capacity of deposit if there is no withdrawal. In the loan differential equation, g_L represents the growth rate of loan, b represents the non-performing loan (NPL) rate, and there is a modification on the carrying capacity of loan i.e. $K_L D / K_D$ instead of just K_L . If D approaches K_D , then L can approach K_L . This modification idea follows the assumption that the allocated funds on loan investments depend on the current deposit volumes. Some assumptions need to be noted that, in this model, we ignore the effect of uncertainty that probably arises in interest rate of deposit and loan, also the both are assumed to be included implicitly in parameter g_D and g_L .

3.2 Model Specification

Building on the above framework by introducing other variables that affect bank's performance, this study focuses on an attempt to break down the impact of financial liberalization on the performance of banks in Nigeria. This study adopts a model related to the one used by Moch(2019) in his study. The study is given below as:

$$RIR = f(FID, MOS, PSC, LDR) \dots \dots \dots (1)$$

$$\ln RIR_t = \beta_0 + \beta_1 \ln FID_{t-1} + \beta_2 \ln MOS_{t-1} + \beta_3 \ln PSC_{t-1} + \beta_4 \ln LDR_{t-1} + ECM_{t-1} + U_t \dots \dots \dots (2)$$

Where:

RIR = Real interest rate

The independent variables or explanatory variables are:

FID = Financial Deepening

MOS = Money Supply

PSC = Private Sector Credit

LDR = Loan-Deposit Ratio

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = coefficients

U_t = error term.

Apriori Expectation

$\beta_0 > 0, \beta_1 > 0, \beta_2 < 0, \beta_3 < 0, \beta_4 < 0, \beta_5 > 0,$

3.3 Methodology

A multiple regression analysis employing the Error Correction Model (ECM) econometric technique is used in this study. Given that the existence of Co-integration is established amongst the series, then an Error Correction Model (ECM) first adopted by Sargan (1964) and later popularized by Engel and Granger (1969) is carried out to correct for any dis-equilibrium in the short run. In

the model above, the dynamics of both short-run (changes) and long-run (levels) adjustment processes are modeled simultaneously, thereby providing information about both the short-run and long-run relationship. The coefficient of error correction term is expected to be negative ($\epsilon < 0$) and significant as this is a necessary condition to ensure the existence of long run relationship and adjusted disequilibrium in the model (Narayan, 2005). But the coefficient of the ECM can be positive and statistically significant reflecting the nature of the long run relationship. Thus, it doesn't have to be a negative value for all models (Kim S., 2020). Similarly, the ECM_{t-1} depicts one period lagged error correction term. The value of its coefficient measures the speed of adjustment to equilibrium from the short run disequilibrium in the model.

3.3.1 Diagnostics test

I. Unit Root Test: This test is the first step and involves testing the stationarity of the variables, and then the order of integration of the individual series under consideration. Researchers have developed several procedures for the test of order of integration. The most popular among them is the Augmented Dickey-Fuller (ADF) test due to Dickey (1979) and Fuller (1981). Augmented Dickey-Fuller test relies on rejecting a null hypothesis of unit root (the series are non-stationary) in favour of the alternative hypotheses of no unit root (the series are stationary). The tests are conducted with or without a deterministic trend (t) for each of the series.

A stochastic process $y(t)$ is known as a unit root if its first difference, $y(t) - y(t-1)$ is non-stationary. Basically, a series is said to be integrated of order $I(1)$, if it needs to be differenced once to become stationary. The same holds for an $I(2)$ series which need to be differenced twice to become stationary. If it is of order $I(0)$, then no differencing is necessary.

II. The Co-Integration Test

The second step is the testing of the presence of co-integration between the series of the same order of integration. The analysis of and testing for unit roots naturally lead to the theory of co-integration. The test deals with the methodology of modelling non-stationary time series variables.”. The basic idea behind co-integration is that, if in the long run two or more variables move closely together, even though the series themselves are trended, the difference between them is constant. In this study, we employ the maximum-likelihood test procedure established by Johansen and Juselius (1990) and Johansen (1991). To determine the number of co-integration vectors, the Trace statistic can be used. The statistic test null hypothesis that the number of distinct co-integrating vectors is less than or equal to q .

III. Stability test: this test is carried out to ascertain whether the variables adopted for this study were stable over the period under review (usually at 5% level). The CUSUM Test is adopted for this study.

IV. Normality Test: this test is carried out to ascertain whether the stochastic error term is normally distributed with a mean of zero and constant variance. This is expressed symbolically as;

$$\mu = N (0, \sigma_i^2)$$

3.4 Source of Data

This study is based on secondary data which were sourced from Central bank of Nigeria Statistical Bulletin (2019) and World Development indicators (2019) covering the period from 1981-2019.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS OF RESULTS

4.0 Introduction

The focus of this chapter is on data analysis and interpretation of results. Specifically, it includes: descriptive statistics, test for stationarity, test for co-integration, model estimations, discussion and findings, diagnostic test, policy implications.

4.1. Preliminary Results

4.1.1. Descriptive Statistics

The table 4.1 below depicts the (mean, mode, minimum and maximum value, standard deviation, kurtosis, etc.) of the variables LNFID, LNMOS, LNPSC, LDR, RIR used in this study.

Table 4.1: Summary statistics for the variables

	LNFID	LNMOS	LNPSC	LDR	RIR
Mean	2.617994	6.547226	2.147616	49.50702	0.196724
Median	2.541052	6.611111	2.097349	48.67128	3.666917
Maximum	3.059048	10.12981	2.976835	100.3671	18.18000
Minimum	2.213937	2.672158	1.598990	20.42807	-65.85715
Std. Dev.	0.266318	2.555863	0.357072	23.61865	14.78596
Observations	38	38	38	37	38

Source: Author's Computation using Eviews 9

From the table, the mean values of LNFID, LNMOS, LNPSC, LDR, RIR are given as follows: 2.62, 6.55, 2.15, 49.51, 0.20 respectively and their median

values are given respectively as follows: 2.54, 6.61, 2.10, 48.67, 3.67 and their standard deviation values are also shown in table as: 0.27, 2.56, 0.36, 23.62, 14.79. The table above also shows that mean, standard deviation, median values falls between the minimum and maximum values.

4.1.2 Test for Stationarity

By Stationarity we mean that the statistical properties of a time series (or rather the process generating it) do not change over time. Using Augmented Dickey Fuller Approach, the unit root tests is given below as:

Table 4.2: Unit root test

Variables	ADF Statistics (level)	MacKinnon Critical Values at 5%	ADF Statistics (1st Difference)	MacKinnon Critical Values at 5%	Order of Integration
RIR	-1.16	-2.94	-9.69	-2.94	I(1)
LNFD	-1.25	-2.94	-5.89	-2.94	I(1)
LNMO	-0.76	-2.94	-3.66	-2.94	I(1)
LNPS	-1.73	-2.94	-5.32	-2.94	I(1)
LDR	-0.92	-2.94	-7.36	-2.94	I(1)
LNEXR	-2.09	-2.94	-5.21	-2.94	I(1)

Source: Author's Computation using E-views 9

From the table 4.2 above, it can be seen that the variables of this study were all stationary at order of one i.e. at first difference at 5% significant level.

4.2 TEST FOR CO-INTEGRATION

The test results are given below as:

TABLE 4.3a: Co-integration test (Trace statistic)

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.843598	108.4057	69.81889	0.0000
At most 1	0.497023	43.46925	47.85613	0.1216
At most 2	0.309123	19.41688	29.79707	0.4633
At most 3	0.158641	6.474114	15.49471	0.6395
At most 4	0.012163	0.428323	3.841466	0.5128

Source: Author's Computation using Eviews 9

In the table above 4.3a above, it can be seen that the trace test indicates 1 co-integrating equations at 0.05 significant level. This indicates there exists a co-integrating relationship among the variables captured by this study.

TABLE 4.3b: Co-integration test (Maxeigen statistic)

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.843598	64.93648	33.87687	0.0000
At most 1	0.497023	24.05237	27.58434	0.1329
At most 2	0.309123	12.94277	21.13162	0.4575
At most 3	0.158641	6.045791	14.26460	0.6073
At most 4	0.012163	0.428323	3.841466	0.5128

Source: Author's Computation using E-views 9

In the table above 4.3b above, it can be seen that the Max-Eigen test indicates 1 co-integrating equations at 0.05 significant level. This indicates there exists a co-integrating relationship among the variables captured by this study.

4.3 Regression Results

4.3.1 Error correction model Estimates

The table below shows the ECM regression results regressing LNGDP on the independent variables LNGFCF, LNGEXP, LNEXR, INTR, LNFDI. The table also shows the significance level of the impact of the independent variables on LNGDP.

Table 4.4a: Error Correction model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.17356	3.040744	4.990080	0.0000
D(LNFID)	67.25724	14.61040	4.603382	0.0001
D(LNMOS)	70.17942	13.38433	5.243402	0.0000
D(LNPSC)	-6.094094	7.796231	-0.781672	0.4412
D(LDR)	0.060815	0.132421	0.459258	0.6497
ECM(-1)	-0.165122	0.82788	-2.142412	0.0003
R-squared	0.619885	Mean dependent var		1.799578
Adjusted R-squared	0.549494	S.D. dependent var		10.47409
S.E. of regression	7.030184	Akaike info criterion		6.901268
Sum squared resid	1334.434	Schwarz criterion		7.173361
Log likelihood	-107.8709	Hannan-Quinn criter.		6.992819
F-statistic	8.806238	Durbin-Watson stat		1.508140
Prob(F-statistic)	0.000047			

Source: Author's Computation using E-views 9

4.3.2 Discussion and Findings

Table 4.4a shows the parsimonious error correction model (ECM). It demonstrates that about 16 percent of the discrepancy between the real and long run (equilibrium) values of real interest rate is reversed or erased each year. To put it another way, the current year corrects approximately 16 percent of the prior year's disequilibrium. It's worth noting that, as expected, the ECM's coefficient has a negative sign and is relevant at 5% significant level.

In addition the above table 4.4a, it can be seen that the level of financial deepening is positively related to the real interest rate. This implies that one percent increase in level of financial deepening in Nigeria will result in 67.25 percent increase in current level of interest rate. The results above show that level of financial deepening is a statistically significant variable affecting real interest rate in Nigeria at 5% level of significance.

Also from the above table 4.4a, it can be seen that the level of money supply is positively related to the real interest rate. This implies that one percent increase in level of money supply in Nigeria will result in 70.18 percent increase in current level of interest rate. The results above show that level of money supply is a statistically significant variable affecting real interest rate in Nigeria at 5% level of significance.

Also from the above table 4.4a, it can be seen that the level of private sector credit is negatively related to the real interest rate. This implies that one percent increase in level of private sector credit in Nigeria will result in 6.09 percent decrease in current level of interest rate. The results above show that level of private sector credit is a statistically significant variable affecting real interest rate in Nigeria at 5% level of significance.

Furthermore, the result shows that loan-deposit ratio is positively related to the real interest rate. This implies that one unit increase in loan-deposit ratio in Nigeria will result in 0.06 unit increase in current level of interest rate. The results above show that level of loan-deposit ratio is a statistically insignificant variable affecting real interest rate in Nigeria at 5% level of significance.

The coefficient of determination (R^2) showed that, about 61% of the systematic variations in the explained variable are accounted for by the joint influence of all the explanatory variables employed in the study, while the remaining 39% is due to other factors captured by the error term. This further confirms that the model is correctly specified. The F-statistics indicate a rejection of the null hypothesis of joint insignificance (at 5% significance level). In other words, we are about 95% confident that the explanatory variables are simultaneously significant when addressing the various factors that influence economic growth in Nigeria. The Durbin Watson statistic 1.51 which is

approximately equals 2 indicating that autocorrelation is absent in the estimated model.

4.4 Diagnostic Tests

Table 4.5: Test on the Error Term

TEST	TYPE	Prob at 5 Percent Sig. Level.	CONCLUSION
Normality	Histogram Normality test	0.2701	Normally distributed
Stability	CUSUM squares test	None	Stability
Serial correlation	Breusch-Godfrey Serial Correlation LM Test	0.1441	No serial correlation

Source: Author's Computation using E-views 9

The table 4.5 above indicates that the distribution is normally distributed and that the model is there is absence of serial correlation in the model. Finally, the table also shows that the model estimated is stable.

4.6 Policy implications

Financial deepening was found to have a positive impact on interest rate in Nigeria and this conforms to apriori expectation. By implication, an increase in the level of financial deepening would increase interest rate and the increase in interest rate would discourage borrowing and this would negatively affect bank's

asset and performance. This transitive effect would eventually endanger the Nigerian economy. Excessive financial deepening or too rapid growth of credit may have led to both inflation and weakened banking systems which in turn gave rise to growth-inhibiting financial crises. Furthermore, when interest rates rise as a result of increased financial deepening, both businesses and consumers will cut back on spending. This will cause earnings to fall and stock prices to drop also.

Money supply was also found to have a positive and significant impact on real interest rate. Increased money supply can result to increased interest rate which is the cost of borrowing. This is because lenders and banks who lend money to those in need of them would be willing to loan out more money for higher interest rates and vice versa and this relationship is explicitly revealed by the findings of the study. This is usually the case most times when the willingness to lend money is accompanied with an increased propensity to borrow by the members of the public and this would eventually pressurize interest to go up and hence resulting to an increase in interest rate in the process and this would eventually result to distortions in the banking system of the economy because increased interest rate would then scare some prospective borrowers who cannot afford such cost of borrowing thereby resulting to a decrease in the asset accumulation of banks.

Also, private sector credit was found to be negatively related to interest rate in Nigeria. By implication, increase in the level of private sector credit can have a negative

effect on interest rate. Increase in the supply of credit facilities provided for the private sector may not always be accompanied with increased in demand for these facilities and when demand for private sector credit does not proportionately increase along side with increase in supply for private sector credit, interest rate drops.

Loan-deposit ratio was also found to have a negative relationship with interest rate. By implication, increased loan-deposit ratio would lead to a fall in interest rate. This is in conformity to theory and this effect can be due to some economic reasons. Increase in loan deposit ratio increases credit availability and this can increase the interest elasticity of borrowers and so this would eventually force banks to reduce interest rates which is the cost of borrowing so as to attract more intending borrowers and this would eventually the performance of the banking sector because increased bank lending increases the asset accumulation capacity of banks in form of loans.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter includes the summary of findings of the study, conclusions and the recommendations made from the findings.

5.1 Summary of Findings

The study examined the impact of financial liberalization on bank performance in Nigeria. The study tests for unit root using Augmented Dickey-Fuller (ADF) to check if the variables are stationary or non-stationary. Also, to check that a long run relationship exists, the study used the Johansen Co-integration test. Error Correction mechanism was adopted to examine the relationship between the dependent and independent variables. This showed the existence of long-run relationship among the variables employed in the study. The work finds out that the model passed the diagnostic test such as Normality, serial correlation, heteroskedasticity, stability tests. The Durbin-Watson test was carried out to check for autocorrelation. The variables were also found to have an overall significant effect on unemployment rate from F-statistic obtained in the model. The study found that the level of financial deepening is positively and significantly related to the real interest rate. Also, money supply is positively and significantly related to the real interest rate. Also, private sector credit was found to be negatively and significantly related to the real interest rate. Finally, loan-deposit ratio is positively related to the real interest rate, it had no significant impact.

5.2 Recommendations

On the basis of the emanating findings, this study proffered the following recommendations:

1. As empirically tested in this work, the credit to private sector exerts significant impact on banks profitability because increase in private sector credit reduces interest rate which increases banks asset accumulation capacity through loans, therefore due consideration should be given to this sector rather than the government. In Nigeria, there has been under development of the real sector and so there is need to is need for the government to push more funds to the private sector seeing it's a catalyst of growth to the banking sector and economy at large.
2. Also, financial deepening ($M2/GDP$) was found to affect banks profitability. Government policy should therefore be geared towards strategically increasing money supply and promoting efficient capital market that will enhance overall economic efficiency, create and expand liquidity, mobilize saving, enhance capital accumulation, transfer resources from traditional sector to growth inducing sectors (such as manufacturing and industry, agriculture and services sectors) and also promote competent entrepreneurial response in various sectors of the economy. However, it is pertinent to ensure that it (money supply) does not lead to financial excessiveness.
3. The capital market should be developed in order to boost the level of financial deepening in the financial system. Capital market development enables financial deepening by enabling the savers to diversify their financial asset basket and the firms to have access to alternative sources of financing.

4. Strong emphasis should be placed on the role of monetary policy in stabilizing macroeconomic variables so that it is not hampered by government fiscal policy of deficit financing and also to promote financial liberalization in the country. The government can achieve this by using money supply which is one of determining variables in the study.
5. The government through the central bank should monitor and regulate banking sector lending to the private sector so as to avert the tendencies of inflationary pressures which occurs as a result of excessive credit borrowing by commercial and other lending banks.

5.3 Conclusions

The findings of the study showed that financial deepening, level of money supply and the level of private sector credit had significant effect on the behavior of the performance of banks in Nigeria and so these variables used to capture the degree of financial liberalization in Nigeria were shown to significantly affect the performance of banks in Nigeria. Economic issues relating to financial deepening, money supply, private credit in Nigeria banking system has grown and become a subject of debate in recent years. Also, the fundamental question that has pre-occupied researchers is why is it that less developed countries such as Nigeria have much lower levels of financial liberalization than high and middle income

countries. The empirical performance literature has come with different factors, such as: high levels of interest, weak level of financial deepening, etc. among others cutting across different countries. Another critical factor that has begun to receive considerable attention more recently is the role of financial liberalization on bank performance especially in the wake of distress of bank and global economic and financial meltdown. It therefore seems that policies to develop the financial sector would be toward raising bank performance. In fact, much of financial liberalization policies are aimed at enhancing bank performance but the success of these policies remains pale and subject of continued debate. While economists have a widespread believe on the central role of financial liberalization on bank performance theoretically, empirical works supporting this concept are conflicting.” This implies that too much of financial liberalization poses a threat to bank sector and the economy at large. The problem now is how to determine the appropriate level of financial liberalization suitable for bank performance, economic growth and development. This presents a possible area for future research.

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APPENDIX I

UNIT ROOT TESTS

AT LEVEL

RIR

Null Hypothesis: RIR has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.159452	0.4555
Test critical values:		
1% level	-3.621023	
5% level	-2.943427	
10% level	-2.610263	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RIR)

Method: Least Squares

Date: 07/15/21 Time: 06:58

Sample (adjusted): 1982 2018

Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RIR(-1)	-0.752659	0.105128	-7.159452	0.0000
C	1.972474	1.551033	1.271717	0.2119
R-squared	0.594239	Mean dependent var		1.943598
Adjusted R-squared	0.582646	S.D. dependent var		14.60388
S.E. of regression	9.434533	Akaike info criterion		7.379169
Sum squared resid	3115.364	Schwarz criterion		7.466245
Log likelihood	-134.5146	Hannan-Quinn criter.		7.409867
F-statistic	51.25776	Durbin-Watson stat		1.665991
Prob(F-statistic)	0.000000			

LNFID

Null Hypothesis: LNFID has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.252952	0.6408
Test critical values:		
1% level	-3.621023	
5% level	-2.943427	
10% level	-2.610263	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNFID)

Method: Least Squares

Date: 07/15/21 Time: 06:59

Sample (adjusted): 1982 2018

Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNFID(-1)	-0.091452	0.072989	-1.252952	0.2185
C	0.256785	0.191318	1.342194	0.1882
R-squared	0.042928	Mean dependent var		0.018251
Adjusted R-squared	0.015584	S.D. dependent var		0.116126
S.E. of regression	0.115218	Akaike info criterion		-1.431446
Sum squared resid	0.464630	Schwarz criterion		-1.344370
Log likelihood	28.48176	Hannan-Quinn criter.		-1.400748
F-statistic	1.569888	Durbin-Watson stat		1.925782
Prob(F-statistic)	0.218530			

LNMO5

Null Hypothesis: LNMO5 has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.755857	0.8197
Test critical values:		
1% level	-3.621023	
5% level	-2.943427	
10% level	-2.610263	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LNMOS)
 Method: Least Squares
 Date: 07/15/21 Time: 07:00
 Sample (adjusted): 1982 2018
 Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNMOS(-1)	-0.006036	0.007985	-0.755857	0.4548
C	0.240490	0.055197	4.356939	0.0001
R-squared	0.016061	Mean dependent var		0.201558
Adjusted R-squared	-0.012051	S.D. dependent var		0.119987
S.E. of regression	0.120708	Akaike info criterion		-1.338351
Sum squared resid	0.509963	Schwarz criterion		-1.251274
Log likelihood	26.75949	Hannan-Quinn criter.		-1.307652
F-statistic	0.571319	Durbin-Watson stat		1.104060
Prob(F-statistic)	0.454792			

LNPSC

Null Hypothesis: LNPSC has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.729139	0.4087
Test critical values:		
1% level	-3.621023	
5% level	-2.943427	
10% level	-2.610263	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LNPSC)
 Method: Least Squares
 Date: 07/15/21 Time: 07:01
 Sample (adjusted): 1982 2018
 Included observations: 37 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNPSC(-1)	-0.141569	0.081872	-1.729139	0.0926
C	0.319077	0.177836	1.794223	0.0814

R-squared	0.078703	Mean dependent var	0.015728
Adjusted R-squared	0.052380	S.D. dependent var	0.182034
S.E. of regression	0.177202	Akaike info criterion	-0.570515
Sum squared resid	1.099018	Schwarz criterion	-0.483439
Log likelihood	12.55453	Hannan-Quinn criter.	-0.539817
F-statistic	2.989923	Durbin-Watson stat	1.717893
Prob(F-statistic)	0.092597		

LDR

Null Hypothesis: LDR has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.919435	0.7701
Test critical values:		
1% level	-3.632900	
5% level	-2.948404	
10% level	-2.612874	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LDR)

Method: Least Squares

Date: 07/15/21 Time: 07:02

Sample (adjusted): 1982 2018

Included observations: 35 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR(-1)	-0.070238	0.076393	-0.919435	0.3645
C	5.252845	3.933967	1.335254	0.1909

R-squared	0.024977	Mean dependent var	1.956717
Adjusted R-squared	-0.004569	S.D. dependent var	9.561919
S.E. of regression	9.583739	Akaike info criterion	7.413458
Sum squared resid	3030.985	Schwarz criterion	7.502335
Log likelihood	-127.7355	Hannan-Quinn criter.	7.444138
F-statistic	0.845361	Durbin-Watson stat	2.454323
Prob(F-statistic)	0.364540		

AT FIRST DIFFERENCE

RIR

Null Hypothesis: D(RIR) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-9.687839	0.0000
Test critical values:		
1% level	-3.626784	
5% level	-2.945842	
10% level	-2.611531	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(RIR,2)

Method: Least Squares

Date: 07/15/21 Time: 07:06

Sample (adjusted): 1983 2018

Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RIR(-1))	-1.173551	0.121136	-9.687839	0.0000
C	0.641018	1.785084	0.359097	0.7217
R-squared	0.734072	Mean dependent var		-1.694599
Adjusted R-squared	0.726251	S.D. dependent var		20.28318
S.E. of regression	10.61237	Akaike info criterion		7.615871
Sum squared resid	3829.163	Schwarz criterion		7.703844
Log likelihood	-135.0857	Hannan-Quinn criter.		7.646576
F-statistic	93.85423	Durbin-Watson stat		2.184032
Prob(F-statistic)	0.000000			

LNFID

Null Hypothesis: D(LNFID) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.887399	0.0000
Test critical values:		
1% level	-3.626784	
5% level	-2.945842	
10% level	-2.611531	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LNFID,2)
 Method: Least Squares
 Date: 07/15/21 Time: 07:07
 Sample (adjusted): 1983 2018
 Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNFID(-1))	-1.010062	0.171563	-5.887399	0.0000
C	0.018412	0.020174	0.912626	0.3679
R-squared	0.504817	Mean dependent var		-0.000588
Adjusted R-squared	0.490253	S.D. dependent var		0.167356
S.E. of regression	0.119487	Akaike info criterion		-1.357271
Sum squared resid	0.485420	Schwarz criterion		-1.269298
Log likelihood	26.43088	Hannan-Quinn criter.		-1.326566
F-statistic	34.66147	Durbin-Watson stat		1.995485
Prob(F-statistic)	0.000001			

LN MOS

Null Hypothesis: D(LNMOS) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.662891	0.0091
Test critical values:		
1% level	-3.626784	
5% level	-2.945842	
10% level	-2.611531	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(LNMOS,2)
 Method: Least Squares
 Date: 07/15/21 Time: 07:07
 Sample (adjusted): 1983 2018
 Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNMOS(-1))	-0.560250	0.152953	-3.662891	0.0008
C	0.115043	0.036126	3.184488	0.0031

R-squared	0.282954	Mean dependent var	0.000767
Adjusted R-squared	0.261865	S.D. dependent var	0.127203
S.E. of regression	0.109286	Akaike info criterion	-1.535743
Sum squared resid	0.406077	Schwarz criterion	-1.447769
Log likelihood	29.64337	Hannan-Quinn criter.	-1.505038
F-statistic	13.41677	Durbin-Watson stat	2.063453
Prob(F-statistic)	0.000841		

LNPSC

Null Hypothesis: D(LNPSC) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-5.326450	0.0001
Test critical values:		
1% level	-3.626784	
5% level	-2.945842	
10% level	-2.611531	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNPSC,2)

Method: Least Squares

Date: 07/15/21 Time: 07:08

Sample (adjusted): 1983 2018

Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPSC(-1))	-0.932019	0.174979	-5.326450	0.0000
C	0.011652	0.031284	0.372460	0.7119

R-squared	0.454876	Mean dependent var	-0.009280
Adjusted R-squared	0.438842	S.D. dependent var	0.248586
S.E. of regression	0.186217	Akaike info criterion	-0.469854
Sum squared resid	1.179012	Schwarz criterion	-0.381880
Log likelihood	10.45737	Hannan-Quinn criter.	-0.439149
F-statistic	28.37107	Durbin-Watson stat	1.938660
Prob(F-statistic)	0.000006		

LDR

Null Hypothesis: D(LDR) has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=0)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.361068	0.0000
Test critical values:		
1% level	-3.646342	
5% level	-2.954021	
10% level	-2.615817	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LDR,2)

Method: Least Squares

Date: 07/15/21 Time: 07:08

Sample (adjusted): 1983 2015

Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LDR(-1))	-1.316712	0.178875	-7.361068	0.0000
C	2.596368	1.681213	1.544342	0.1327

R-squared	0.636088	Mean dependent var	0.526274
Adjusted R-squared	0.624348	S.D. dependent var	15.53548
S.E. of regression	9.521759	Akaike info criterion	7.403728
Sum squared resid	2810.581	Schwarz criterion	7.494425
Log likelihood	-120.1615	Hannan-Quinn criter.	7.434245
F-statistic	54.18532	Durbin-Watson stat	2.099363
Prob(F-statistic)	0.000000		

CO-INTEGRATION RESULTS

Date: 07/20/21 Time: 16:26

Sample (adjusted): 1982 2018

Included observations: 35 after adjustments

Trend assumption: Linear deterministic trend

Series: RIR LNFID LNMOS LNPSC LDR

Lags interval (in first differences): No lags

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.843598	108.4057	69.81889	0.0000
At most 1	0.497023	43.46925	47.85613	0.1216
At most 2	0.309123	19.41688	29.79707	0.4633
At most 3	0.158641	6.474114	15.49471	0.6395
At most 4	0.012163	0.428323	3.841466	0.5128

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.843598	64.93648	33.87687	0.0000
At most 1	0.497023	24.05237	27.58434	0.1329
At most 2	0.309123	12.94277	21.13162	0.4575
At most 3	0.158641	6.045791	14.26460	0.6073
At most 4	0.012163	0.428323	3.841466	0.5128

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b*S11*b=I):

RIR	LNFD	LNMO	LNPS	LDR
0.066732	0.585044	-0.365853	0.430868	0.022772
0.030083	-2.420225	1.122042	-1.031074	-0.105674
-0.002888	8.295138	0.036006	-6.489005	0.007278
-0.010422	3.252569	-0.119453	2.535577	-0.042544
0.016230	0.452148	-0.467731	0.777534	-0.012469

Unrestricted Adjustment Coefficients (alpha):

D(RIR)	-11.43926	-2.470536	-0.838677	-0.588039	-0.739274
D(LNFD)	0.012521	0.022065	-0.042282	-0.028914	-0.003926
D(LNMO)	0.002772	0.041907	-0.030726	-0.023077	0.006930
D(LNPS)	-0.028198	0.063469	0.028888	-0.054171	-0.006029
D(LDR)	-2.049715	4.623572	-0.531533	1.854221	-0.471023

1 Cointegrating Equation(s): Log likelihood -160.7916

Normalized cointegrating coefficients (standard error in parentheses)

RIR	LNFD	LNMO	LNPS	LDR
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1.000000	8.767122 (10.3284)	-5.482459 (1.43214)	6.456730 (7.97314)	0.341249 (0.12975)
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Adjustment coefficients (standard error in parentheses)

D(RIR)	-0.763360 (0.10768)
D(LNFID)	0.000836 (0.00134)
D(LNMOS)	0.000185 (0.00137)
D(LNPSC)	-0.001882 (0.00209)
D(LDR)	-0.136781 (0.10686)

2 Cointegrating Equation(s): Log likelihood -148.7654

Normalized cointegrating coefficients (standard error in parentheses)

RIR	LNFID	LNMOS	LNPSC	LDR
1.000000	0.000000	-1.278595 (1.42723)	2.454276 (6.27326)	-0.037467 (0.13275)
0.000000	1.000000	-0.479503 (0.08153)	0.456530 (0.35836)	0.043197 (0.00758)

Adjustment coefficients (standard error in parentheses)

D(RIR)	-0.837681 (0.11385)	-0.713221 (3.87258)
D(LNFID)	0.001499 (0.00144)	-0.046076 (0.04912)
D(LNMOS)	0.001446 (0.00140)	-0.099801 (0.04775)
D(LNPSC)	2.76E-05 (0.00215)	-0.170106 (0.07306)
D(LDR)	0.002309 (0.10133)	-12.38926 (3.44686)

3 Cointegrating Equation(s): Log likelihood -142.2940

Normalized cointegrating coefficients (standard error in parentheses)

RIR	LNFID	LNMOS	LNPSC	LDR
1.000000	0.000000	0.000000	-0.820094 (5.43775)	-0.149438 (0.08866)
0.000000	1.000000	0.000000	-0.771436 (0.13713)	0.001205 (0.00224)
0.000000	0.000000	1.000000	-2.560912 (0.67078)	-0.087574 (0.01094)

Adjustment coefficients (standard error in parentheses)

D(RIR)	-0.835259	-7.670160	1.382849
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	(0.11343)	(13.4106)	(1.82827)
D(LNFID)	0.001621	-0.396808	0.018654
	(0.00134)	(0.15851)	(0.02161)
D(LNMOS)	0.001534	-0.354674	0.044900
	(0.00135)	(0.15951)	(0.02175)
D(LNPSC)	-5.58E-05	0.069526	0.082571
	(0.00212)	(0.25036)	(0.03413)
D(LDR)	0.003844	-16.79840	5.918600
	(0.10118)	(11.9625)	(1.63085)

4 Cointegrating Equation(s): Log likelihood -139.2711

Normalized cointegrating coefficients (standard error in parentheses)

RIR	LNFID	LNMOS	LNPSC	LDR
1.000000	0.000000	0.000000	0.000000	-0.159578 (0.05841)
0.000000	1.000000	0.000000	0.000000	-0.008332 (0.00318)
0.000000	0.000000	1.000000	0.000000	-0.119236 (0.01248)
0.000000	0.000000	0.000000	1.000000	-0.012364 (0.00411)

Adjustment coefficients (standard error in parentheses)

D(RIR)	-0.829131 (0.11432)	-9.582796 (14.2938)	1.453092 (1.83359)	1.569653 (10.9016)
D(LNFID)	0.001923 (0.00130)	-0.490853 (0.16279)	0.022108 (0.02088)	0.183696 (0.12416)
D(LNMOS)	0.001775 (0.00133)	-0.429734 (0.16629)	0.047657 (0.02133)	0.098850 (0.12682)
D(LNPSC)	0.000509 (0.00202)	-0.106671 (0.25280)	0.089042 (0.03243)	-0.402402 (0.19281)
D(LDR)	-0.015481 (0.09937)	-10.76741 (12.4244)	5.697107 (1.59379)	2.500235 (9.47587)

MODEL ESTIMATES

Dependent Variable: RIR

Method: Least Squares

Date: 07/20/21 Time: 16:36

Sample (adjusted): 1983 2015

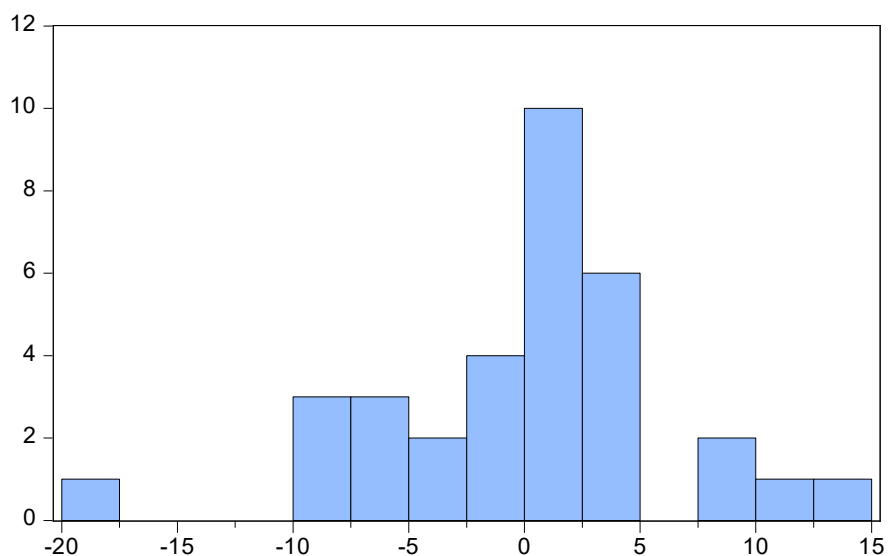
Included observations: 33 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.17356	3.040744	4.990080	0.0000
D(LNFID)	67.25724	14.61040	4.603382	0.0001
D(LNMOS)	70.17942	13.38433	5.243402	0.0000

D(LNPSC)	-6.094094	7.796231	-0.781672	0.4412
D(LDR)	0.060815	0.132421	0.459258	0.6497
ECM(-1)	-0.165122	0.82788	-2.142412	0.0003
<hr/>				
R-squared	0.619885	Mean dependent var	1.799578	
Adjusted R-squared	0.549494	S.D. dependent var	10.47409	
S.E. of regression	7.030184	Akaike info criterion	6.901268	
Sum squared resid	1334.434	Schwarz criterion	7.173361	
Log likelihood	-107.8709	Hannan-Quinn criter.	6.992819	
F-statistic	8.806238	Durbin-Watson stat	1.508140	
Prob(F-statistic)	0.000047			

DIAGONISTICS

NORMALITY TEST



Series: Residuals
Sample 1983 2015
Observations 33

Mean -1.90e-15
Median 0.711036
Maximum 14.82154
Minimum -18.71875
Std. Dev. 6.457636
Skewness -0.352300
Kurtosis 4.186242

Jarque-Bera 2.617495
Probability 0.270158

SERIAL CORRELATION

Breusch-Godfrey Serial Correlation LM Test:

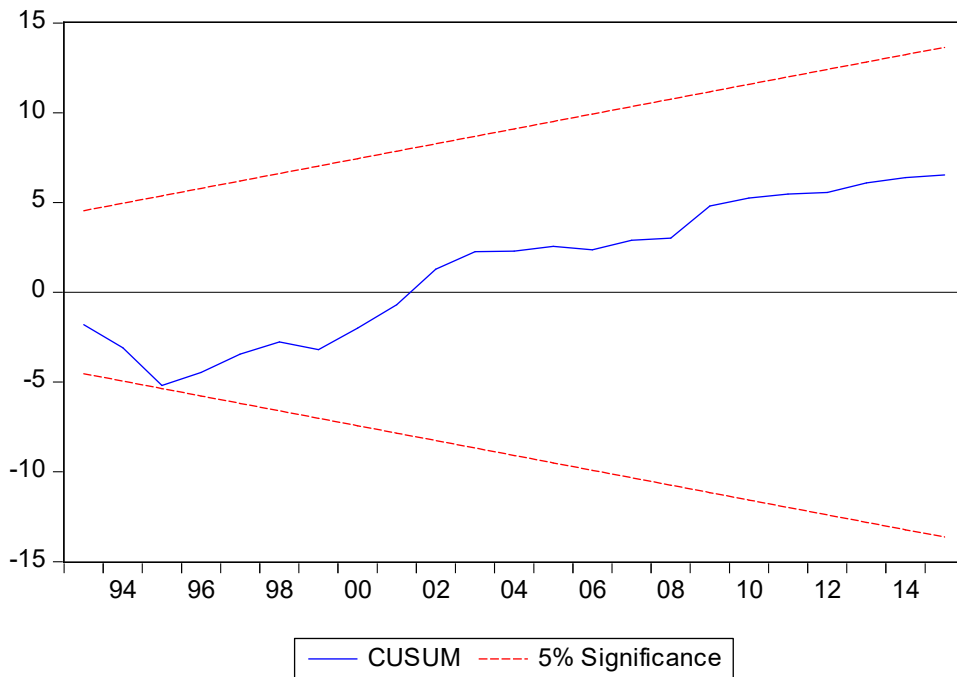
F-statistic	2.095706	Prob. F(2,25)	0.1441
Obs*R-squared	4.738264	Prob. Chi-Square(2)	0.0936

Test Equation:
Dependent Variable: RESID

Method: Least Squares
Date: 07/20/21 Time: 16:40
Sample: 1983 2015
Included observations: 33
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.565146	3.042897	0.514361	0.6115
D(LNFID)	1.000606	15.32949	0.065273	0.9485
D(LNMOS)	-6.675142	13.38571	-0.498677	0.6224
D(LNPSC)	1.512940	7.978408	0.189629	0.8511
D(LDR)	-0.048250	0.130826	-0.368813	0.7154
ECM(-1)	-0.203959	0.169658	-1.202178	0.2406
RESID(-1)	0.452761	0.247368	1.830315	0.0792
RESID(-2)	0.083036	0.215427	0.385446	0.7032
R-squared	0.143584	Mean dependent var		-1.90E-15
Adjusted R-squared	-0.096213	S.D. dependent var		6.457636
S.E. of regression	6.761156	Akaike info criterion		6.867482
Sum squared resid	1142.831	Schwarz criterion		7.230271
Log likelihood	-105.3134	Hannan-Quinn criter.		6.989549
F-statistic	0.598773	Durbin-Watson stat		1.629288
Prob(F-statistic)	0.750945			

STABILITY TEST



DATA PRESENTATION

Years	RIR	MOS	FID	PSC	LDR
1981	-65.8571	14.47117	9.99175	5.7259143	20.42807
1982	-4.58618	15.78674	10.18641	6.375795	21.10079
1983	-8.02239	17.68793	10.8515	6.1514261	21.77352
1984	4.342493	20.10594	11.8008	6.2111783	22.44625
1985	2.343231	22.29924	11.59768	5.9910896	23.11898
1986	4.310292	23.8064	11.75995	7.5283981	23.79171
1987	-4.76964	27.57358	11.05424	6.5633832	24.46444
1988	-2.96268	38.3568	11.97421	6.0101961	25.13716
1989	-6.61241	45.90288	10.95021	5.0427027	25.80989
1990	17.46624	47.42329	9.490792	4.9480316	26.48262
1991	0.990847	75.40118	12.65026	5.241096	27.15535
1992	-14.9872	111.1123	12.21278	8.234514	23.42807
1993	-7.05247	165.3387	13.13181	7.007718	30.10079
1994	-15.9202	230.2926	13.06393	8.037288	38.25336
1995	-31.4526	289.0911	9.98518	6.508711	39.81472
1996	-5.26078	345.854	9.151674	6.174444	48.67128
1997	12.12661	413.2801	10.05147	7.03059	53.8574
1998	11.48467	488.1458	10.63733	7.619452	58.91069
1999	6.047248	628.9522	11.85056	8.168808	74.25273
2000	-1.14089	878.4573	12.73591	8.248989	49.8467
2001	12.1387	1269.322	15.60486	9.880807	41.97857
2002	3.023542	1505.964	13.28918	8.084343	46.66634
2003	9.935713	1952.921	14.6819	8.909485	56.99421
2004	-2.60485	2131.819	12.3075	8.461664	55.02218
2005	-1.59368	2637.913	11.84515	8.435095	62.22977
2006	-5.62797	3797.909	13.25046	8.12036	47.96172
2007	9.187171	5127.401	15.53975	13.79702	55.04985
2008	6.684909	8008.204	20.45106	18.63301	67.16925
2009	18.18	9411.112	21.25097	19.6256	73.78355
2010	1.067736	11034.94	20.20598	13.49074	53.02169
2011	5.68558	12172.49	19.32743	11.04363	79.15754
2012	6.224809	13893.22	19.3731	10.6047	77.44097
2013	11.20162	15154.64	18.9214	11.53321	74.48248
2014	11.35621	16238.52	18.23659	13.29701	72.30965

2015	13.59615	18525.22	19.67733	13.07868	90.34942
2016	6.686234	21624.63	21.30726	14.60804	#REF!
2017	5.790567	22363.43	19.66679	12.85203	100.3671
2018	6.055977	25079.72	19.62995	10.24658	98.93084

Source: I. World Development indicators (2019)

II. CBN Statistical Bulletin (2019)