CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

An efficient and well functioning banking sector will stimulate credit finance and business activities in Nigeria (Radwan, 2010).Banking sector prides itself as the most important bearing upon which all other economic performance are based (Callier, 1991). Callier (1991) maintains that financial sectors in many African countries are mainly bank-based, with few or less competitive Non-Bank Financial Institutions (NBFIs). To ensure this sound financial stability, several reforms have been carried out in the banking sector. In fact, Adamu (2005) posits that the inability of deposit money banks to administer long-term credit to the real sector of the economy prompted several restructuring process of the financial sector, and the numerous banking reform programmes that have occurred.

Most banking reforms have their peculiar problems that could affect credit finance to the real sector. For instance, liberalization reform of 1986 went through the problem of inadequate regulatory framework and control, which greeted the Guided deregulation reform of 1993 with widespread banking distress and failures. During this period, the banking sector suffered deep financial distress which necessitated another round of reforms, designed to manage the distress. 1993 recorded 33 distressed banks for the first time since the establishment of the Central Bank of Nigeria; and in 1995, the number peaked to 60 (Okpara, 2010). The re-liberalization and universal banking reforms bringing upon the banking sector a situation where banks were allowed to offer various banking services beyond the core banking services. The banking consolidation reform experienced problems such as rising incidence of non-performing loans (NPLs) in 2007/2009, margin loans exposure and global economic crisis of 2007-2009. The study reasoned that these reform problems could affect credit finance to the real sector.

An economy is usually compartmentalized into four distinct but related sectors. These are the real, external, fiscal or government and financial sectors (Anyanwu, 2010). Real sector activities include agriculture, industry and manufacturing, building and construction, and services. According to Sanusi (2011) the real sector is where goods and services are produced through the combined utilization of raw materials and other production factors such as labour, land and capital and also technology which plays important part in production. It therefore forms the main driving force of any economy, and the engine of economic growth and development (Sanusi, 2011). The real sector comprises of agriculture, industry, building and construction, and services. Agriculture can be further broken into crop production, livestock, forestry and fishing, while industry comprises crude petroleum & mineral gas, solid minerals and manufacturing. Services are made up of transportation, communication, utilities, real estate & business service, education and health.

Sanusi (2011) and Anyanwu (2010) agreed to the strategic role of the real sector, and thus outlined the specific importance of the sector to include the following. First, the sector produces and distributes the tangible goods and services required to satisfy aggregate demand in the economy. Its performance is a gauge or an indirect measure of the standard of living of the people. Second, the performance of the sector can be used to assess the effectiveness of macroeconomic policies. Government policies can only be adjudged successful if they impact positively on the production and distribution of goods and services and therefore raise the welfare of the citizenry. Third, a vibrant real sector, particularly the agricultural and manufacturing activities, create more linkages in the economy than any other sector and thus would reduce the economic pressures on the external sector. Fourth, the relevance of the real sector is also manifested in its capacity building role, as well as in its high employment and income generating potentials.

In order for the real sector of the economy to optimize these potentials, however, it has to be supported by an efficient financial system. A well-developed financial systems play very crucial and indispensable role in promoting long-run economic growth. Basically, the essence of the financial system is to mobilize and channel financial resources via institutions or intermediaries from the surplus economic units to the deficits units. Sanusi (2011) further posits that a well developed financial system enhances investment by identifying and funding good business opportunities, mobilizing savings, enabling trading, hedging and diversifying risk, and facilitating the exchange of goods and services. These functions result in a more efficient allocation of resources, rapid accumulation of physical and human capital, as well as foster technological progress, which lead to economic growth. Therefore, an efficient financial system is one of the foundations for building sustained economic growth, which can spur employment generation and economic development.

Many studies identify a theoretical relationship between financial intermediation and the real sector, and hypotheses put forward by these studies have been examined empirically. For example, Rosseau and Watchel (1998) examine long-run relationship for the United States, United Kingdom, Canada, Norway and Sweden to characterize the strength and timing of links between financial and real sector over the 1870-1929 period. Their results suggest a leading role for financial intermediation in the real sector activity.

For the past few decades, theoretical discussions about the importance of financial development and the role that financial intermediation play in economic growth have remained controversial and thus occupied a key position in the literature of development finance. Studies by Gurley and Shaw (1967), Goldsmith (1969), McKinnon (1973), Lucas (1988), King and Levine (1993), Levine (1997), etc, suggest that financial development can foster economic growth by raising saving, improving allocative efficiency of loan able funds, and promoting capital accumulation. They argued that well-developed financial

markets are necessary for the overall economic advancement of less developed and the emerging economies. However, in spite of recent findings that financial development and economic growth are clearly related, this relationship has occupied the minds of economists over time; although the channels and even the direction of causality have remained unresolved in both theory and empirical literatures (Fitzgerald, 2006).

Financial intermediation can be a causal factor for economic growth, and vice versa (Akpansung & Babalola, 2012). The positive view of the finance-led growth hypothesis normally focuses on the role played by financial development in mobilizing domestic savings and investment through a more open and more liberalized financial system, and in promoting productivity via creating an efficient financial market. A low rate of expansion of the credit volume is not only a symptom of weak economic growth, but can also be one of its causes (Bundesbank, 2005). Similarly, King and Levine (1993) established that the banking sector's development in Europe was not only correlated with economic growth but was also a cause of long-term growth.

Therefore, in line with the assumption that banking sector plays an important role in financing the real sector, successive governments in Nigeria have carried out reforms and institutional innovations in the banking sector (Nwaogwugwo, 2008). The overall intention of these reforms has been to ensure financial stability so as to influence the growth of the economy and also enhance banks to play a critical role of financial intermediation in Nigeria. In particular, the bank consolidation exercise has drastically shaped and positioned the sector to play the important role of financing the real sector to bring about growth in Nigerian economy. The overall intention of institutional reforms in the banking sector in Nigeria is to reposition the sector to play the critical role of financial intermediation (Edirisuriya, 2008). In fact, the banking sector is being positioned to provide the resources needed for sustainable growth and development by collaborating with the real sector to grow the Nigerian economy.

1.2 Statement of the Problem

Nigeria Financial Deepening, financial markets and the banking sector have been a key component of most banking reforms in Nigeria (Radwan, 2010). The essence of financial deepening is to improve economic performance through increased competitive efficiency within financial markets thereby indirectly benefiting nonfinancial sectors of the economy. The financial deepening vigorously attracts the reservoir of savings and idle funds and allocates same to the real sector for investments projects and other purposes with a view of returns which forms the basis for economic development.

Nigerian financial deepening has failed to experience impressive performance such as attraction of foreign investment or halt capital flight (Radwan, 2010). In spite of various reforms in the Nigerian banking sector, the sector still has not addressed the financial gaps in the system. This is because neither domestic savings nor investments in country have appreciably increased since the introduction of the reforms as the sector still remained largely oligopolistic and uncompetitive, as few large banks control the greater segment of the market in terms of total assets, total liabilities and total credit in the banking system (Radwan, 2010).

The impact of financial and banking reforms on financing of the real sector has always generated a heated debate. While some studies opined that financial reforms drive economic growth (Azeez & Oke, 2012), others have argued that financial intermediation drive reforms and credit to the economy (Omankhanlen, 2012). However, there are studies, which have argue that a bi-directional causality exists between financial intermediation and economic growth (Patrick, 1966).

Over the years, one of the major problems facing the banking industry in its intermediation roles is how to ensure that funds reach various sectors of the economy especially the real sectors and significantly impact on them in a positive way. In an attempt to understudy

banking sector reforms, authors like Balogun (2007), Hashim (2012), Omankhanlen (2012) have all employed the long-run time series analysis to empirically make their findings, also Villanueva and Mirakhor (1991) centersd on strength of regulatory framework and macroeconomic stability, but none have paid any particular interest to each reform. This study seeks to determine the particular impact of each of the reforms carried out with respect to the intermediation roles of banking industry on financing of the real sectors in Nigerian.

With the series of banking sector reforms in Nigeria the overall gains of reforms appear not to have been achieved as banks were still declared as weak, distressed and unable to service the economic efficiently by the central Bank of Nigeria (Olokoyo, 2013). This is an indication that the persistent reforms orchestrated by the apex bank had seemingly little or no effect on economic growth in Nigeria.

Considering the series of banking sector reforms in Nigeria with apparently no meaningful effect on financing of real sector of the economy as noted by (Olokoyo, 2013) is what constitutes the research problem which the researcher seeks to examine. Again, despite the reforms targeted at increasing credit to the real sector, the ratio of credit to real sector to GDP is low; again banks prefer giving short term loans rather than long term loans which as well does not favour real sector.

Specifically the study seeks to resolve the lingering problem of whether or not the banking sector reforms carried out over the years have significant effect on bank credit to real sector.
This work seeks to examine four reforms programmes in the banking industry and the real sector of the Nigerian economy since the liberalization reform began in 1986 with a view to ascertaining reasons for seemingly unabating challenges in the financing of real sector of the economy.

1.3 Objectives of the Study

The major objective of the study was to determine the effects of banking reforms on real sector financing in Nigeria. The specific objectives of the study were:

i. To ascertain the extent to which bank capitalization reform affects bank credit to real sector in Nigeria.

ii. To examine the extent to which credit operation reform affects bank credit to real sector in Nigeria.

iii. To determine the extent to which exchange rate reform affects bank credit to real sector in Nigeria.

iv. To ascertain the effect of bank asset quality reform on bank credit to real sector in Nigeria.

v. To determine the extent to which bank liquidity management reform affects bank credit to real sector in Nigeria.

vi. To ascertain the effect of banking corporate governance reform on real sector financing in Nigeria.

1.4 Research Questions

The major research questions in this study are:

i. To what extent does bank capitalization reforms affect bank credit to the real sector in Nigeria?

ii. What is the extent of the effect of credit operation reforms on bank credit to the real sector in Nigeria?

iii. To what extent does exchange rate reform affect real sector bank credit in Nigeria?

iv. What is the extent of the effect of bank asset quality reforms on bank credit to real sector in Nigeria?

v. To what extent does bank liquidity management reform affect the financing of real sector in Nigeria?

vi. What is the extent of the effect of banking corporate governance reforms affect bank credit to real sector in Nigeria?

1.5 Statement of Hypotheses

The following null research hypotheses are tested:

H_{01}: Bank capitalization reforms have no significant effect on real sector bank credit in Nigeria.

H_{02}: Credit operation reforms have not significantly affected real sector bank credit in Nigeria.

H_{03}: Exchange rate reforms do not significantly influence real sector bank credit in Nigeria.

H_{04}: Bank asset quality reforms have no significant effect on bank credit to real sector in Nigeria.

H_{05}: Bank liquidity management reforms have no significant effect on the financing of real sector in Nigeria.

H_{06}: Banking corporate governance reforms have no significant effect on real sector finance in Nigeria.

1.6 Significance of the Study

Our attempt in this work is to contribute to the existing empirical literature on financial intermediation, by testing the relationship between banking sector credit and real sector financing in Nigeria. It is particularly envisaged that the findings of this study will not only help us to assess whether the intermediation role of banks stimulates the growth of the Nigerian economy but will also indicate the direction of relationship. This is even more pertinent as the danger of banking crisis in the economy has highlighted the

vulnerability of financial intermediaries, and more specifically of the banking system's pressure to contract their balance sheets and, ultimately reduce their credits.

The study also aims at treating how well designed, carefully installed and bank finance to the real sector will aid in checking the incidence of ineffective financing schemes. This will be important to the central bank of Nigeria in realizing real development that can tangibly benefit the economy. This way the result of this work will offer the CBN policy direction in promoting development of the real sector prior to a banking reform.

The recommendations of this study will also offer highly beneficial financing packages to the real sector from the assumed pool of deposit base a banking reform is to bring. It will bring to their notice unrelenting and concerted efforts that have been made and being made by government and the regulatory authorities to bring to an end this wide-spread problem of lack of fund.

A good banking reform cannot be overlooked in the present day economy as it seems to flow into all sphere of economy. This includes both the private and public organistions. A major influence is that which it has on the attraction of private investment through globalisation. African leaders recognized that globalisation can facilitate much needed inflows of private investment of technology in addition to increase access of their countries to world market.

1.7 Scope of the Study

This work examined the effect of banking sector reforms on financing of the real sector in Nigeria. It is noteworthy to point out that the study covers only Deposit Money Banks (DMBs) finance to the real sector as an aggregate, but with special reference to aggregate credit finance and how it affects the real sector.

The period covered under the study is between 1986-2016. A carefully paired period was framed for the study to give it a robust organization and to capture the research gap of the

study. The segmentations are 1986-1992, 1993-1998, 1999-2005 and 2006-date. In order not to lose sight of the research objectives, relevant data were collected on banking reforms, financing options by banks to the real sector of the economy during this period under study.

The study however, covered data from the Agricultural, Manufacturing Industries, Mining and Quarrying and Real Estate.

1.8 Operational Definition of Terms

i. **Bank Asset Quality:** is the appraisal of the credit risk relating to a particular asset. A measure of the ratio of loan to its marketability. That is, asset quality is a measure of the price at which a bank or other financial institution can sell a loan or lease to a third party.

ii. **Bank Credit:** Bank credit is an agreement between banks and borrowers where banks give a borrower money to repay plus interest on payment.

iii. **Bank Liquidity:** is the ability of the banks to maintain sufficient cash and liquid assets to meet customers need.

iv. **Bank Reform:** Bank reforms are deliberate policy response by regulatory authorities to correct banking crisis and failure or to proactively reposition banks to be more effective in financial intermediation.

v. **Consolidation:** is a union or is the process in which one banking company take over or merge with another bank.

vi. **Real Sector:** The real sector of any economy is the productive sector that is involved in the creation of raw materials and converting it to finish goods.

vii. **Real Sector Financing:** This is the fund (credit) allocated to the primary sector of the economy.

viii. **Recapitalization:** Recapitalization is a corporate reorganization involving substantial change in a company's capital structure which is motivated by a number of reasons.

CHAPTER TWO

2.0 REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 Concept and Rationale of Banking Reforms

Reforms are predicated upon the need for reorientation and repositioning of existing status quo in order to attain an effective and efficient state (Ajayi, 2005). Financial reforms, according to Ebong (2006), are deliberate policy response to correct perceived or impending financial crises and subsequent failure. Reforms in the financial sector are aimed at addressing issues such as governance, risk management and operational inefficiencies. The vortex of most financial reforms is around firming up capitalization. Specifically, financial reforms are primarily driven by the need to achieve the objective of consolidation, competition and convergence in the financial architecture.

Banking reforms were introduced upon the need to enhance the quality of banks and ensure an effective and efficient banking sector. Banking reforms interchangeably called financial reforms aims at providing lasting solutions to problems experienced in the financial system (Azeez & Oke, 2012). Banking reforms could be viewed as government intervention in the banking industry to provide a panacea for existing anomalies in the financial sector. Most importantly, banking reforms are geared towards financial development in all ramifications and this would inevitably boost economic performance.

Lemo (2005) posits that the primary objective of the reforms was to guarantee an efficient and sound financial sector. He said that the Nigerian financial reforms were designed to enable the banking industry develop the required resilience to support the economic development of the nation by efficiently performing its function of financial intermediation. He further stressed that a fundamental objective of the programme was to ensure the safety of depositors' money, position banks to play active development roles in the Nigerian economy.

Banking sector reforms is an integral part of the economic reform package. Banking reforms in Nigeria was motivated by the need to proactively put the Nigerian banking industry and the economy at large on the path of global competitiveness. That means the reform should involve the liberalization of interest rates, promotion of market-based system of credit allocation, enhancing competition, and efficiency of the regulatory and supervisory framework (Jegede & Mokulolu, 2004). According to Ajayi (2005), banking reforms involve several elements that are unique to each country based on historical, economic and institutional imperatives. Banking reforms are implemented to enhance the intermediation role of banks. The reforms ensure that banks are well positioned to greatly mobilize savings and optimally allocate these mobilized savings in form of credit to profitable investments. These investments are of cognizance to the development process of a nation (Azeez & Oke, 2012).

For the past three decades, the Nigerian banking sector has witnessed several distinct phases of banking sector reforms. Notable among them are: (i) During 1986 to 1992, when the banking industry was deregulated in order to allow for substantial private sector participation; (ii) the Guided deregulation era of 1993-1998, following the deep financial distress; (iii) the return of liberalization and the adoption of the universal banking model in 1999-2005; (iv) banking sector consolidation and post consolidation reforms which commenced in 2006 and was meant to correct the structural and operational weaknesses that constrained the banks from efficiently playing the catalytic role of financial intermediation; as well as policy reforms to substantially promote and strengthen risk management in the banking sector (Anyanwu, 2010).

In all, reforms have been a regular feature of the Nigerian banking industry. They have been introduced either in response to challenges posed by developments within the

economy or those from outside the economy such as the imminence of system distress, deregulation, liberalization and globalization.

2.1.2 Historical Framework of Banking Sector Reforms in Nigeria

The Nigerian banking industry has evolved in several stages since its inception in 1891. One stage (1891-1951) was the free banking era, characterized by unregulated banking practices and hence massive bank failures. The other phase (1952-1959) started with the enactment of the Banking Ordinance (1952) which provided for a clear definition of banking business, prescription of minimum capital requirements for the expatriate and indigenous banks, maintenance of a reserve fund, adequate liquidity and banking supervision. Another stage (1959-1985) came with the commencement of the Central Bank of Nigeria (CBN) in June 1959. The CBN Act of 1958 incorporated all the requirements in the 1952 Ordinance and introduced mandatory liquidity ratio in the banking business.

Like other emerging economies, Nigeria has been involved in financial reforms on a regular basis aimed at responding to the challenges posed by some factors and developments such as systemic crisis, deregulation, globalization and technological innovations, or acted proactively both to strengthen the financial system and prevent systemic problems as in the case of banking consolidation reform (Imala, 2005) and removal of universal banking model.

The work of Balogun (2007) will be very relevant to us in reviewing the perspectives of banking reforms in Nigeria in five eras: pre-SAP (1970-85), the post-SAP (1986-92), the reforms Guided deregulation (1993-1998), pre-Soludo (1999-2005), and Post-Soludo (2006-date). For this study, only the latter four reforms will be discussed and analyzed.

2.1.3 Liberalization Reforms

The post-SAP banking sector reforms (1986-1994) was characterized by liberalization of the banking industry that hitherto was dominated by Government -controlled banks that had

over 60 per cent Federal and State governments' stakes, in addition to credit, interest rate and foreign exchange policy reforms. Though the deregulation reforms in Nigeria started in the fourth quarter of 1986 with the setting up of a foreign exchange market in September 1986, the reforms pertaining to the banking industry proper did not commence until January 1987 (Ikhide & Alawode, 2001; Asogwa, 2005).

The reform took the form of deregulation of the rate of interest both on loans and on deposits. Market mechanism was left to determine the rate of interest any bank would charge. Government also brought out new rules for setting up banks and issuing licenses that favoured new entrants most. This consequently led to a sudden upsurge in the number of banks which invariably increased from 56 in 1986 to 120 in 1993 (Okpara, 2010). Banks were also accommodated in trading in the exchange rate sector as the exchange rate was partially freed from government administration and paved way for auctioning forex system. The phenomenal growth in the number of banking institutions overstretched the regulatory capacity of the CBN while the growing sophistication in the design and use of financial instruments heightened the risks of malpractices and fraud in the industry. In particular, mismanagement such as insiders' abuse and poor credit appraisal systems, resulted in the accumulation of unpaid loans and advances, which eventually contributed to the distress situation experienced in the banking system (Wilson, 2005).

To ensure the healthy platform for the system, Nigerian Deposit Insurance Corporation was established in 1988 and commenced operation in January 1989. In 1991 two new decrees were put in place to enhance the powers of the regulatory and supervisory authorities of the financial system to enable them manage the reform – packages well. The first is, the Central Bank of Nigeria Decree 24 of 1991 and the, Banks and Other Financial Institution Decree (BOFID), 25 of 1991. By 1992 government divested itself from the seven banks

where it had 60% equity holding in line with the new private sector – driven development and privatization.

2.1.4 Guided deregulation Reform

The reforms Lethargy (1993-1998), which can be code-named Guided deregulation, began in the late 1993, with the re-introduction of guided deregulation. During this period, the banking sector suffered deep financial distress which necessitated another round of reforms, designed to manage the distress. 1993 recorded 33 distressed banks for the first time since the establishment of the central bank; and in 1995, the number peaked to 60 (Okpara, 2010). The cash reserve ratio which before the reforms had been virtually stagnant was revised, to now begin to work as an indirect instrument of credit control and granting of loans on the strength of foreign exchange held in foreign accounts was prohibited. All government deposits held by the commercial and merchant banks were withdrawn, so that the banks could function without undue government interference (Adegbite, 2005).

Similarly, Ajayi (2005), opines that in recognition of the fact that well-capitalized bank would strengthen the banking system for effective monetary management, the regulatory authority increased the minimum paid-up capital of commercial and merchant banks in February 1990 to N50 and N40 millions fromN20 and N12 millions respectively. Distressed banks whose capital fell below this were expected to comply by 31st March, 1997 or face liquidation. Twenty six of such banks comprising 13 commercial and merchant banks were liquidated in January, 1998.

2.1.5 Re-liberalization and Universal Banking Reform

Then came the "Re-liberalization and universal banking reform". This phase of banking reform began with the advent of civilian democracy in 1999 (1999-2005) which saw the

return to liberalization of the financial sector, accompanied by the introduction of universal banking (2001) which empowered the banks to operate in all aspects of retail banking and non-banking financial markets (Balogun, 2007), and the subsequent removal of the commercial-merchant bank dichotomy. All banks were hence known as "deposit money banks".

2.1.6 Banking Consolidation and Post-consolidation Reform

The fourth phase for this study started in 2006 till date. The phase began in 2006 and it is informed by the Nigerian monetary authorities which asserted that the financial system was characterized by structural and operational weaknesses and that their catalytic role in promoting private sector led-growth could be further enhanced through a more pragmatic reform (Balogun, 2007). Soludo (2004) described the then banking industry as being generally characterized by small-sized and marginal players with very high overhead cost. The primary objective of the reform is to guarantee an efficient and sound financial system. The reforms are designed to enable the banking system develop the required resilience to support the economic development of the nation by efficiently performing its functions as the fulcrum of financial intermediation (Lemo, 2005). Thus, the reforms were to ensure the safety of depositors' money, position banks to play active developmental roles in the Nigerian economy, and become major players in the sub-regional, regional and global financial markets (Adeyemi, 2007).

Prior to this reform, the banking system was characterized by low capital base, high non-performing loans, insolvency and illiquidity, over dependence on public sector deposits and foreign exchange trading, poor asset quality, weak corporate governance, a system with low depositors' confidence and a banking sector that could not support the real sector of the economy at 25% of GDP compared to African average of 78% and 272% for developed countries (Ebong, 2006). The programme was characterized by consolidating of

the banking industry through banking mergers and acquisitions, foreign exchange market stabilization, interest rate restructuring and the pursuit of stabilization as against structural adjustment policies for monetary and inflationary controls (Soludo, 2005).

The Nigerian banking system has witnessed a trend of boom and bust cycles. It seems to be the growth cycles occur once there are policies that enhance business opportunities in the banking sector and the bust eventually catches up due to mismanagement in the sector. The present phase of reform embarked upon presents a viable opportunity for thorough overhaul of the financial sector by ensuring that the fundamental issues are dealt with regarding macroeconomic stability and the banking sector. In the aftermath of the subprime crisis, the CBN has now embarked on a long term reform programme targeted around 4 pillars:

i. Enhancing the quality of banks
ii. Establishing financial stability
iii. Enabling Financial Sector Evolution
iv. Ensuring the financial sector contributes to the real economy

This approach deviates from the initial reform agenda in 2004 because it addresses the fundamental issues that afflict the banking sector in Nigeria. Reform in the industry will be unsustainable if these critical issues are not addressed.

The above reform agenda is a more holistic approach to addressing the fundamental issues that plague the Nigerian banking sector however the CBN will need to work closely with all other agencies to ensure that the long term plan can be followed through. It is desirable to have laudable initiatives but the right policy implementation is important, it will mark a turnaround in the sector if the political will to carry out this reform agenda is endorsed.

From the above consideration of history of banking reforms in Nigeria, one would be quick to decode that the reform programmes were not defined by specific time frame, but rather as a

resolution or remedial model. In 1986, the liberalization policy was adopted to correct the imbalance in the economy championed by public sector dominance and control of the industry. The period 1993-1998 was not really defined by any definite reform programme but by distress resolution. Banks during this period were engulfed in widespread distress and insolvency problems due to huge non-performing loans, insider lending, poor adherence to corporate governance, low capitalization, fraud, among others.

In 1999-2005, the banking industry witnessed a re-modeling programme: re-liberalization and universal banking. This was aimed at increased banking coverage to as many people as possible through diversified non-banking financial services. The 2006 banking consolidation is also a response to low capitalization in the banking system.

2.1.7 Banking Sector Reform Indices

The identified problem(s) thus constitute the target(s) to be achieved or issue(s) to be resolved by contemplated reform initiative(s). Given the dynamism of modern banking, the range of issues which could constitute reform targets could be so wide as to defy meaningful grouping. However, some issues have tended to reoccur as reform targets in the history of Nigerian banking. Such frequently recurring issues according to Okafor, (2011)have been grouped into seven reform targets or issue based reforms clusters as follows:

1. Banking structure and supervision reforms
2. Bank, capitalization reforms
3. Credit operations reforms
4. Bank asset quality management reforms
5. Bank liquidity' management reforms
6. Banking governance reforms
7. Foreign exchange rate reforms.

2.1.8 Banking Structure and Supervision Reforms

Banking Structure Reforms: At the macro-economic level, banking structure refers to the mix and inter-relationships among institutions authorized to undertake banking! business by the extant banking legislation(s) of a country. Similarly, banking supervision refers, first to the processes and procedures adopted by banking regulator(s) to oversee, regulate, monitor and control any or all banking institutions and secondly to institution(s) vested with authority to discharge such supervisory functions.

At independence, Nigeria inherited a banking structure which exhibited two dualities. The first duality was the distinction between expatriate! (foreign) banks and indigenous banks. The expatriate banks were local subsidiaries of multinational banks incorporated overseas while the indigenous banks were banks incorporated in Nigeria.

The second duality reflected the dichotomy between commercial and merchant banks. While the former are retail bankers, the latter tend to concentrate on wholesale banking, and are therefore also known as investment banks.

The key banking structure and banking supervision reforms include the| following:

The 1970 amendment to the then Banking Act of 1969 which introduced the compulsory local incorporation of all banks operating in Nigeria and which effectively brought to an end the expatriate versus indigenous duality in Nigerian banking.

i. The 1976 CBN policy initiative to expand rural branch banking by imposing rural branch budgets, to be completed within specified time frames, on banks. The rural branch budget, for each bank, was apparently based on the assessed relative size of the bank.

Three phases of the rural branch mandatory expansion programme involving a projected development of 766 rural bank branches, over the period, 1977 to 1988 was covered by the rural banking programme. Details of the budgeted target expansion numbers and actual number of rural branches opened, under each of the three phases of the programme, are given in table 2.1.

Table 2.1: Phases of rural bank branches

Phase of programme	**Period Covered by Phase**	**Period Branpches Budgeted**	**Rural branches Opened**	**No. of Branches Outstanding**	**Completion Rates**
1st phase	1977-81	200	200	-	100%
2nd phase	1982-84	266	258	8	97.0%
3rd phase	1985-88	300	144	156	48.0%
Total		766	602	164	78.6%

Source: CBN annual report,2010

The programme was informed by a sound economic and nationalistic objective of extending access to banking services to under banked rural communities. But it had huge implementation disincentives (Okafor, 2011)**.**

First, it involved high implementation costs for banks. Secondly, banks were not allowed the discretion to choose locations for setting up assigned new rural branches within designated local government areas. Specific locations were imposed on banks by the CBN. The rural branch programme was ultimately abandoned after a number of palliative measures introduced to minimize the undesirable side-effects, failed to address the problems created for hanks by the programme (CBN,2010).The programmes include;

i. The BOFIA 1991, which created a banking structure comprising four institutional bank types namely commercial banks, merchant banks, profit and loss sharing banks and community banks.

ii. Introduction of the universal banking model with effect from January 1, 2001. Under the model, as specified by the CBN's Guidelines on Universal Banking cited in chapter

2 "a single uniform license will be issued to all conventional banks desirous of practicing Universal Banking without delineation as to "commercial" or "merchant", after returning the old license to the Central Bank for cancellation". The circular also specified that "non conventional banks, like the development and other specialized institutions, shall continue to perform their specialized roles.

The introduction of universal banking brought to an end, for some period, the dichotomy between commercial and merchant banks.

ii. The repeal of the universal banking model and the issuance of Regulation No 2, 2010 titled "Regulation On the scope of Banking Activities and Ancillary Matters, which reintroduced a banking structure comprising a mix of three bank types namely:

- Commercial banking (with Regional. National and International authorizations based on capital limits)
- Merchant banking
- Specialized banking (including Microfinance banking, Mortgage banking, Non-interest banking with regional or national authorizations based on capital limits, and Development Finance Institutions).

Banking Supervision Reforms: In relation to banking supervision, the reform wheel has been very slow. All through the period, the CBN has retained exclusive authority over the regulation and supervision of main-line banking. Within a short period however, the authority to regulate and supervise some specialized banks was vested in other regulators which are now defunct as follows:

(a) Community banking (CB) was introduced into the Nigerian banking landscape in 1990 although the enabling Act - the Community Banks Act No 46 was formally enacted in 1992 with retrospective effect to 1990. Apart from spelling out modalities for the licensing and operations of CB's, the CB Act established the National Board For

Community Banks (NBCB) which was vested with the authority of routine regulation and supervision of CB's.

(b) Similarly, the Federal Mortgage Bank Act, which established the Federal Mortgage Bank of Nigeria (FMB) vested the bank with primary responsibility of regulating and supervising the Primary Mortgage Institutions (PMI's).

The 2001 amendment to the BOFlA 1991 which consolidated the authority to regulate and supervise all banks and other financial institutions in the CBN, led to the demise of both the NBCB and FMB as regulators/supervisors for the specified specialized banks.

2.1.9 Capitalization and Capital Adequacy Reforms

Capital adequacy is a widely acknowledged key factor in bank performance measurement and evaluation, (Hardy and Bonaccorsi,(2001); Soludo,(2004); Akhtar, (2007), Nandy, (2010). It is the first of the five CAMEL factors (capital, assets, management, earnings and liquidity) recognized and adopted by the Basel System of bank performance assessment of the Bank for International Settlement (BIS).

The importance of adequate capitalization for long-term solvency management of banks should be easy to appreciate. Bank capital, especially first-tier capital (which refers to shareholders funds), is theoretically speaking, the ultimate and final line of defense against depositors' claims on a bank. Similarly, capitalization, to a large extent, constitutes a major determinant of the credit delivery capacity of a bank. Indeed the cloak-room theory of banking. Lending capacity of a bank depends on two aggregates namely equity capital and deposits. It further argues that since most deposits are payable on demand, and should therefore, not be committed to long-term lending, equity capital constitutes the backbone of a bank's long-term lending operations (Cannan, 1921).

There are, of course, some grounds to question the primacy often ascribed to capital among the factors driving the solvency of banks. For instance, Shah (1996) has very forcefully argued that high capitalization does not automatically translate to improved bank risk management. In the process of tackling banking problems through capital infusion, the relevant issue is not the level of capital injected into a bank but rather the optimality of the investment portfolio mix generated from the expanded capital base.

Recapitalization Reforms: The Study provides glaring evidence that bank regulators, in Nigeria, have relied heavily on bank recapitalization in tackling most banking sector problems. Thus, as many as twelve upward revisions of minimum capital Requirement have been imposed on Nigeria commercial banks since the first upward revision in 1958. This implies, on the average, a capital upward revision every four years (Cannan, 1921).

The transitional period allowed for a recapitalization exercise constitutes another important dimension to the matrix of implementation difficulties. A long transitional period provides ample time for affected banks to strategize and to weigh alternative courses of action before selecting the best and most cost effective implementation option. A short transition period tends to compound the implementation difficulties for individual banks and to overheat the banking sector generally (Cannan, 1921).

The transitional period provided for the various recapitalization has varied significantly. The first ever minimum capitalization for banks in Nigeria was imposed by the Banking Ordinance of 1952 which required new banks to satisfy the stipulated minimum capitalization to qualify for licensing but allowed existing banks a grace period of three years to catch up with the prescribed minimum capital requirement. The 1962 capital upward review for indigenous banks involved a ten-fold increase but provided for a seven year compliance period (Nwankwo, 1980). Similarly the 1997 ten-fold and the 1999 two-fold increases

provided for transitional periods of two years and three years respectively. The 2004 capital upward review was the highest rate so far. It involved a twelve and half-fold (1150%) increase in share capita but provided for a compliance period of only 18 months which is the second shortest implementation period ever allowed.

Capital Adequacy Reforms Capital adequacy reforms are related to but nonetheless distinguishable from recapitalization reforms. While the later seeks to provide adequate capital base to sustain a banking business, the former seeks to ensure the level of capital sustained by a bank can effectively support its level credit operations and risk asset exposure.

Operationally, capital adequacy is measured by the ratio of a bank's unimpaired capital funds to total funds committed to credit operation and/or risk asset investments. The capital adequacy ratio (CAR) was introduced in Nigeria in 1976 when banks were required to maintain minimum ratio of 10% between their adjusted capital funds and their loan and advances before paying dividends (CBN, 1976). In 1990, the recommendation of the Basel Committee of the Bank for International Settlements (BIS) on capital adequacy measurement was adopted in Nigeria. Under the BIS capital adequacy regime, CAR is defined as the ratio of adjusted capital funds to the risk weighted assets of banks. The ratio was fixed at 7.25% in March 1990. The ratio was raised to 8% in 1992 while each bank was to maintain a ratio of not less than 10% between its adjusted capital funds and total credit (CBN,1992). The capital to total risk-weighted assets ratio was raised to 10% as per circular BSD/11/2003 by the CBN, on August 4, 2003, it has remained that level to date (2016).

According to the 2010 Prudential Guidelines (Sec. 3.23) a bank is generally deemed to be undercapitalized if it has a CAR less than 10%. The guidelines recognizes four degrees of undercapitalization as follows:

i. undercapitalized - banks with CAR greater than or equal to 5% but less than the prescribed 10%;
ii. significantly undercapitalized - banks with CAR less than 5% but equal to or greater than 2%;
iii. critically undercapitalized - banks with CAR less than 2%;
iv. Insolvent - banks that have negative CAR.

2.1.10 Credit Operations Reforms

Banks perform two key functions namely deposit mobilization and credit delivery. The credit delivery services of commercial banks can take various forms like overdraft facilities, loans and advances, lease financing, guarantees and acceptances.

Credit delivery constitutes the primary platform through which banks promote the social and economic endeavors of their customers. Therefore, credit policy reforms constitute a key instrument relied upon by banking regulators to promote national economic growth and balanced development. Credit reforms are driven by one or a combination of three major objectives.

- To moderate and stabilize the price level by controlling the level and distribution of bank credit.
- To facilitate access to bank credit by special interest groups like operators in strategic sectors of the economy, small scale operators and women groups.
- To moderate the cost of funds through proper management of the structure of interest rates in general and bank lending rates in particular (Okafor,2011).

Deriving from the above objectives, credit reforms in Nigeria tend to focus on three key issues namely management of aggregate credit levels, sectoral distribution of credit and bank lending rates.

Credit Levels: The primary instrument for aggregate credit level control adopted in Nigeria, over the period, has been the imposition of annual credit expansion ceilings on banks.

Highlights in the application of the credit ceiling policy is summarized below:

i. The credit expansion ceiling was introduced in 1969/1970 when the first monetary policy circular was issued. The ceiling is defined as the maximum percentage increase in permissible credit level for any year based on the authorized credit level for the preceding year.

ii. Credit ceilings were removed in 1972/73 but reintroduced in 1976 at 40% for all banks. In 1978 fiscal period, a two-tier credit ceiling of 30% and 40% for big and small banks respectively was imposed. Small banks, for that purpose, were defined in the 1978 CBN Annual Report and Accounts as banks with loans and advances below $4100 million.

iii. Over the period 1978 to 1990, during which the two-tier credit ceiling policy was adopted, the ceiling for big banks was highest in 1978 (30%; and lowest in 1985 (7%) while the comparative ceiling for small banks was highest in 1978 (40%) and lowest in 1985 (10%). The credit ceiling was discontinued for small banks from 1990 (CBN, Annual Report, 1990).

iv. The credit ceiling seem to have stabilized within the Fifth cluster period of reforms due to increased reliance on competitive market forces to drive banking sector operations.

The impact of bank credit on economic growth and development depends as much on the level (amount) of credit disbursed as on the sectoral distribution of such credit because investment in some sectors of the economy impact more positively on economic growth and development than equal levels of investments in other sectors. To maximize the impact of bank credit therefore banking regulators in Nigeria had deliberately pursued a credit targeting policy i.e. the policy of setting specific percentage guidelines for the distribution of bank credit among economic sectors and interest groups in the economy.

Three types of bank credit targeting policies have been implemented at various times in the history of banking sector reforms in Nigeria.

- Percentage distribution of credit between more productive and less productive sectors of economic activities.
- Minimum percentage allocation of credit to small scale enterprises.
- Minimum ratio of rural credit to deposits mobilized by rural bank branches.

The policy of targeting the percentage distribution of credit among sectors and subsectors of economic activities was introduced in 1969/70. The method of prescribing the target allocation has varied. From fiscal period 1969/70, when the credit targeting programme was introduced up, to 1971, percentage increases were prescribed for "preferred economic sectors" while percentage decreases were prescribed for the "other sector". From 1972, the method for prescribing percentage distribution was changed. Rather than prescribe percentage increases (for preferred sectors) and decreases (for other sectors) mandate percentage distribution of outstanding credit between "preferred" and "less preferred" sectors was prescribed (Okafor,1985).

2.1.11 Asset Quality Management Reforms

The quality of any bank asset depends on its reliability. A bank asset is deemed to be of high quality if it is easily realizable at or close to its face value and conversely. A distinction is therefore, made between the liquid or risk-free assets of banks and the risk assets of banks.

In the context of finance in general and banking in particular, liquidity is a measure of the ease with which assets can be converted to cash (Groppelli & Nikbakht, 2000). Ease of asset monetization is however, only one of two measures of asset liquidity. The other, and indeed, the more important criterion is the expected conversion value of an asset relative to its face value. In the limit, any asset can be easily converted to cash at a give-away price. Therefore,

the liquid assets of banks are assets which could easily be converted into cash without appreciable loss in face (book) value (Okafor,2011).

Risk assets of banks, on the other hand, are assets which are exposed to the danger (risk) of not being easily convertible into cash and/or could only be easily converted at appreciable loss in face value. The dominant risk assets of banks comprise the loans and advances of banks as well as other credit facilities which could expose a bank to the risk of delayed realizability or to total or limited non-realizability. Bank Asset Quality Regulations are intended to ensure;

- Uniformity in the assignment and reportage of values of risk assets published in the financial statements of banks.
- That reported values of risk assets truly reflect their realizable values.

The objective is easily achieved with regard to fixed assets through the imposition of common accounting standards for bank asset depreciation.

Loans and advances, which constitute the dominant risk assets of banks, pose real problems because the assessment of their realizability depends on the assessor's value judgment which could therefore, vary substantially among banks.

Two major reform initiatives were taken in 1990 to standardize the assessment, management and reportage of bank risk assets namely:

- Adoption of statement of Accounting Standard for banks and non-bank financial institutions (SSA 10/15) which became operative from December 31 1990.
- Introduction of the first prudential guidelines for banks in November 1999.

The Prudential Guidelines (1990) Spelt Out the following:

- Criteria for classifying loans and advances.
- the minimum loan loss provisioning for each category of loans and advance

- conditions attached to interest recognition in respect of loans and advance
- Rules for classifying “other assets” of banks and
- the treatment of off-balance –sheet engagements of banks.

The guidelines have been fine-turned but not altered, in very material terms, since they were first introduce in 1990.

The massive product-line diversification of banks which arose from the introduction of universal banking in 2001 and the dramatic banking sector post 2005 consolidation growth threw up critical gaps in the guidelines which underscored the need for urgent overhaul (Okafor,2011).

The current prudential guideline, which were introduce on May 01, 2010 expanded the scope of the 1990 edition and addressed the following key aspects of banking operations, among others;

- Risk management
- Corporate governance
- Know your customer (KYC) directives
- Anti money laundering and terrorism financing
- Specialized financing operations, and
- Loan loss provisioning (CBN, 2010).

The loan loss provisioning component, as was the case in the 1990 guidelines, spelt out guides for the recognition and measurement of loans and other risk assets, minimum loan loss provisioning, credit risk disclosure requirements and other related matters. One outstanding feature of the current guidelines is the introduction of a mandatory review clause and review period. Thus, section 15.16 of the guidelines confers on the CBN the power to amend the

loan loss provisioning guidelines as and when deemed necessary provided "the review period shall not be later than 5 years".

2.1.12 Liquidity Management Reforms

Liquid assets constitute the primary line of defense of banks against both anticipated and unanticipated funds withdrawal demands of customers. The maintenance of adequate revels of liquidity therefore represents a banking virtue which banks aspire to cultivate and which banking regulators endeavour to instill on the banking system. There is a short as well as a long-term dimension to the liquidity concerns or banks. Short term liquidity depends on the maintenance of adequate levels of cash and liquid assets relative to customers' withdrawal needs. In the long term, liquidity is a measure of the solvency position of a bank that is a bank's ability to redeem its obligations out of the realizable value of its assets (Okafor,2011).

Liquidity management seeks to strike a delicate balance between the need to maintain sufficient liquidity to meet depositors' cash calls and the danger of compromising earnings capacity by sitting on excess liquidity.

Illiquidity jeopardizes ability to service customers' withdrawal demands while excess liquidity erodes the income and profit performance of banks. The CBN adopts both indirect (marker based) and methods of liquidity management. The main instrument of indirect control is open market operations through which the CBN seek to inflate or deflate banking sector liquidity through open market intervention to buy or to sell money market instruments. The direct approach, endeavors to prudential liquidity management ratio on banks (Okafor,2011).

Liquidity Ratio: Sec. 39(1) of the CBN Act empowers it to require each bank to hold a minimum level (amount) of specified liquid assets which shall be expressed as a ratio of the

deposit liabilities of the bank. This ratio represents the key instrument of short-term prudential liquidity management ratio.

Similarly, Sec. 15 (6) of BOFA 1991, as amended admissible basket of liquid assets for the computation of as "currency notes and coins which are legal tender in Nigeria liquidity ratio of the CBN; net balance at any licensed bank excluding in-land bills of exchange and promissory notes re- effect-CBN; Federal Government stocks with maturity dates below the maximum tenure; negotiable certificates of deposit and such other negotiable instruments as may be approved, from time to time by the CBN.

Trend in Liquidity Ratios: The liquidity ratio is derived as the ratio of a bank's total specified liquid assets to its total deposit liabilities. The ratio was fixed at 30% under the 1958 Banking Ordinance, reduced to 25 percent in 1982 and remained unchanged at the level till 1987 when it was raised to 30 percent. The ratio was reduced to 27.5 percent in 1988. It was maintained at 30% through the 1990's, raised to 40 percent in 2001 and remained at the level through 2016 (CBN,2016).

A bank is presumed illiquid whenever its computed liquidity ratio falls below the prudential liquidity ratio prescribed for the period. The 2010 Prudential Guidelines specifically provides (sec. 3.2a) that a bank may be considered illiquid if any or all of four conditions prevail.

i. The banks current account with the CBN is overdrawn and not covered by the next working day consecutively for 5 working days within a month.
ii. The bank suffers clearing operations deficits for 5 consecutive days.
iii. The bank is unable to pay maturing obligations.
iv. The bank is a net taker of interbank deposit of up to 25% of its total deposits.

Varying degrees of illiquidity could be identified depending on the level of negative variance from the prescribed liquidity norms. Thus, there could be cases of fairly illiquid banks,

significantly illiquid banks and critically illiquid banks which reflect increasing levels of negative variance between prescribed and achieved liquidity ratios.

At the industry level, illiquidity could be of isolated or systemic manifestation. Isolated cases of banking sector illiquidity occur when only some banks in the system are deemed illiquid while many others are! liquid. Systemic illiquidity occurs when a very significant proportion of banking operations is controlled by illiquid banks. Such a situation is deemed to have arisen:

- When banks holding up to or more than 10% of total banking assets are illiquid.
- Ten percent or more of the banks in the system are experiencing adverse clearing settlement positions not properly covered.
- Up to or more than 15% of total deposits in the system are threatened due to inability of banks to honour obligations (CBN,2016).

Cash Reserve Ratio: The cash reserve ratio (or cash ratio) is the percentage level of cash which banks are required to maintain at the CBN relative to their total deposit liabilities. Since cash is the first element in the specified list of liquid assets, the cash ratio is not only a component of the liquidity ratio of a bank but constitutes a measure of the strength of the first line of defense against short falls in liquidity position Okafor,2011).

The authority to prescribe the cash ratio is covered by Sec. 39 (1) of the CBN Act. The ratio was introduced in 1976 primarily to help check-mate the then high level of banking sector liquidity. At inception, a graduated rate, ranging from a maximum of 12.5% to a minimum of 5%, based on deposit liability levels of banks.

2.1.13 Corporate Governance in Banks

The word ‘Corporate Governance’ generally refers to the system of governance, rules, ethical standards, mechanisms, processes in which corporation is being directed and controlled. It

builds up a framework which is legal for the achievement of the objectives of the corporation. Bhasin (2012) stated that corporate governance is made up of principled processes, which set the relationship between the firm management, corporate board, minority and majority shareholders and all stakeholders. Corporate governance mechanism helps in setting corporate objectives and defines the means for the attainment of those objectives. According to Eng and Mak (2003), the disclosure of corporate governance's information in the annual reports helps investors in investment decisions as the investors perceive that the business is conducted by the management in the ethical and transparent way by showing commitment towards the core values of the firm.

Sayogo (2006) defined Corporate Governance as a process where rules and ethical standards govern the relationships in organizations. A legal framework is developed for achieving the corporate objectives as all aspects are covered from the stages of planning, internal control, performance evaluation and disclosure of corporate information. According to Cadbury Committee (2012), corporate governance is simply the system through which the corporations can be directed and controlled in an effective way. The pursuance of corporate governance mechanisms ensures the financial viability of corporate business as through it all the affairs of the firm are managed effectively and directed towards the creation of value for the shareholders. The division of powers is explained, and it provides the mechanism for the accountability of management and corporate boards. Major corporate governance codes were developed in 2002 in the US and the UK after an increase in corporate collapses such as Enron, WorldCom, Royal Bank of Scotland, due to fraud in accounting practices and poor internal controls. The principle of corporate governance enforces firms for making timely and accurate disclosure of corporate information (OECD, 2004).

The application of corporate governance codes is observed to have a potential impact on the macro and micro level of economies (Rashid, 2008). For example, weak mechanisms of

corporate governance have led to the extreme economic shocks in the economies of Thailand, Malaysia, and Indonesia at the macro level while the collapse of corporate like Enron and WorldCom at micro level affected the US economy. Nigeria, as a case study, is not free from these shocks and economic downturns as a result of bad corporate governance practices. According to Rashid (2008), it is important to pursue codes of corporate governance in the developed as well as developing markets not only for enhancing firm performance but also for maximizing the wealth of shareholders. This view is in line with Pereiro (2002) who opined that the essence of business is to create value for shareholders.

Nigeria has been ranked as one of the largest growing economies recently in Africa. It has an estimated Gross Domestic Product (GDP) nominal of $510 billion after GDP was rebased from 1990 to 2010, and surpassed South Africa which is used to be the first largest growing economy in Africa. The world has also estimated Nigeria to be among the fastest growing global economies by the year 2015. CNN Money has ranked Nigeria as the 3rd fastest growing economies in the world for 2015 along with Qatar and China with a growth index of 7%; this makes the country interesting from the global economies for investment. Nigeria has also been an important country to research despite the increasing and widespread unemployment and hunger in the country. This research shows the corporate governance impact on the disclosure of information with the help of IFR in Nigeria.

Governance refers to the processes through which an organization is governed and controlled (Okafor,2011). Hence, corporate governance connotes the processes involved in the discharge of the mandate of governance in corporate entities. The ultimate objective of corporate governance is to achieve defined corporate objectives and in the process maximize shareholders' value while satisfying the legitimate expectations of other stakeholders.

Good corporate governance is particularly important in the banking sector because the integrity of bank management defines the quality of banking services delivery and influences the overall performance of the sector

The increasing necessity for good corporate governance, in banks and other financial institutions, is underscored by the wave of financial scandals which led to the collapse of giant financial institutions around the world in recent times which have largely been attributed to failure in corporate governance (Zandi, 2009, Lahart, 2009, Faber, 2009).

A survey carried out, by the SEC in April 2003, as quoted by the Central Bank (CBN, 2006), revealed that only about 40% of quoted companies in Nigeria, including banks, had as at that date approved and operational codes of corporate governance. The same study further indicated that poor corporate governance was implicated in most known cases of distress in financial institutions in the country.

Corporate Governance Directives

Three specific guidelines regulate the practice of corporate governance in Nigerian banking including:

- Guidelines covered in SEC Corporate Governance Code 2003.
- Guidelines covered by CBN Code of Corporate Governance for Banks 2006.
- Guidelines on corporate governance contained in CBN Prudential Guidelines 2010.
- SEC Corporate Governance Code 2003

In 2003, the SEC released a code of Best Practices on Corporate Governance for public quoted companies. The code was therefore, mandatory only for banks that were quoted on the NSE, which implies only 7 out of 90 banks then existing in the country.

CBN Code of Corporate Governance for Banks (2006)

The need for a distinct code of corporate governance for banks arose from observed weaknesses in governance practices by banks as well as emerging cases of infractions of standard corporate governance practices among banks which became manifest after the banking consolidation! exercise of 2005. Prominent among the infractions were:

- Increasing incidence of self-serving and fraudulent practices of members of boards and management of banks.
- Board squabbles.
- Non-compliance with internal control and operating procedures.
- Unacceptable levels of non-performing loans arising primarily from poor risk management practices and abuses in lending.
- Very extended tenure of chairman, managing directors and loan members.
- Inexperience and poor leadership quality of chairmen and members of boards arising from insufficient educational, technical and administrative exposure (Okafor,2011).

To address the above lapses and other challenges facing the banking sector, the CBN issued a comprehensive code to guide corporate governance practices in bank on March 1, 2006 which took effect from April 3, 2006 (CBN, 2006). Apart from specifying the core elements of corporate governance practices prescribed for banks, the code addresser! other issues like attributes of sound corporate governance practices, risk' management and the role of internal and external auditors.

Only the core elements of the code which covers six main issues need be further highlighted. The six issues deal with equity ownership. Organizational structure, quality of board membership, board performance appraisal, quality of management and reporting relationship. The main guidelines on each of the above issues are highlighted hereunder.

(i) Bank Equity Ownership:

On banks' equity ownership, the code provides that: Governments' direct and indirect equity holding in any shall be limited to 10% by the end of 2007.

(i) Equity holding of above 10% by any single investor in a bank shall require the approval of the CBN.

(iii) In relation to Organization Structure

- The responsibilities of the Chairman of the Board of Directors should be clearly separated from those of the Managing Director/CEO.
- No one person shall combine the positions of Chairman of the Board and Managing Director (CEO).
- The position of Executive Vice Chairman is not allowed.
- The Chairman and Managing Director shall not belong to the same extended family.

(iii) As regards Quantity of Board Membership

- The board should be composed of qualified people of proven integrity, who are knowledgeable in business and financial matters and are conversant with the oversight functions of the board.
- Regular training and continuing education of board members to be institutionalized, budgeted for and implemented regularly.
- Number of non-executive directors should exceed that of executive directors, subject to a maximum of 20 directors for any bank.
- The remuneration of executive directors should be determined by a committee of non-executive directors.
- The remuneration of non-executive directors shall be limited to sitting allowances, director's fees and reimbursable travel and hotel expenses.

- Non-executive directors shall not remain on the board for more than 3 terms of four years each i.e. a limit of 12 years.
- The board shall have at least three board committees namely risk management, audit and credit committees.
- The chairman of the board shall not simultaneously serve chairman or member of any board committee.

(iv) In terms of Board Performance Appraisal

- The board should identify and adopt key strategic objectives and determine requisite skills, knowledge and experience to be acquired to achieve the objectives.
- There should be yearly review/appraisal covering all aspect of the board's structure, functioning and performance preferably to be carried out by an outside consultant and the report presented to the AGM and copied to CBN.

(v) On Quality of Management it is specified that:

- Appointments to top management positions should be on merit rather than on other considerations.
- Additional eligibility requirement should be the track record the appointee in terms of integrity and performance.

(vi) The Reporting Relationship prescribed include:

- The structure of a bank should clearly reflect the hierarchy well as the clearly defined and acceptable lines of respect
- Each bank should have a Chief Compliance Officer to monitor the implementation of the corporate governance code well as establish whistle blowing procedures that encourage al| stakeholders to report any unethical activity/breach corporate governance code.
- The CCO shall make monthly returns to the CBN on all whistle blowing reports and any breaches of the corporate governance code.

Provisions in Prudential Guidelines 2010

The 2010 prudential guidelines contain some provisions which reinforce and/or compliment provisions in the banks' corporate governance code. The areas covered include tenure limitations, compensation of executive directors and limitations on eligibility of former top level staff of the CBN and NDIC to serve in banks.

Specifically the guidelines specify that:

- The chief executive officers (CEO's) of banks shall serve a maximum tenure of 10 years.
- A person who has served as CEO for the maximum tenure in a bank shall not qualify for re-appointment in his former bank or its subsidiaries in any capacity until after a period of 3 years.
- A governor/deputy governors of the CBN and the managing director 'CEO and executive directors of the NDIC shall not be eligible for appointment in any capacity in any bank until after 5 years from the date of exit from office.
- Departmental directors of the CBN and the NDIC shall not be eligible for appointment in any capacity in banks or any subsidiary of banks under the supervision of the CBN and the NDIC until after 3 years from the date of exit from the CBN or NDIC as the case may be.
- External auditors to any bank shall serve for a maximum period of ten years after which the audit firm shall not be re-appointed in the same bank until after a period of another 10 years.
- All compensations and bonuses, including profit sharing arrangements and share options, payable to executive directors of all banks shall be fully disclosed in the annual audited financial statements as a separate component of operating expenses.

2.1.14 Foreign Exchange Rate Policy Reforms

Exchange stability was the traditional objective of monetary authority. This was the main objective under Gold Standard among different countries. When there was disequilibrium in the balance of payments of the country, it was automatically corrected by movements. It was popularly known, "Expand Currency and Credit when gold is coming in; contract currency and credit when gold is going out." This system will correct the disequilibrium in the balance of payments and exchange stability will be maintained (Odozi, 1986).

It must be noted that if there is instability in the exchange rates, it would result in outflow or inflow of gold resulting in unfavorable balance of payments. Therefore, stable exchange rates play a key role in international trade. Thus, it is clear from this fact that: the main objective of monetary policy is to maintain stability in the external equilibrium of the country. In other words, they should try to eliminate those adverse forces which tend to bring instability in exchange rates.

i. It leads to violent fluctuations resulting in encouragement to speculative activities in the market.
ii. Heavy fluctuations lead to loss of confidence on the part of domestic and foreign capitalists resulting in adverse impact in capital outflow which may also result in capital formation and growth.
iii. Fluctuations in exchange rates bring repercussions in the internal price level (Okafor,2011).

The Nigerian economy is very open to and heavily dependent on the global economy. Over 80% of the total revenue of the FGN derives from commodity exports while the country relies very hugely on global imports of consumer and industrial goods. As a result, efficiency in foreign exchange rate management constitutes a key issue in the economic development

strategy of the country. The process of determining an optimum exchange rate therefore constitutes a key challenge to the national economy managers.

Under a free financial market system involving a traded local currency, the exchange rate is determined through the inter play of demand and supply forces. The Nigerian currency (the naira) is not a traded. The naira exchange rate was up to 1986 "managed" or "administered" (Odozi, 1986). Under that market regime, the main instrument for maintaining the naira official exchange rate was exchange control based on the Exchange Control Act 1962. Under the Act, authority to grant approvals for access to foreign exchange was vested in the Ministry of Finance.

The mechanism adopted for determining the exchange rate, in Nigeria has varied over time - from a fixed exchange rate, through a two tier exchange rate to a variety of market based but essentially managed exchange rate regimes.

2.1.15 Banking Sector Reforms and the Economy

One of the reasons given by the CBN for financial sector reform is that many of the banks are in distress, and if they are allowed to fail the ensuing confidence, crisis might lead to disintermediation, demonetization, a collapses of the payments system and a serious depression of the economy (Akingunola, Adekunle, Oluwaseyi, & Olusoji, 2013). Callier (1991) in Ogujiuba and Obiechina (2011), maintain that the performance of the financial sector in Sub-Saharan Africa has an important bearing on the overall economic performance because:

i. the region continues to be in economic crisis and the financial system is relatively underdeveloped compared to any other developing region;
ii. structural adjustment programs would require more reliance on the private sector and hence its financing;

iii. the debt crisis and reduction in external savings translates to the need to increase the mobilization of domestic savings for investment;

iv. reform is needed if the financial system is to overcome and avoid the problems of financial distress and restore confidence; and

v. the need for international competitiveness requires that the financial system be as adaptable and flexible as possible.

It is postulated that the financial sectors in many African countries

i. are segmented, fragmented and dualistic;

ii. are mainly bank-based, with few, or less-competitive NBFIs;

iii. serve the short end of the market;

iv. are heavily regulated, with much of their services geared towards servicing the public sector deficits, leading to a crowding-out of the private sector; and

v. they face limited competition or innovations, with many of them dominated by oligopolies (Soyibo, 1994).

However, for any nation to achieve the desired position results from banking reforms, Villanueva and Mirakhor (1990) in Azeez and Oke (2012) proposed the following conditions for successful banking sector reforms stated below;

1. A country with an unstable economy and the supervisory framework for banks is weak, therefore should before liberalizing the interest rates attain macroeconomic stability and strengthen its supervisory framework.
2. A country with an unstable economy but adequate supervisory framework in place should achieve balance in the economy while maintaining firm supervision. This can then be followed with gradual deregulation.

3. A country having a stable economy but with inadequate supervision should simultaneously maintain stability and improve regulations and supervision. Interest rates should be regulated temporarily.
4. A country with a stable economy and adequate supervisory framework should go ahead immediately with financial liberalization.

According to McKinnon and Shaw (1973), financial repression, by forcing financial institutions to pay low and often negative real interest rates, reduces private financial savings, thereby decreasing the resources available to finance capital accumulation. Both of them agree that economic growth is severely hindered in a repressed financial system by the low level of savings rather than by the lack of investment opportunities. Fry (1997) notes that the use of interest rate ceilings in a repressed system, distorts the economy in four critical ways. For instance current consumption is favored compared to future consumption and instead of lending to financial institutions via deposits, potential investors engage in relatively low-yielding direct investment.

Adenutsi (2010) believed that while economic performance may be constrained by credit creation in underdeveloped economies where the financial systems are less developed, he also posits that in a more sophisticated financial environment, finance is viewed as endogenous responding to demand requirements. Obviously, this line of argument suggests that the more developed a financial system, the higher the likelihood of growth causing finance. In the view of Patrick (1966), therefore, financial development follows growth or, perhaps, the causation may be bi-directional.

The second cause of market, according to Stiglitz (1994), could be due to information imperfections. Stiglitz (1994) argues that financial repression can improve the efficiency with which capital is allocated in four ways:

- First, lowering interest rates improves the average quality of the pool of loan applicants.
- Second, financial repression increases firm equity because it lowers the cost of capital.
- Third, financial repression could be used in conjunction with an alternative allocative mechanism such as export performance to accelerate economic growth.
- Fourth, directed credit programmes can encourage lending to sectors with high technological spillovers.

The existence of a relationship between financial market liberalization and economic growth has not gone without debate based upon contradicting reports. On the supporting side, Fry (1988) stated that financial liberalization increases the supply and allocation of resources for investment. Similarly, Bekaert and Harvey (2001) found financial liberalization contributing 30% to the process of economic growth; Kiyota, Peitsch and Stern (2007) found the Ethiopian economy benefiting from the opening of foreign banks and the related privatization of local banks. Khan and Qayyum (2007) attribute long run growth in Pakistan to trade and financial liberalization and Ang and Mckibbin (2007) reported financial liberalization having a positive effect in enhancing the development of the financial sector in Malaysia. Galindo Schiantarelli, and Weiss (2007) reported that financial liberalization resulted in better allocation of investment funds due to improvement in efficiency.

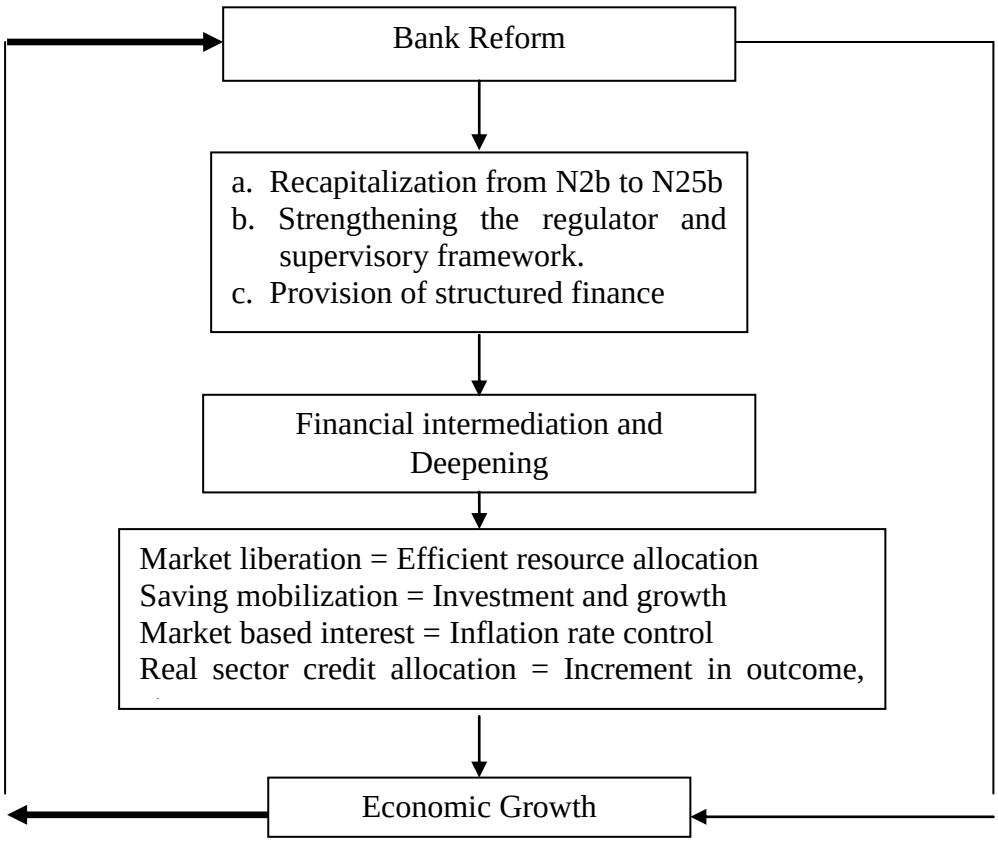
Some other divergent views also exist. Denizer, Desair and Gueorguivz (1988) on the other hand argue that financial repression can correct market failures in financial market, lower cost of capital for companies and improve the quality of loan applications by selecting out high risk projects. Arestis and Demetriades (1999) faults the liberalization policy by positing that its assumptions on perfect information and perfect competition is wild and near non-existent in the developing economies. Stiglitz (1994) identified some inherent market failures in the developing economy that suggests that financial liberalization may not be successful.

Several other authors also affirmed from empirical findings that financial liberalization is a "gateway" to economic crisis. For instance, Arestis and Demetriades (1999) examined financial liberalization in developing countries, with weak institutions, caused financial destabilization. Weller (1999) suggested that before liberalization countries need to focus on stabilizing institutions. According to Demirgucs-Kunt and Enrica (2001) a liberalized financial system would be more amenable to banking crises, as banks and financial institutions enjoy greater freedom to take risks. Arphasil (2001) attributed the source of the East Asian financial crisis in 1997-98 to interest rate and capital account liberalization, since financial liberalization gives rise to credit booms and short terms borrowings from abroad. Wyplosz (2002) finds financial liberalization destabilizing developing countries economy more than the developed countries because the former tend to go through a boom bust cycle. Tornell, Westermann and Martinez (2004) have shown empirically that the occurrence of financial crises increases as a result of financial liberalization. And according to Mete (2007) financial liberalization has increased the vulnerability of the Turkish economy to currency crises.

Empirical studies of the relationship between financial liberalization and economic growth are not conclusive. While some studies confirmed positive contribution of liberalization to growth, others pointed to uncertainty or even negative impacts. The reform of the financial sector occupies a central position in the liberalization of sectors because it is an efficient financial system that is a necessary condition for efficient functioning of a nation's economy. Distortions in this sector tend to distort the workings of the entire economy. In most countries of the world (whether developed or less developed economies), considerable attention is normally given to the financial sector of the economy because it is difficult to achieve most of their targets under any economies reform programme without an appropriate financial sector reform (Afolabi & Mamman, 1994).

2.1.16 Conceptual Model of Banking Reforms

The graphical representation in figure 2.1 presents idea of the latest reforms in the banking sector. The arrow-head line from the Economic growth hits Bank reform and vice-versa. This implies that either of the two can warrant each other, that is, banking reform can be embarked on because there is economic growth or because the country wants to witness economic growth. Volumes of literature buttressed the fact that the causality between banking reform or financial development and economic growth is bi-directional.



Source: Researcher's construct, 2018

Figure 2.1: Graphical Representation of Authors' Perception of the Latest Banking Reforms in Nigeria

More so, some of the pronounced targeted reforms in the sector are the items in the box next to the bank reform box in the diagram. Simply, as it applies to Nigeria during the 4^{th} and 5^{th} phases of banking reforms in Nigeria.

The aim of which is to facilitate financial intermediation and deepening. As Choong and Chan (2011) rightly opined from their analysis of Geweke (1984), financial deepening promotes economic growth, and simultaneously, economic growth propels financial development. Likewise, the duo asserted that financial deepening contributes more to the causal relationship in the developing countries than in the industrial countries. Financial intermediation serves as channels to allocate savings.

Many researchers as cited in Choong and Chan (2011) harmoniously agreed that financial development and economic growth is based on the ability of financial intermediaries to correct market failure emanating from informational problems, production externalities the role of banking sector policies and stock market capitalization. The results of which would subsequently translate to economic growth.

Despite the fact that the number of commercial banks in the country has reduced drastically, the sector could retain reasonable asset values and have stability in credit extensions, ultimately, facilitating its role of financial intermediation. As household deposits level improves considerably over time, likewise, financial deepening as the above figure 2.1 exhibits.

2.1.17 Indicators of Poor Performance of Banks

Generally, banks operate under certain regulatory and supervisory framework, which help them in their smooth functioning. However, adverse changes in policies, laws, regulations and controls may inhibit proper functioning of banks and may also lead to financial repression, which in turn may impede growth of overall banking sector.

The existing literature reveals that it is the state-controlled structure of banks which remain at the root of financial problems of banks. Under this structure, the performance of banks is affected due to a variety of factors including political and bureaucratic interventions, excessive influence of trade unions in banking affairs, etc. Similarly, the imposition of restrictions on entry of private banks is considered to be the toughest type of controls on banking operations and supposed to be contributing more towards creation of an uncompetitive environment in banking industry. The empirical evidence also reveals that strict entry restrictions for new banks effectively shield the banks from competition (Adeyemi, 2005). High statutory requirements for banks, regulated interest rates, and directed credit programmes are also important restrictions/controls which can impact the efficiency of banks. For example, the imposition of high reserve and statutory requirements can affect smooth functioning of monetary policy. On the one hand, it creates under-supply of credit by taking liquidity out of the market while on the other hand it inflates artificial demand for government securities.

There are some other kinds of controls like setting floor on deposit rates or ceiling on lending rate, which can also affect efficiency of banking operations. The controls on lending side are especially important, as they can affect the riskiness of loan portfolio.

Similarly, the floor on lending rates tend to crowd out "low-risk, low-return" projects that become unprofitable with higher interest rates (Watchel, 2003). In the same way, under directed credit programme, banks allocate certain portion of credit to the government priority sectors. In some cases, the lending to priority sector is combined with interest rate controls which can lead to market segmentation and constitute a barrier to financial development. Furthermore, the loans to priority sectors can have a destabilizing effect on banking system, since they are often less profitable and more likely to be nonperforming (Nnana, 2004). As regards high reserve and statutory requirements for banks together with regulated interest

rates, these are considered the forced way to keep return on assets low. The banks operating under the state control also endeavour to meet credit needs of the government and its organizations, which may affect adversely the overall economy. Further, the private sector, which is considered backbone of an economy, faces liquidity shortages as bulk of the credit is allocated for public sectors institutions. Less credit allocation to the most efficient segments of an economy may hamper growth and expansion of productive economic activities, which in turn may undermine the role of private investment. According to McKinnon (1991) cited in Adams (2005), underdevelopment of banking sector associated with financial repression may result into lowering of economic growth. Banking sector in Pakistan also experienced difficulties due to nationalization of Pakistani banks, initiation of government sponsored schemes, large financing of banks to government and its institutions, restrictions on entry of private banks, high statutory requirements, etc.

2.1.18 Concept of the Real Sector and its Place in the Economy

Sanusi (2011) describes the real sector as activities comprising where goods and services are produced through the combined utilization of raw materials and other production factors such as labour, land and capital. It therefore forms the main driving force of any economy, and the engine of economic growth and development. In the view of Mordi (2010), the real economy consists of firms, households and other agencies engaged in the production of goods and services which can either be consumed now or put to use with a view to producing more in the future. The real sector comprises agriculture, industry, building and construction, and services. Agriculture can be further broken into crop production, livestock, forestry and fishing, while industry comprises crude petroleum & mineral gas, solid minerals and manufacturing. Services are made up of transportation, communication, utilities, real estate & business service, education and health.

The real sector of the economy is composed of such sub-sectors as agriculture,

manufacturing, mining (solid minerals), crude oil and gas and real estate and construction. Given this composition, it is no gainsaying that the real sector of the Nigerian Economy constitutes the main driving force of the country, such that no sustainable development can be achieved without a well developed and viable real sector (Ayodele, 2004). It is generally accepted by policy makers, economic planners, researchers and professionals irrespective of their ideological disposition, that considering the contribution of the sector to the Gross Domestic Product (GDP), national income and employment, it's appropriate and adequate development constitutes the most desirable means of improving the quality and standard of living of the populace. It is, therefore, a veritable channel of attaining the lofty and desirable conceptions and goals of economic management for national transformation and development.

The Real Sector Division of the CBN in its 2014 paper titled "Effects of Monetary Policy on the Real Economy of Nigeria: A Disaggregated Analysis" sees the real sector as one of the four distinct and interrelated sectors of the economy. The real sector is one of the main drivers of the economy and propels economic growth and development. It directly deals with the production of goods and services using available resources, including capital and labour. A productive real sector, especially agriculture and manufacturing build linkages in the economy more than any other sector, thus reducing the economic pressures on the external sector. Also, growth in the real sector leads to increase in employment and income generation. Therefore, the success of any macroeconomic policy can thus be assessed based on its positive impact on the level of economic activities, especially the production of goods and services, which promotes the general welfare of the citizens (CBN, 2014).

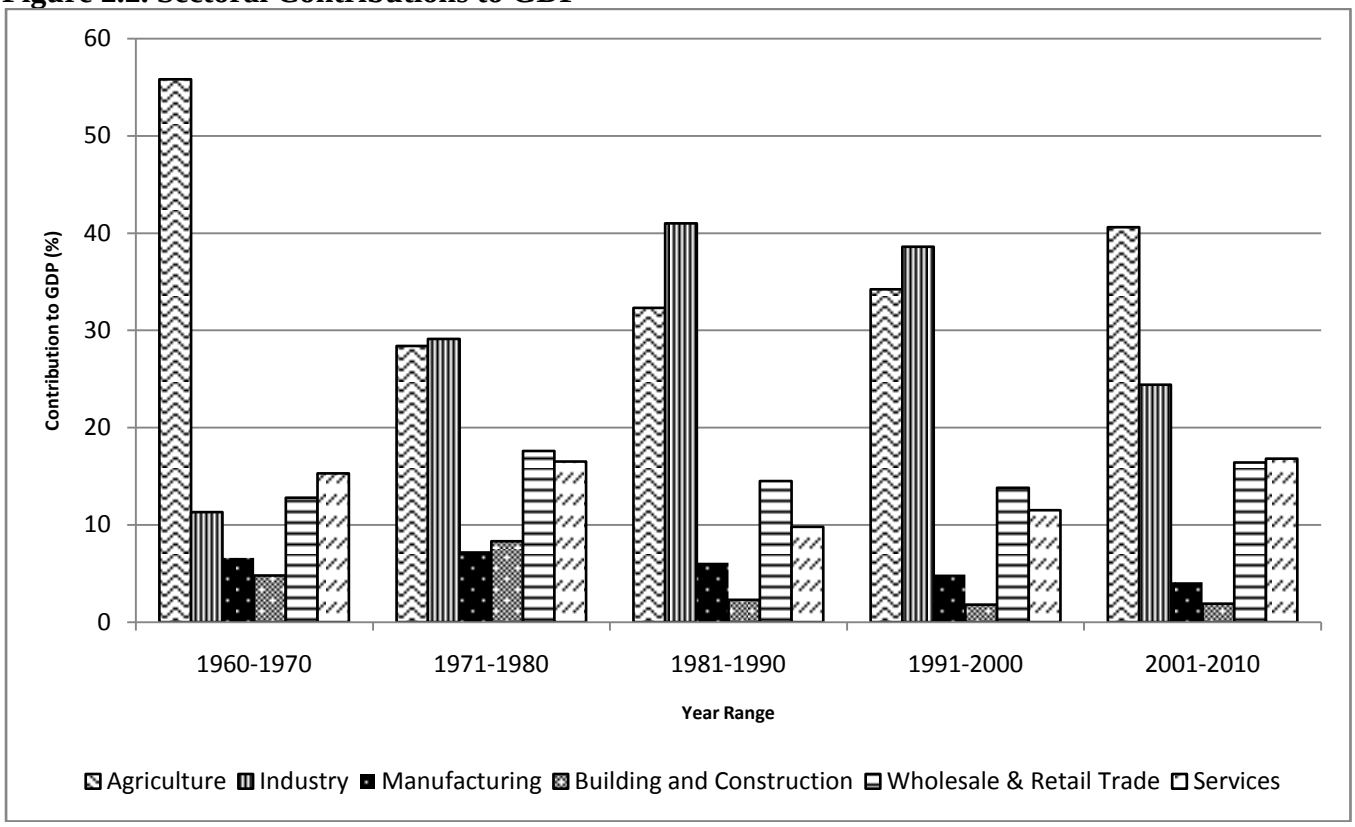
Anyanwu (2010) and Sanusi (2011) agreed on the strategic place of the real sector in the Nigerian economy on four pillars. First, it produces and distributes tangible goods and services required to satisfy aggregate demand in the economy. Its performance is, therefore,

a gauge or an indirect measure of the standard of living of the people. Second, the performance of the sector can be used to measure the effectiveness of macroeconomic policies. Government policies can only be adjudged successful if they impact positively on the production and distribution of goods and services which raise the welfare of the citizenry. Third, a vibrant real sector, particularly the agricultural and manufacturing activities, create more linkages in the economy than any other sector and thus reduces the pressures on the external sector. Fourth, the relevance of the real sector is also manifested in its capacity building role as well as in its high employment and income generating potentials.

2.1.19 Performance of the Nigerian Real Sector

The agricultural sector is expected to play the traditional role of meeting the food needs of the teeming population, provide the required raw material needs of the industrial sector and provide the envisaged surplus for exports and thereby generate foreign exchange to improve the balance of payments position. An analysis of the sectoral contributions to GDP showed that the share of agriculture in GDP had declined in the period 1960-2010. It fell from 55.8 per cent in the period 1960-1970 to as low as 28.4 per cent in the period 1971-1980 and rose thereafter to 40.6 per cent in the period 2001-2010 (figure 2.3). The subsistence nature of farming characterized by low adoption of technology, inadequate use of fertilizers and improved seeds accounts for low productivity of the sector. Also, lack of access to adequate funds to invest in the sector has been identified as a major hindrance to improved productivity.

Figure 2.2. Sectoral Contributions to GDP



Source: Sanusi (2011): Growing Nigeria's Real Sector for Employment and Economic Development.

The industrial sector consists of manufacturing, mining (including crude petroleum, gas and solid minerals) and electricity generation. The manufacturing sector in Nigeria consists of large, medium and small scale enterprises, as well as micro-enterprises. On attainment of independence, government embarked on transforming the country from its predominantly agrarian nature, into an industrialized economy through various policies and programmes as encapsulated in the development plans. The share of the industrial sector therefore, grew from 11.3 per cent of GDP in the period 1960-1970 to the peak of 41.0 per cent during the period 1981-1990. It however, plummeted to 24.4 per cent in the period 2001-2010, owing to various factors including policy inconsistencies and reversals, as well as infrastructural bottlenecks. Available evidence consequently showed that the contributions of the manufacturing sector to the GDP have declined over time from 6.6 per cent in the period

1960-1970 to 4.1 per cent in the period 2001-2010. The declining share of the industrial sector, especially the manufacturing sector is worrisome as this has exercavbated the unemployment situation in the country.

The mining sub-sector is made up of crude petroleum, gas and solid minerals. Solid minerals such as coal and tin used to be the main mining activity and export items for Nigeria prior to the discovery of crude oil. However, this had changed following the discovery of petroleum, which has dominated activity in the mining sector, and constituted the major source of government revenue and export earnings. The share of building and construction in the GDP declined from 4.8 per cent to 1.9 per cent in the periods 1960-1970 and 2001-2010, respectively. The shares of trade (wholesale and retail) and services in the GDP grew from 12.8 and 15.3 per cent in 1960-1970 to 16.4 and 16.8 per cent in 2001-2010, respectively.

In recognition of the foregoing attributes of the real sector, it is seen in Nigeria as the potential leading sector with latent resources whose effective development could pull up the rest of the economy through the backward and forward linkages (Ayodele, 2004). In this regard, Nigerian government has usually made some efforts relying on the CBN for a robust banking reform programme to facilitate its growth. Arising from the affirmed centrality of the real sector as the pivot of economic growth and development (Ayodele, 2004), is that its effective management seems to be the main hope of Nigeria like it is in most developing countries that have large population, particularly for the absorption of excess labour resources.

Towards these ends, the Nigerian government has reversed its development policy ideology from economic deregulation to economic deregulation and liberalization, relying on market forces to allocate resources. In spite of the laudable liberalization policies carried out, these challenges of the real sector continue to pose serious setback (Ayodele, 2004):

i. High operating costs arising from the private investments in infrastructural support services such as electricity and water supplies;
ii. Dearth of loanable funds for long term investment;
iii. Inadequate infrastructure for the movement, processing and preservation of agricultural produce;
iv. Persistent dependence of the sector on imported inputs;
v. The unbearable burden of increasing demands by all tiers of government.
vi. Difficulty in getting access to large farm lands and credits; and
vii. Capacity under utilization.

Out of all the above challenges, it pertains to credit flow and investment flow to the real sector that concerns the study and that is where the problem of this study emanates from. As a component of the financial sector reform, the reforms in the banking sector seeks to get the incentives right for banks to take the lead role in enhancing its intermediation role of and enable them contribute to economic growth. The central beneficiary is supposed to be the real sector. For instance, one of the four core pillars of the post-global financial crisis banking reform in 2009/2010 in Nigeria was to ensure that the financial sector contributes to the real economy (Anyanwu, 2010). By so doing, the rapid growth experienced in the financial sector in Nigeria will be transcended to impact positively on the real economy.

2.1.20 The Financial Sector Link with the Real Sector of the Economy

The link between financial sector and real economy can be explored from two perspectives, namely, the intermediation role of financial institutions and monetary policy perspective - the transmission mechanism of monetary policy impulses. Economists have long believed that financial markets and institutions are important factors in supporting economic development. While the monetary policy is important and non-negligible, the focus of this study is on financial intermediation role. Schumpeter (1912) in his theoretical

link between financial development and economic growth opines that the services provided by financial intermediaries are the essential drivers for innovation and growth. His argument was later formalized by McKinnon (1973) and Shaw (1973), and popularized by Fry (1988) and Pagano (1993). Well-functioning financial systems are able to mobilize household savings, allocate resources efficiently, diversify risks, induce liquidity, reduce information and transaction costs and provide an alternative to raising funds through individual savings and retained earnings. These functions suggest that financial development has a positive impact on financing to the real sector and growth of the economy (Anyanwu, 2010).

Economics researchers during the last two decades tried to clarify and explain the linkage between these two sectors. Levine (1997), for instance, agrees that financial intermediaries enhance economic efficiency and, eventually growth by helping to allocate capital to its best uses. Other attempts have been mainly toward discovering linkage condition of these long-term relations. The eventual result of these studies is based on four hypothesis or approaches. The first one is supply leading approach states that the performance of financial institution severely has an impact on real sector activities and can bring change in economic growth as a main component of this part. Second approach is demand following and it explains that financial institution adhere to economic situation and its functions strongly depend on economic business cycles. The third approach is related to long term relation with mutual influence and final approach emphasizes on the hypothesis of effective independence of banking and financial situations from real sector activity. Levine (1997) has mentioned the route of above mentioned relations in figure (3), but was simplified by Mordi (2010) in figure 2.3.

Financial Markets **Financial Sector**

Source: Mordi (2010): The Link Between the Financial (Banking) Sector and the Real Economy.

Figure 2.3: A Schema on the Link between the Financial Sector and the Real economy

Linkages between financial and real sectors go both ways from the financial to the real sector and from the real to the financial sector. The financial sector's contribution to growth lies in the central role it plays in mobilizing savings and allocating these resources efficiently to the most productive uses and investments in the real sectors. The behaviour of the financial sector affects the behaviour of the real economy. People respond to stock market booms (by feeling rich and spending more) and to stock market slumps (by hoarding their incomes and cancelling spending plans). The real economy generates financial activity by employing people (who wish to save some of their income), in firms (which wish to borrow for investment purposes). This means causality works in both ways. The link between the financial and real economy has a long and eventful history. When a crisis strikes, their connections are very evident and we pay attention. But for a developing country like Nigeria, the finance causing link appears to have been adopted with regards to significantly increasing credit finance to the real sector.

As economies develop, so must the financial systems that serve them (Mordi, 2010). As the financial system grows, efficient channeling of funds lowers both the transfer costs and risk-taking from savers to borrowers. The financial intermediary allows a better allocation of resources in the economy and, therefore, stimulates capital accumulation and growth. On the other hand, as a consequence of economic growth, investors increase their participation in financial market. The financial intermediaries lead to a better allocation of savings to investment, increases the rate of capital accumulation and the growth rate of the economy (Mordi, 2010).

2.1.21 Trends in Financial Development and real sector Production in Nigeria

In the last four decades, Nigeria has adopted various interest rate regimes. Deposit rate fell very slowly between 1970 and 1977 when it began a steady upward increase until 1987 when it reached an unprecedented height of 15.6%. There was a sharp fall in 1988 to 13.7% followed by a sharp rise in 1989 to 20.3%. In 1991 it fell to 16.1% and began another upward rise to 23.3% in 1993. It again erratically fell to 13.8 in the next year and gradually sustained a decline to 10.5% in 2001. However, it rose sharply in the next year to about 17% and thereafter declined to 9.47% in 2007. The year 2008 witnessed another rise in interest rate to 12.86. These periods can be classified into pre-SAP, SAP and post- SAP or privatization regimes that are characterized by different interest rate repression and Liberalization regimes.

Structurally, the Nigerian economy can be classified into three major sectors namely: primary/agriculture and natural resources; secondary- processing and manufacturing; and tertiary - services sectors. The economy is characterized by structural dualism. The agricultural sector is an admixture of subsistence and modern farming, while the industrial sector comprises modern business enterprises which co-exist with a large number of microenterprises employing less than 10 persons mainly located in the informal sector.

The agricultural sector has not been able to fulfill its traditional role of feeding the population, meeting the raw materials needs of industries, and providing substantial surplus for export. Indeed, the contribution of the sector to total GDP has fallen over the decades from a very dominant position of 55-8 percent of the GDP in 1960-70 to 28.4 percent in 1971-80, before rising to 32.3, 34.2 and 40.3 percent during the decades 1981-1990, 1991-2000 and 2001-2009, respectively. The fall is not because a strong industrial sector is displacing agriculture but largely as a result of low productivity, owing to the dominance of peasant farmers and their reliance on rudimentary farm equipment and low technology. Another feature of the sector is under-capitalization which results in low yield and declining output among others. A positive increased was experience from 2010-2014 and decrees from 2015-2016 and it may be as a result of recession which slows down economic activities in the country.

Table 2.2: Sectoral Contribution to GDP

Activity by sector	1960-1970	1971-1980	1981-1990	1991-2000	2001-2010
Agriculture	55.8	28.4	32.3	34.2	40.3
Industry	11.3	29.1	41.0	38.6	28.4
Manufacturing	6.6	7.3	6.1	4.9	3.9
Building and Construction	4.8	8.3	2.3	1.8	1.8
Wholesale and Retail trade	12.8	17.6	14.5	13.8	14.0
Services	15.3	16.5	9.8	11.5	15.5
Total value-added	100.0	100.0	100.0	100.0	10.0
Diversification	0.2	0.4	0.4	0.4	0.3

Source: *National Bureau of Statiistics*

The industrial sector comprises the manufacturing, mining (including crude petroleum and gas) and electricity generation. Prior to independence in 1960, the Nigerian economy was mainly agrarian. On attainment of independence, the government embarked on the programme of transforming the country into an industrial economy. The Nigerian manufacturing subsector is made up of large, medium and small enterprises as well as cottage and handicrafts units. In spite of spirited efforts made to boost manufacturing output and various policy regimes, manufacturing has not made any significant contribution to the

growth of the economy. Industry as a whole contributed only 11.3 percent of the GDP in 1960-70, growing significantly in the next two decades to a high rate of 41 percent in 1981-1990. This rapid growth is attributed largely to the crude petroleum and gas production during the two decades.

The contribution contracted to 38.6 percent during 2001-2009. These numbers, in fact, belie the poor contribution of the manufacturing subsector to aggregate output in Nigeria compared with its peers in Asia and Latin America. Indeed, the contribution of the manufacturing component has on average been below 5.0 percent in the last two decades. Even the relatively high contribution of the petroleum oil sector to the industrial sector is being driven largely by crude petroleum extraction and not by the associated 'core industrial' components like refining and petrochemicals. The contribution of wholesale and retail trade and services has more or less remained stable while that of building and construction rose sharply from 5.3 percent in the 1960s to 8.3 percent in the 1970s, but fell consistently, thereafter, to 1.8 percent during 2001-2009.

During and some few years after SAP, the manufacturing exports was dominated by textile, beer and stout, plastic products, cocoa butter, processed timber, tires, bottled water, soap and detergents as well as iron rods. However, some of these products have disappeared from the export list owing to poor enabling environment. As shown in Table 2.2, non-oil exports as a component of total exports declined from 2.5 percent in 2004 to 1.0 percent in 2008. The rise in the share of non-oil export (4.2 percent) reported in 2009 is yet to be confirmed as a recovery bearing in mind the fact that the infrastructural decay is yet to be fixed. Primary products, mainly agricultural products, still dominate the Nigerian non-oil exports list. This is unfortunate given the thesis that 'no country develops by exporting unprocessed commodities'.

The Nigerian economy is import dependent with very little non-oil exports. It relies heavily on crude oil and gas exports with other sectors trailing far behind. For example, crude oil accounts for about 90 percent of foreign exchange earned by the country while non-oil exports account for the balance. The economy is therefore susceptible to shocks in the oil industry. In recent times, these shocks have been caused by either development in the international oil market or the restiveness in the Niger Delta region of the country. Agriculture and other mining activities have been abandoned to the rural poor. Economic and social infrastructure, especially power is grossly dilapidated. The power sector is generally recognized as a binding constraint on the Nigerian economy.

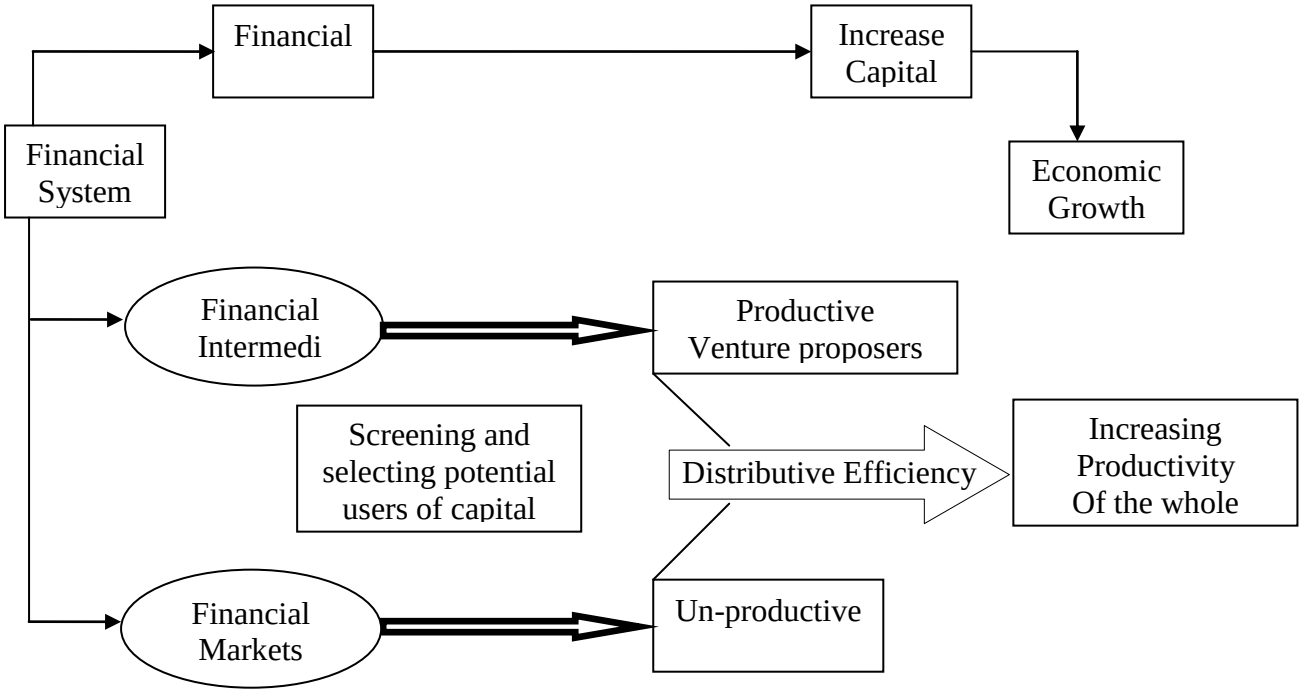
Components	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Oil export	97.5	98.3	97.9	97.9	99.0	95.8	97.0	97.6	98.2	99.0	90.2	91.5	89.0
Non-oil export	2.5	1.7	2.2	2.1	1.0	4.2	3.0	2.4	1.8	1.0	9.8	8.5	11.0
Composition of Non-oil exports													
Agriculture	33.0	41.9	37.8	39.7	58.3	46.9	50.1	45.8	47.9	50.1	61.7	60.3	65.9
Minerals	2.0	4.0	8.5	6.3	7.7	6.7	5.6	6.8	7.0	7.3	5.8	4.5	3.6
Semi-manufactured	48.9	40.6	37.9	39.4	17.0	29.2	25.7	28.9	28.7	29.0	23.9	25.0	22.9
Manufactured	5.0	9.8	11.1	10.3	8.7	9.1	9.6	10.6	10.8	9.8	7.1	7.3	7.0
Other exports	11.2	3.9	4.7	4.3	8.3	8.1	18.5	7.9	5.6	3.8	1.5	2.9	0.6

Source: CBN Annual Report and Statement of Accounts, various issues, 2017

Table 2.3: Composition of Nigerian Exports

2.1.22 Financial Development and Economic Growth

The main function of the financial system is to facilitate the transformation of savings from surplus sectors to deficit sectors. Very often, the surplus sectors are the households, who save money, and the deficit sectors are the entrepreneur and government, who borrow money for investment purposes. However, the financial market finance only part of a country's total investment, because firms and households finance much of their investment directly out of their own savings. It is only when investment exceeds savings that it is necessary to borrow, just as when saving exceeds investment it is necessary to lend. The explicit task of the financial sector is to move excess savings from economic units in surplus to those in deficit. Figure 2.4 shows how financial system affects economic growth through different channels.



Source: *Adapted from Abdul Waheed (2009). Financial Sector Reforms and Economic Growth: A Time Series Data Analysis.*

Figure 2.4: Theoretical Linkages between Financial System and Economic Growth

A well functioning financial sector promote economic growth through two important channels; quantity effect (increase in savings and investment) and through quality effect (increase in the productivity). Historically, the quality of investment has been at least as important for growth as the quantity. Empirical studies generally find that less than half of the growth in output is attributable to increase in labour and capital. Higher productivity explains the rest (World Bank, 1996). Higher growth, increases investment and greater financial deepening all come partly from higher savings. However, greater financial depth contributes to growth by improving the productivity of investment. World Bank (1996) shows that investment productivity as measured by the ratio of the change in GDP to investment (the inverse of the incremental capital output ratio-ICOR), is significantly higher in the faster-growing countries, which also had deeper financial system. This suggests the link between

financial sector and real sector of the economy. Efficient intermediation will ensure that the better investments are financed and will thereby increase the average productivity of investment.

Similarly, Greenwood and Jovanovich (1990) develop a model in which both the extent of financial intermediation and the rate of growth are endogenously determined and conclude that financial intermediation promote growth! Because investment could be more efficiently undertaken in a developed financial market. Furthermore, Bencivenga and Smith (1991) show that the development of financial intermediation will increase real economic growth by channeling savings to the activity with high productivity. In this line of research, Neusser and Kugler (1998) investigate the relationship between financial sector development and economic growth from a time series perspective and find that financial sector is cointegrated for many OECD countries not so much with manufacturing output but mostly with manufacturing total factor productivity. Similarly, Benhabib and Spiegel (2000) argue that a positive relationship is expected to exist between financial development and total factor productivity growth and investment. Xu (2000) uses a multivariate vector autoregressive (VAR) approach to examine the effects of permanent financial development on domestic investment and output in 41 countries between 1960 and 1993. The results show that financial development is important to GDP growth and that domestic investment is an important channel through which financial development affects the economy. In general, the above mechanism suggests that financial development should have a significant positive effect on economic growth as it fosters capital accumulation and leads to productivity gains.

2.1.23 Nigerian Financial Sector Reforms

The reform of the financial sector occupies a central position since the efficiency of this sector is a necessary condition for the efficient functioning of a nation's economy. According to Calderon and Liu (2003), for a country to gain a sustainable economic growth, it will be

imperative for such an economy to undertake financial reform. Several financial restructuring programs have been put in place since early 1990s up to this period of democracy such as recapitalization, merger and acquisition, capital control and deflationary policy, all with the aim of improving the financial system. The on-going reforms in the Nigerian financial sector were as a result of the weaknesses and the inability of the sector to complement the developmental efforts of the country (Uche, 2008). The banking sector reform is expected "to build and foster a competitive and healthy financial system to support development and to avoid systematic distress" (Soludo, 2007). There were reforms in monetary policy which were designed mainly to stabilize the economy in the short run and to induce the emergence of a market-oriented sector. These reforms include:

Rationalization of credit controls: Although credit ceilings on banks were not completely removed, the sector specific credit distributions target were compressed from 18 in 1985 to 2 in 1987-priority (agriculture and manufacturing) and non-priority (others). Other credit measures enacted were the elimination of exceptions within the ceiling on bank credit expansion, giving similar treatment to commercial and merchant banks in relation to required liquidity ratios and credit ceiling, the modification of cash reserve requirements which is now based on the total deposit (demand, saving, and time deposits), rather than on time deposits only, and the reintroduction of stabilization securities. These are non-negotiable and non-transferable debt instruments of the Central Bank which banks are mandated to purchase at intervals in order to control their excess reserves. It was designed to mop-up the excess liquidity of the banking system.

Deregulation of interest rates: In January 1987, a partial deregulation of interest rates was attempted, but by August, all rates become market determined. The CNB adopted system of fixing only its minimum rediscount rate to indicate the desired direction of interest rates changes. Interest rate liberalization was aimed at enhancing the ability of banks to charge

markets-based loans rates and also guarantee the efficient allocation of scarce resources. In 1989, banks were encouraged to pay interest on current account deposits. The rate to be paid was to be negotiated between banks and their customers.

The shift from direct to indirect system of monetary control: In June 1993, an open-market operation (OMO) was introduced. Under the scheme, OMO was to be conducted exclusively through licensed discount houses, which are supposed to constitute the open market for government securities. The introduction of OMO was meant to replace the use of direct controls for managing liquidity in the economy. The foreign exchange market reforms were also very important since transactions in foreign exchange constitute an important aspect of financial sector activities. A second-tier foreign exchange market was established in 1986 as an auction forum for the sale and purchase of foreign exchange.

Previously, the sale and purchase of foreign exchange was rigidly controlled through the use of import licenses and the exchange rate was fixed by fiat. This resulted in an overvaluation of the Naira with its attendant consequences. In order to restore appropriate exchange rates, the authorities began the auction sales of foreign exchange to licensed dealers. A first-tier market was retained to take care of transactions related to government debt-servicing, contributions to international organizations and transfers to Nigerian missions abroad. In 1988, the government permitted the establishment of private foreign exchange and to accord recognition to small dealers in foreign exchange. With the deregulation of the foreign exchange, all existing restrictions on capital transfers were abolished. All that was needed was for evidence of importation and exportation to be provided to the Federal Ministry of Finance. In addition, all applications for capital transfer abroad were to be backed by appropriate documents and settled at the appropriate exchange rate.

In order to strengthen the Nigeria's financial system, there has been an increased trend in consolidation in some segments of the financial sector like the deposit money banks, community banks, capital market and insurance companies.

Deposit Money Banks: Deposit money banks are supposed to facilitate capital formation and promote economic growth. The consolidation exercise started in mid 2004 with the deposit money banks that were required to raise their minimum capital base from N2bn to N25bn by the end of2005. This therefore reduces the number of deposit money banks from 89 banks to 25 mega-banks (now 24) after series of mergers and acquisition. The outcome of the consolidation exercise was the emergences of 25 banks in Nigeria which together accounted for about 93.5% of aggregate deposit liabilities and a larger capital base from about $3 billion to $5.9 (Soludo, 2006). The strong capital has ensured a basic indication of solvency of the banks and has provided the vehicle for taking out the weak banks and forcing others into a marriage of convenience. According to Uche (2008), the reform in the banking sector has made of the Nigerian banks to be active participants in the global commerce. He also noted further that these banks have been able to accelerate the development of the economy through their increased lending ability to the indigenous entrepreneurs as a result of the increased capital base of the banks.

Insurance Companies: Insurance services are capable of generating significant productive impact in an economy as a result of risk transfer activities which make it easy for an individual to purchase expensive items. The insurance companies as a result of increasing risks need to be re-capitalized to enhance their ability to provide cover for policy holders. This made the Federal Ministry of Finance with the National Insurance Commission (NAICOM) to increase the capital base of life insurance business to N2 billion while that of general insurance business was increased to N3 billion and that of re-insurance business was also increased to Nl0 billion. This has therefore reduced the number of the insurance

companies to 71 from 103 comprising of 43 general insurance, 26 life insurance and 2 re-insurance companies.

Capital Market: The reforms in the Nigerian capital market are concern about a strong and viable capital market as a vehicle for mobilizing capital for developmental purposes. The reform was target at the secondary market represented by the Nigerian Stock Exchange (NSE). The operation standards of the NSE are now comparable to what obtains in the developed economies. The Central Securities Clearing System (CSCS) and the Automated Trading System (ATS) have enhanced the efficiency in stock trading and made the market more investor friendly due to honesty and transparency in-built in the system.

Empirically, many works are being carried out on this area. Among them are: Rousseau and Watchel (2005) who examine the finance- growth hypothesis with data ranging from 1960 to 2003 and revealed that the relationship disappeared over the period of 1985-89 for the coefficient of M3 as a percentage of GDP and during 1990-1994 for the coefficient on private sector credit. It was at this time that numerous developing states, especially in Latin America, went through rapid financial liberalization and opening to world economic market. Their findings suggest that in the absence of stable financial institutions, financial liberalization may be counterproductive. Liange (2007) examines banking sector development and growth in China with reference to quality of legal institutions, employing a panel data set covering 29 provinces over the period of 1990-2001 and concluded that without an effective and well-developed legal system, banking sector development only partially contributed to China's economic growth. Also, Ahmed and Malik (2009) in their study examined the relationship between the financial sector and growth, using a panel data for 3 5 developing countries over the period 1970-2003 and conclude that financial development affects per capita mainly through its role in efficient resources.

Empirical studies on Nigerian finance-growth dynamics are not only scanty in number but restricted in scope in terms of the measure of financial development Ndebbio (2004), using an ordinary least square regression framework, finds that financial sector development weakly affect per capita growth of output. He attributes the result to shallow finance and the absence of well functioning capital markets. Similarly, Nnanna (2004) using ordinary least square regression technique, found that financial sector development did not significantly affect per capita growth of output. In the same vein, Nzotta and Okereke (2009), in their study using two stages least analytical framework for a period starting from 1986 to 2007, observe that financial deepening did not support economic growth in Nigeria. However, Olofin and Afangideh (2009) in their study of financial structure and economic growth in Nigeria, using three stages least square estimation technique on a data spanning 1970 to 2005, discover that a developed financial system alleviates growth financing constraints by increasing bank credit and investment activities with resultant rise in output. This shows that developed financial system indirectly affects growth through investment. In addition to the existing literature on finance and economic growth, this study sets to investigate the path of finance-growth nexus in Nigeria.

2.1.24 Financial Reforms And Manufacturing Industries in Nigeria

Upon the assumption of duty in 2004 as the governor of Central bank of Nigeria, Professor Charles Soludo indicated that the commercial banks should recapitalize from a minimum capital base of #2 billion to #25 billion. As at the period, 89 banks were in operation made up of about 5 to 10 banks whose capital base were already above the #25 billion marks, another group of 11 to 30 banks within the #10 to #20 billion marks, while the remaining 50 to 60 banks were quite below the #10 billion marks. A period of about 12 month was given to these banks to recapitalize through new issues, mergers and acquisitions. Failure to do so would mean the liquidation of such banks by the monetary authority. Appropriate legislative

backing was obtained for this, and at the end of the exercise, about 25 banks emerged. A total of 18 banks failed to meet the recapitalization criteria and had their licenses revoked.

Ostensibly, the series of reforms in the banking and financial sector were geared towards positioning banks and other financial institutions to play their primary and very crucial role of financial intermediation in the economy as the driving force for generating high saving and investment. With the adoption of the financial institutional reforms in Nigeria, the assumption is that banking sector liberalization accompanied by increased capital base requirement is a necessary condition for improved performance of the banking especially in the area of financing the manufacturing sector. This was echoed by the proponents of the initial banking sector reforms in SAP era and re-echoed by the pre and post Soludo era. The underlying argument draws its strength from the neo-classical supply side economics, rooted in Say's law that "supply creates its own demand" (Jhingan, 2003). That is increased capital base may imply increased availability of loan able funds to the Nigerian manufacturing sector.

On the contrary, none of the aforementioned financial institutional reforms have been able to deal specifically with low manufacturing performance and output in the economy. In Nigeria, the role of institutional reform in development of the Nigeria manufacturing sector has not been fully addressed and the impact has not been fully felt. Manufacturing sector in Nigeria has been experiencing a stunted growth and its contribution to gross domestic product (GDP) has remained low. For instance, the manufacturing as a whole remains small, accounting for only 6.6 percent of GDP in 2000 and 12 percent of employment (World Bank, 2002). The production indices, using 1990 as the base year also indicated that while agriculture and services experienced modest growth from 103.5 and 101.5 and 297.0 between 1991 and 1999 respectively, manufacturing sector recorded a decline from 109.4 to 92.3 in the same period. It is also sad to mention that capacity utilization in the manufacturing sector declined from

about 70.1 percent in 1980 to just 44.3 percent in 2002 (CBN, 2002). The Manufacturing sector have recorded shape decrease from 2014-2016 as a result of recession which does not respond to consolidation reform, for example the manufacturing sector recorded a declined from 89.5 to 69.7 in 2014-2015 and a further decrease from 69.7 to 61.2 in 2016.

In addition, lack of access to finance has been the major problem facing the Nigerian manufacturing sectors. Lack of funds has made it difficult for the Nigerian industries to make investment in modern machines, information technology and human resources development which are critical in reducing production costs, raising productivity and improving competitiveness. Low investment has been traced largely to banks unwillingness to make credits available to manufacturers, owing partly to this mis-match between the short-term nature of banks funds and the medium to long-term nature of funds needed by Nigerian industries. In addition, banks perceive manufacturing as a high risk venture, such as commerce, in which the returns are also very high. Even when credit is available, high lending rates, which is over 40 percent at a time, makes it unattractive to the manufacturers.

Moreover, since the introduction of SAP, high and increasing cost of production has been recorded by most Nigerian firms as a major constraint on their operations. Increased cost, traced largely to high interest and exchange rates, has resulted into increase unit price of manufacturers, low effective demand for goods liquidity squeeze and fallen capacity utilization rates. The special purpose fund created to provide "cheap and long-term" finance for industries by Nigerian Economic Reconstruction fund (NERFUND) in the late 1980's was crippled as a result of fluctuations in the exchange rate. Firms who borrowed funds had a liability, twice and in some cases thrice the original amount (Adebiyi, 2004).

Another constraint that hinders the performance of Nigerian manufacturing sectors, most especially in the area of financing their operations, is the government's fiscal operation. The

largest single spender in the economy is government who often finance its deficit through the ways and means of Central Bank of Nigeria (CBN). This mode of deficit financing directly increase the monetary base and increase the level of excess liquidity with adverse effect on exchange rate and price level (Ojo, 2001). Looking at the financial deficits through the money market, one can adduce some negative impact on the banking industry and the Nigerian economy.

The way it affects banking industry and the Nigerian economy is that once the government gets the money from Treasury Bills (TB), through mopping the liquidity in the system, it deprives the private sector from having loanable funds. This, in turn makes the cost of the fund very high for manufacturing firms.

2.1.25 The Mining Industry in Nigeria

Mining, minerals and metals are important to the economic and social development of many countries. Minerals can either be extracted from the surface of the earth or from deep in the earth. The process of extracting minerals from open mines is termed as quarrying while the process of extracting minerals from shaft mines termed as mining. For example, in case of limestone and marble stones quarrying processes take place, whereas mining is done in case of kern, coal, gold etc (Jhingan & Sharma, 2008). The Nigeria mining sector has the potential of driving the nation's economic growth (compared to its current contribution of less than 1.0% of GDP). Growth of the sector will diversify the national economy and minimize over-dependence on Oil and Gas as primary source of revenue, Upstream and downstream activities of the sector will greatly promote sustainable economic growth. Rights to ownership of mineral resources is held by the Nigeria government, which grants titles to organizations to explore, mine and sell mineral resources. Mining regulation is handled by the Mir.ist: Mineral Development established in 1995, which oversees the management of all mineral resources. Mining law is codified in the Federal Minerals arc Mining Act of 1999

with a reform in 2005 and 2007. The domestic mining industry is underdeveloped, leading to Nigeria having to import minerals that could be produced domestically, many factors are responsible for this, this range from the overdependence of the Nigerian economy on oil and gas sector which has led to the neglect of other critical sectors of the economy, to the inadequate legislation and poor law enforcement which has made the sector to be largely informal, inefficient state operations, environmental degradation, jurisdictional conflicts between federal and state governments, depleted surface alluvial deposits(especially tin) among others (Alison-Madueke, 2009).

2.1.26 Agricultural financing in Nigeria

The role of agriculture in any economy is indeed significant and requires no debate. It is the most dominant sector and indeed a major source of livelihood for its citizens (Ijaiya & Abdulaheem, 2000). This is because apart from providing food for the teeming population of the economy, it is the only source of raw materials that other sectors look out for before their production could take place. Also, the rearing of animals provides agro-allied products for industrial growth and development, provision of employment opportunities, especially to the rural population; provision of market for the industrial sector; and provision of the needed linkage between the traditional sector and the modern sector; ensuring food security and thus serving as a catalyst for the growth of the entire economy . In line with these, Abayomi stated that the increasing production in agriculture is regarded as the most vital attendant for achieving industrialization.

It accounts for about 70 percent of the sectors that generate employment for the working population (Abubi, 2000) In Nigeria, the mainstay of the economy before the 1970s was the agricultural sector. During this period, the structure of the Nigerian economy was largely agrarian in nature with agriculture, solid minerals and other metals forming the bedrock of the economy. Agricultural commodities were also the major export earner for the country.

Nigeria was a key exporter of rubber, cotton, groundnut, palm oil, cocoa and palm kernel amounting into three per cent and four per cent in the 50s and 60s respectively of the annual rates of output growth for food and agricultural crops (Osuntogun, 1997). Agriculture also was the largest economic activity, contributing 50.2 per cent of the GDP in 1960. The dominance of the crude oil as major export revenue causes the agricultural sector to be neglected and its contributions to the GDP dropped drastically . Several factors apart from the emergence of oil have been identified as causal in the decline factors.

Finance was identified as a major factor hindering agriculture production. For this reason various programmes, polices as well as institutions have been established with the aim of providing easy finance to the sector. Commercial Banks were at the forefront for this purpose. One of the major inputs identified over the years in the development of the Nigerian agricultural sector has been the agricultural credit (CBN, 2005). The sources for funding the agricultural sector have been micro and macro sources of finance. The micro source relates the use of the commercial bank financing as capital for agricultural activities while agricultural funding through capital mobilization and allocation by government through such agencies as rural banking development programmes, Nigerian Agricultural Cooperative and Rural development Bank (NACRDB) and the Central Bank of Nigeria (CBN) .

Statistics has shown that the Nigerian agricultural sector received increased credit form the commercial banks up to about N7 million in 1970 representing 1.99 per cent of the N37.4 million credits in 1975 representing 2.6 per cent of the total credit by the commercial banks. In 1980, the amount of credit offered by the commercial banks to the agricultural sector rose to N462.2 million, representing 7.28 per cent of the entire credit and in 1985, total commercial banks credit to agriculture rose further to N1310.2 million and constituted 10.77 per cent of the overall credit by the commercial banks. By 1990, total credit to agriculture rose to N4221.4 million and represented 16.24 per cent of the overall credit in the economy

and rose further to N25,278.7 million in 1995, which also accounted for about 17.49 per cent of the entire credit budgeted to the economy.

However, beginning from 2000, the share of credit to agriculture through increasing in absolute terms, has started to decline relatively. By 2000, total credit to agriculture was N41028.9 million in 2005, constituting 2.46 per cent of the total credit and in 2010, total commercial banks credit to agriculture had risen to N128, 406.0 million thereby accounting for only 1.67 per cent of the total commercial banks credit to the economy (CBN, 2011). By 2012, total credit to agricultural sector has risen to N316,364 million, representing 3.9 per cent of commercial bank total credit . Agricultural credit rose again from N343,696.80 million in 2013 to N478,911.78 million in 2014, representing 3.7 per cent of commercial banks total credit . The preceding analysis, it can be observed that though total credit to agriculture has been increasing in absolute terms but when measured in term of percentage share in total credit to the economy, it is found that the credit to agriculture constitutes an insignificant proportion of the total credit.

This represents a sign of neglect of the sector. However, adequate credit availability is critical to the enhancement of production in the agricultural sector in the economy and this has been a top priority for the Federal Government of Nigeria, thus, commercial banks have been directed to devout a major part of their funding to finance this sector. Despite this huge investment in the agricultural sector by the government in the form of provision of the needed finance for farmers, the dwindling fortune of the sector seems to persists, prompting the question as to the role of the financial system in providing credit to agricultural sector in Nigeria. Other numerous problems hindering agricultural financing in Nigeria include: diversion of loans meant for agricultural projects into frivolous activities which may not engender growth. High interest rate charged on loans acquired by farmers, inability of farmers to provide collateral securities for loans; political interference on loan procurement

by political big whips and in fact lack of "strong political will" by the government of the day to solve protracted agricultural problem facing modern farming in Nigeria.

2.2 Theoretical Review

2.2.1 Theory of Financial Intermediation

The theory of financial intermediation was first formalized in the works of Goldsmith (1969), Shaw (1973) and Mckinnon (1973), who see financial markets (both money and capital markets) playing a pivotal role in economic development, and attributing the differences in economic growth across countries to the quantity and quality of services provided by financial institutions. Supporting this view is the result of a research by Nwaogwugwu (2008) and Dabwor (2009) on the Nigerian stock market development and economic growth, the causal linkage. However, this contrasts with Robinson (1952), who argued that "financial markets are essentially hand maidens to domestic industry, and respond passively to other factors that produce cross–country differences in growth. Moreover there is general tendency for supply of finance to move along with the demand for it. The Robinson school of thought therefore believes that economic growth will bring about the expansion of the financial sector.

In addition, the process of growth has feedback effects on financial markets by creating incentives for further financial development. McKinnon (1973) in his thesis argued that there is a complimentary relationship between physical capital and money that is reflected in money demand. This complimentary relationship, according to McKinnon (1973), links the demand for money directly with the process of physical capital accumulation mainly because the conditions of money supply have a first order impact on decision to save and invest. .

Structural problems such as market inefficiencies were identified and emphasized by the

structuralist school of thought as the principal cause for economic backwardness of developing countries. They criticized the market clearing assumptions implicit in the financial liberalization school, especially the assumption that higher interest rates attract more savings into the formal financial sector (Van Wijnbergen, 1983). They also stressed that in the event that informal sector agents substitute their deposits for that in the formal sector due to high interest rates, the unexpected consequence will be an adverse effect on financial intermediation and economic growth.

This theory has explained the interrelationship between credit finance and real sector in that it is explicit enough on how credit finance can improve economic growth through real sector of the economy, and that makes the theory relevant to the study.

2.2.2 Financial Liberalization Theory

The Financial Liberalization Theory put forth by Mckinnon (1973) and Shaw (1973) postulates that financial liberalization in financially repressed developing countries would induce higher savings, especially financial savings, increase credit supply, stimulate investment and hence help to boost economic growth. They both claim that interest rate regulations usually lead to low and sometimes negative real interest rates, which is the cause of unsatisfactory growth performance of developing countries. They claim that financial repression through interest rates ceiling keeps real interest rates low and thus discourages savings and consequently, stifles investment. Thus investment is constrained as a result of low savings resulting from financial repression. The quality of investment will also be low because the projects that would be undertaken under a regime of repression would have a low rate of yield. Thus the development of agriculture, industry and services sectors would lead towards targeted economic growth. But the private sector investment could not increase as hoped because resources were not used efficiently, due to governance problems and the highly controlled financial system by the

regulatory authority. When economic development through infra structural development failed, less developed countries moved from infrastructural development to financial sector development.

McKinnon (1973) brought the problem of financial repression in developing countries into focus. They claimed that financial liberalization policies would increase savings, which would spur investments and economic growth. This is because negative real interest rate causes a decline in the savings level, resulting in low investment levels and growth rates. Therefore, with rising interest rates, financial liberalization would increase both savings and productive investment levels. On the contrary, Structuralists and the neo-Keynesians stated that financial liberalization hurts economic development and increases the rate of inflation. Further financial liberalization causes an increase in interest rates and manufacturing costs, causing prices to rise. On the basis of financial liberalization paradigm, developing countries took initial financial liberalization measures in the early 1980s, sometimes yielding impressive results.

According to the financial repression theory, government legislation and policies may distort the operation of the market mechanism in determining the "prices" of financial resources. As the major effects of such repression are limited savings because of interest ceilings, the hypothesis can be ultimately reduced to official interest rate policies. The financial repression hypothesis also focuses attention on the level of interest rates on the savings instruments available to the public in relation to the rate of inflation. If real rates of interest have been positive over a period of time, it may be said that there has been no financial repression, but financial deepening.

This theory is also relevant to the study because the reform segment is majorly of two forms, that is the liberalization reform and the repression reforms regimes. This theory discuss

extensively on market forces when it comes to credit allocation to productive sectors of the economy.

2.2.3 Financial Repression Theory

The concept really gained prominence following the seminar works of Mckinnon (1973) and Shaw (1973), in which they argue that "financial repression" is a major impediment to or drag on economic growth in developing countries. They define financial repression as the set of government legal restrictions imposed on the activities of the financial intermediaries preventing them from functioning at their full capacity level. These restrictions are essentially taxes on the financial system and usually consist of the following:

i. The banking system may be forced to hold a proportion of its assets in the form of government debt through the imposition of high reserve and statutory ratios.
ii. There may be quantitative controls and selective credit allocation to force lending to sectors that government deems a priority.
iii. There may be state ownership of part of the banking system.
iv. There may be interest ceiling to prevent competition from the private sector fund-raising and to encourage low-cost investment.

Nwankwo (2000),Omar and Habibulla (2007), Oshikoya (1992), argue that the main rationale for financially repressive policies is the government inability to raise taxes through conventional means, either because of political constraints or administrative inefficiencies. In most developing countries the tax base is narrow and inadequate which resulted from government inability to collect taxes and a heavy reliance on direct taxation. This is aggravated where capital markets are insufficiently developed to provide government with an investors' base for its debt instrument. Thus by directing banks to lend to areas they might otherwise not even consider, and instructing them to hold high reserves and liquidity ratios, government manipulates the financial system for its development goals and at the same time

creates a captive market for its debt instrument. These factors, amongst others, necessitate the advocacy for Financial Liberalization and the need for deregulation of world economies.

2.2.4 Schumpeter's theory of the credit market

Schumpeter's monetary theory gives great importance to the role of banks. It shows that bank credit acts as (money)-capital and, therefore, constitutes the necessary premise for the realization of the innovative processes. Messori (2004) examined the differences between this monetary approach which Schumpeter (1954) names 'credit theory of money', and a more traditional approach labeled by the same author as 'monetary theory of credit'. The differences between these two approaches have offered the opportunity for a detailed analysis of the time sequence which characterizes Schumpeter's framework of the cyclical development. However, in Messori (2004) examined the determination of the debt contracts between banks and entrepreneurs (including imitators) during the two-phase cycle. This is an important analytical gap since Schumpeter's monetary theory concerning the debt contracts offers valuable hints and crucial theoretical pieces in a field at length neglected by the economic theory, and recently revived by the asymmetric information models on the existence of financial intermediaries and on the working of credit market (Stiglitz-Weiss,1992).

It should be noted that Schumpeter's approach leaves many problems unsolved as regard to the definition of the objective-function of the individual banks, to the determination of the interest rates, and to the unstableness of the credit demand and supply curves. Analysis of bank behavior shows that Schumpeter's approach to the credit market can be robust to the criticism raised by Schumpeter himself. This analysis also highlights that Schumpeter can be considered as a precursor of the literature on the debt contracts design with asymmetric information.

Interest rate in Schumpeter's monetary market

Schumpeter's economic process takes place in a sequence of exchanges characterized by a time lag between the instant in which the producers purchase the desired inputs through the payment of money wage, and the instant in which they realize monetary proceeds through the sale of the output obtained utilizing those previously acquired inputs. This time lag between the purchase of inputs and the sale of outputs can be neglected in the stationary state, since the unchanging reproduction of the economic process period after period allows for the sincronization of the exchanges. Vice versa, in the cyclical development, this same time lag implies that the entrepreneurs as innovators (and, even if for a smaller amount, their imitators) need an external financing in order to hire that amount of labor services which is necessary for the implementation of the innovative (or imitative) production processes. Following Schumpeter analysis it is assume that the only possible source of external financing is bank credit.

In Schumpeter's framework debt contracts between an individual lending bank and many borrowing are characterized by two variables: the amount of the loan granted, and the level of the interest rate. The definition of money as capital, the lack of a capital market and of a positive interest rate in the stationary state, and my arbitrary exclusion of land services imply that the amount of bank financing to new innovative firms is equal to the amount of money wages to be paid by these firms in order to purchase that amount of labor services necessary to start their innovative activities. These definitions and assumptions also imply that Schumpeter's interest rate is a purely monetary variable determined in the monetary (or credit) market. In particular, being the premium of the present over the future purchasing power, the interest rate represents the cost that each innovator (or imitator) has to bear in order to realize her desired new production process and to obtain the related advantages in terms of lucro captando (or damno evitando). It follows that interest is the "price of

purchasing power", "originates in the hands of the entrepreneur", and appears as a "tax" on her gross profits (Schumpeter, 1912). On the other hand, by creating ex novo those 'claims' on money which are necessary for the financing of innovations, banks take upon themselves the whole risk of possible default of each applicant to whom they grant loans. Therefore, banks consider interests as being the refund for such a risk.

The above observations are important for determining the demand and supply curves as well as the interest rates in the credit market. However Schumpeter starts from a simplified case, that is, the "exchange between entrepreneurs and capitalists" in the monetary market. The author states that each entrepreneur finds it convenient to apply for the amount of financing which would allow that realization of her innovative process which, at the margin, makes the rate of the expected profit gross of financial charges as being equal to the money interest rate. Hence the total demand curve for financing by the whole set of entrepreneurs must equalize the interest rate and the marginal profit rate expected by the "last entrepreneur", that is, by the entrepreneur with the lowest marginal profit rate expected from her innovative project (Schumpeter, 1912). On the other hand, Schumpeter maintains that all the points of the supply curve of a given capitalist must make his expected marginal returns equal to the marginal sacrifice made by him for transferring (a part of) his amount of savings to the future. Hence all the points of the total supply curve must equalize the interest rate (net of the expected marginal default rate) and the rate of discount of the "last capitalist", that is, of the capitalist with the worst combination between the rate of discount and the expected default rate. Schumpeter's conclusion is that the construction of the curves of the total supply and demand for financing leads to the determination of that level of the equilibrium interest rate which guarantees the equilibrium in the monetary market.

Schumpeter's statement can be questioned for two reasons : (a) the curves of the total demand and supply of loans are not homogeneous, and (b) the supply behavior of capitalists is not thoroughly specified since it does not meet efficiency criteria. Concerning (a), it should be noted that the total supply curve of loans is based on a 'descriptive' ordering, i.e. capitalists rank and 'serve' their borrowers according to their expected increasing default risk. There is no reason as to why such a descriptive ordering, which leads to 'spurious' margins, should correspond to the functional ordering at the basis of the total demand curve for financing, which leads to 'pure' margins. It could easily happen that, at Schumpeter's supposed equilibrium interest rate, a subset of entrepreneurs has a positive demand for financing but each bank is ready to 'serve' them only at interest rates higher than their reservation level. Concerning (b), it ought to be remembered that (b1) capitalists can only offer, by assumption, the already existing amount of their savings, and that (b2) they are able to order the different borrowers according to the (expected) default risk subjectively attributed to them. Hypothesis (b1) implies that the last part of the total supply curve of means of payment could be infinitely rigid; hypothesis (b2) offers to the capitalists the unexploited and (ex ante) profitable possibility of realizing a price discrimination of their borrowers.

Interest rates and bank behavior

Schumpeter (1912, 1917-18, 1939) does not perceive the importance of problems (a) and (b) above. He points out, instead, the changes in the partial equilibrium of the monetary market (from now on, credit market) when capitalists give way to banks. The most prominent change occurs because banks, rather than limiting themselves to act as intermediaries with respect to the amount of money circulating in the stationary state, create means of payment ex novo. As a consequence, it is the bank credit which mainly determines bank deposits, and not vice versa (Schumpeter, 1970). According to Schumpeter (1912), this change implies that the "previous picture of reality is altered, but is not made unusable in its main features": the

analysis of the demand for financing "remains provisionally unaltered", whilst the analysis of the supply of financing has to take into account that banks have a more elastic behavior but also a larger number of constraints than capitalists.

This last statement is important for the construction of Schumpeter's debt contract. Hence, let me clarify it by comparing banks' behavior with the previous analysis of capitalists' money supply. The credit supply of each individual bank is affected by its expectations concerning the default risk of the potential borrowers, and it depends on the level of interest rates on loans and on bank deposits or other forms of debt (other than being dependent on direct costs of creation of means of payment, which are neglected in this paper). However, bank credit supply does not imply any kind of sacrifice for transferring the present purchasing power into the future. On the other hand, following Schumpeter (1939, p.126; see also 1970, p.148), I assume that the credit market is characterized by imperfect competition so that each bank exerts a - more or less stable - control on a specific subset of borrowers. This control implies that each bank enjoys discretionary margins in the determination of the interest rates. According to Schumpeter, this same control also implies that, in order to make its lending a "sound" activity, the individual bank must keep the default risks of its subset of borrowers under control, that is, it must judge "the chances of success of each purpose and, as a means to this end, the kind of man the borrower is, watching him as he proceeds and granting or withholding further support accordingly" (Schumpeter, 1939). It is obvious that the screening made by each bank cannot affect ex ante the decisions taken by the potential borrowers concerning the innovations to be introduced. However, this screening can bind the realization of (a part of) those innovative decisions and, furthermore, it can act as a positive or negative incentive for the initiatives of the most loyal customers (Ibidem,1917).

Schumpeter is aware that these observations are not sufficient for specifying banks' behavior as to the supply of loans. Such a behavior is also constrained by the fact that bank creation of

means of payment contributes to the determination of bank deposits and, together with the actual default of borrowers, may induce a liquidity shortage in the balance of the banking system and/or individual banks. If the portion of bank deposits to be transformed into legal tender was limited and stable and if there were not institutional constraints, the default of borrowers and the increase in credit granting would not represent a binding constraint for the banking system as a whole. At this macroeconomic stage, the banking system would be able to transform 'bad' credits into temporary 'good' credits through the re-financing of the activities already financed but in financial straits (Schumpeter, 1912). As a consequence, similarly to Wicksell (1898) and Hahn (1920), Schumpeter's total supply of credit should not meet any quantitative constraint, and it would be infinitely elastic at the interest rate exogenously set by the banking system. Schumpeter does not follow, however, this line of analysis. Consistently with the criticism to the method of the aggregates (Schumpeter, 1935), he analyzes the credit supply of the individual banks rather than that of the banking system.

This makes Schumpeter's analysis of bank behavior more accurate and interesting than Wicksell's one, and in particular denies that Schumpeter's total credit supply function is unbounded. In this last respect, the author rightly underlines that the rejection of the traditional thesis, according to which a given bank would limit itself to lend the 'money' of its depositors and – therefore - could not grant an amount larger than its deposits, does not imply that the credit supply curve of the individual banks is infinitely elastic to the interest rate but it is compatible with the idea that the amount of credit supplied is "an elastic, though nevertheless a definite, magnitude" (Schumpeter, 1912). Schumpeter's conclusion is that, although it is difficult to "state the limit to the creation of purchasing power as accurately as, say, the limit to the production of a commodity, yet we can state that there is such a limit at any time and what circumstances normally guarantee its maintenance.

The amount of loans supplied by an individual bank to each class of borrowers, which has a default risk lower than a given critical value, is an increasing function of the interest rate. On the other hand, the amount of loans supplied by an individual bank to those classes of borrowers which have a risk rate higher than a given critical value, can become null because any increase in the interest rate could be insufficient to compensate either such a risk or the illiquidity cost; hence, as in the case of capitalists, a specific group of potential borrowers can suffer a sort of (quantity) credit rationing. These conclusions fit with Schumpeter's analysis: the credit supply of individual banks is limited; however, this limit is elastic because it is based on banks' expectations about the default risk of borrowers and the expected costs of illiquidity. It follows that such a limit does not justify the reference to a stable "bank multiplier" and that it heavily depends on the organization of the monetary system.

2.3 Empirical Review

2.3.1 Studies from other countries

Levine (1997), establish empirically a relationship between financial sector deepening and economic growth, using cross country data on financial system developments. The authors found that financial sector deepening exerts a statistically significant influence on economic growth. They also observed that countries with functional legal system and those with good accounting standard tend to have better developed financial system and higher growth performance.

Pradhan *et al*. (2013) examined the causal nexus between economic growth, banking sector development, stock market development, and other macroeconomic variables in ASEAN countries between 1961 and 2012 using panel vector auto-repression. The study showed that banking sector development Granger-causes economic growth. This result conforms with findings of Mezioghu and Walde-Rafael (2014) and Bojanic (2012) and Chaiechi (2012). Also, Dwyer *et al*,(2013) examined the relationship among banking crises, economic growth

and recession covering 21 countries. They found evidence of mixed effects of either negative or positive on economic growth during the economic crisis but evidence of mixed results after the crisis.

Ayadi, (2013) explore the relationship between financial sector development and economic growth across the 'Mediterranean, using data covering the period of 1985 - 2009. The study found that credit to the private sector and bank deposits are negatively associated with growth, which in the authors' opinion, portend deficiencies in credit allocation in the region and suggest weak financial regulation and supervision.

Abou-Zeinab (2013) reviews patterns of bank credit allocation and economic growth in Sweden over the period of' 1736 - 2012, and found that banking system exhibits tendency of reallocating bank credit toward service and trade activities for onward economic growth in the country.

Bhusal (2012) investigates the impact of policy reforms on financial development and economic growth in Nepal, using exogenous break test, and time series data ranging from 1965 to 2009. The study could not establish positive relationship between bank domestic credit and economic growth. The study suggests that the finding might be due to some problems which inhibit the banking sector in the country, such as inadequate expansion of commercial banks and their branches in the rural non-monetized sector, non-performing loans that discouraged credit allocation, among others.

Were (2012) investigate the impact of access to bank credit on the economic performance of key economic sectors using sectoral panel data for Kenya. The study found a positive relationship between bank credit access and sectoral gross domestic product measured as real value added. Also, they found that provision of private sector credit to key economic sectors of the economy holds great potential to promoting sectoral economic growth. The study

emphasizes on financial deepening and intermediation, as of utmost importance in providing real sector with credit facilities.

Fafchamps and Schundeln (2011) investigate whether firm expansion is affected by local financial development in Moroccan manufacturing enterprises from 1998 to 2003, using regression analysis test. The study found that local bank availability is robustly associated with faster growth for small and medium size firms in sectors with growth opportunities.

Avinash and Mitchell-Ryan (2009) investigate the impact of the sectoral distribution of commercial bank credit on economic growth and development in Trinidad and Tobago. The study employs Vector Error Correction Model to ascertain the relationship that exists between credit and investment. The study found that credit and growth tends to demonstrate a demand following relationship, while further analysis revealed a 'supply leading relationship between credit and growth within key sectors of the non-oil economy.

Valev (2009) investigates the relationship between bank credit and investment and growth in the real economy, using panel data from the 14 economic sectors. Then, the study found that there is correlation between credit extensions and economic performance. Considering the second set of analysis using data from three (3) core sectors of the real sector, the study equally found positive relationship between bank credit and investment, which would subsequently translate to economic growth.

Nazmi (2005) studies the impact of deregulation and financial deepening on the real sector, using general equilibrium model to analyze data from four (4) Latin America countries, for the period covering 1960 - 1995. The study found that deregulation and a more developed banking sector prompt firms to increase the capital intensity of production, mostly, portends rapid economic growth.

Beck (2001), in a panel analysis of 63 countries found that though financial intermediaries exert a large positive impact on total factor productivity (TFP) growth, the long run link between financial intermediary development and physical capital growth and private saving ratio are tenors.

The pathway to economic growth when the financial system is well developed was the subject of interest in a study by Denizer (2000). Accordingly, the authors found that a developed and efficient financial system would centris-paribus, ensure a long-run high growth rate, by minimizing macro-economic shocks that truncate output growth.

2.3.2 Studies from Nigeria

Oni, Akinlo and Oladepo (2014) examine the impact of bank credit to output growth in the manufacturing and agricultural sub sectors of the economy over the period 1980-2010. They used the error correction modeling techniques. The methodology for the study was in the context of a neoclassical growth model.

Turning to the econometric techniques, we adopted the Engle and Granger (1987) approach. They suggest a two-step approach. First, the existence of a cointegrating relationship among the variables under consideration using long-run relationship estimated based on standard ordinary least square (OLS) techniques and second is determined based on standard co integration techniques

The results show that bank credit has significant impact on manufacturing output growth both in the short run and long run but not in the agricultural sub sector. Inflation and exchange rate depreciation have negative effects on manufacturing output growth in both short run and long run. To boost output growth in the real sector, more bank credit should be made available to the real sector especially the manufacturing sector. Also, inflation should be kept low while the value of the domestic currency should be strengthened.

Toby and Peterside (2014) in their study analysed the role of banks in financing the agriculture and manufacturing sectors in Nigeria for the period of 1981-2010. The study found that increment in availability of credit to those sectors, which are inclusive in the real sector of the economy, has potential of increasing Gross Domestic Products (GDP). Thereby, the study recommended mandatory credit allocation to real sector of the economy.

Abubakar and Gani (2013) in their study on impact of banking sector development on economic growth, using Vector Error Correction Modelling (VECM) with data covering the period of 1970 - 2010, found a negative relationship between credit to the private sector and economic growth, due to unfavourable feat of credit going into real sector. The study emphasized on financial deepening towards real sector.

Imoughele *et al* (2013) carried out a study on the impact of commercial bank credit accessibility and sectoral output performance in Nigeria economy for period of 1986 to 2010, using OLS techniques. The study found that cumulative supply and demand for credit in the previous period has direct and significant impact on the growth of agriculture, manufacturing and the service sector output. The study attributed the development to the importance of credit facility as an input in the production process and persistent inflow to the manufacturing, agriculture and services sectors. The study further encourage continuous credit accessibility in a deregulated financial market economy as it has the capacity to induce the national real sector outputs, which would subsequently result to economic growth and development. Obilor (2013) empirically investigated the impact of commercial banks' credit to agricultural sector under the Agricultural Credit Guarantee Scheme Fund in Nigeria. The study found that joint action of commercial banks credit to the agricultural sector, agricultural credit guarantee loan by purpose, government financial allocation to agricultural sector and agricultural products prices are significant factors that can influence agricultural production

in the country. The study recommends that farmers should be encouraged to be applying for loans from participating banks to enhance agricultural activities and productivity.

The results of Granger causality test and estimated regression models conducted by Akpansung and Babalola (2012) indicate that private sector credit impacts positively on economic growth in Nigeria over the period 1970-2008. The study established that lending rate impedes growth, and recommends the need for more financial' market development that favours more credit to the private sector to stimulate economic growth.

Hashim (2012) in his study examines empirically the impact of financial intermediation on the real sector of the Nigerian economy with the aim of determining the importance of financial intermediaries in influencing real sector growth for the period covering 1997 to 2008. The study adopt historical and survey research designs to gather secondary data. Similarly, data for this study were analysed using both descriptive and inferential statistics. The hypotheses were tested using multiple regression analysis.

The study found out that financial intermediaries in Nigeria exhibit inefficient and weak capacity in the allocation of funds to finance the real sector. However, on the overall, the study found that the real sector of the Nigeria rely heavily on the banking sector to finance its activities. The study therefore, concluded that financial intermediaries (deposit money banks) are important in financing the real sector. The study therefore recommend that government should put in place appropriate mechanism that could expand the capacity of financial intermediaries so as to enable it supply adequate funds to finance real sector growth and activities.

The main aim of the study of Omankhanlen (2012) is to examine the effect of the reforms on the development of the Nigerian economy. He stated that the financial sector is without doubt a very essential part of the economy of any nation and any reforms carried out in it extend to

other parts of the economy representing a transformational moment for the economy and its people. His study employs the ordinary least square method in carrying out this research. The study covers the period 1980-2008.

It was discovered that the financial sector developments, that were experienced in Nigeria`s economy at one point or the other, had effect on the activities of the economy. He however posits that this does not imply that the reforms in the financial sector are solely responsible for the sector being better off. In this research study, an improvement in financial intermediation was considered a necessary condition for stimulating investment, raising productive capacity and fostering economic growth. It is therefore recommended that there should be macroeconomic stability, as the activities in all other sectors affect this or is affected by it. Also there should be political stability as this also affects the effective operation of the financial sector.

Ikenna (2012) studied the long and short run impact of financial deregulation and the possibility of a credit crunch in the real sector, using Autoregressive Distributed Lag (ARDL), and time series data ranging from 1970 - 2009. The study found that deregulating the Nigerian financial system had an adverse effect on the credit allocation to the real sector in the long run and in the short run. The study suggested mandatory credit allocation even in the long run as of utmost necessity as it had started with the latest banking reform.

Azeez and Oke (2012) in their study examine the effect of banking reforms on the economic growth of Nigeria from 1986 to 2010. The model used in the study proxy Gross Domestic Product (GDP) as being dependent on Interest Rate Margin (IRM), Credit to Private Sector (CPS), Savings (SAV) and Inflation (INF), all representing banking reform indices. The econometric techniques of Augmented Dickey-Fuller (ADF) Unit Root test, Johansen Co-integration test and Error Correction Mechanism (ECM).

The empirical result shows the presence of long run relationship among the variables. The overall findings suggest that banking reforms has not adequately and positively impacted on the economy. The study recommends that the regulatory and supervisory framework should be further strengthened, healthy competition promoted among banks and interest rate policy should be made to stimulate savings through high real deposit rates and lending rate made reasonable as possible in order to encourage investors to borrow to participate in productive activities.

A general conclusion from this section is that every country is specific, and that even for a single country there are different views on the role of financial development in economic growth, even if the same time period is observed. While past work shows that the level of financial development is a good predictor of economic growth, others results do not settle the issue of causality. Financial development may simply be a leading indicator, rather than an underlying cause of economic growth. It is not clear whether financial intermediation is more important for economic growth in the short or long run. Probably the most important problem in the whole finance-growth literature is that theory and empirics are disconnected. While theory focuses on financial efficiency, data limitations and physical realities determine the focus of empirics, which is financial depth (share of private sector credit in GDP) or size (share of bank assets in GDP). Basically, theory is not confronted with data (Trew, 2006). One natural way ahead is multidisciplinary. Cassis (2002) suggests that we should study the interaction among the economic, political and social aspects of finance as well as the different levels of each of these aspects for each country individually. The economic aspect refers to the share of finance in the economy, social to the position of financial elites, and the political to the influence of financial interests on politics. One of the reasons why the financial system has always been interesting as a determinant of growth is because the government can influence it. Since the financial system determines who will use society's

savings, political factors have always shaped policies directed at the financial system and its functioning (Levine, 2005).

Olokoyo (2011) conducted a study that seeks to investigate the determinants of commercial banks' lending behaviour in the Nigerian context. The study aimed to test and confirm the effectiveness of the common determinants of commercial banks lending behaviour and how it affects the lending behaviour of commercial banks in Nigeria. The model used is estimated using Nigerian commercial banks loan advance (LOA) and other determinants or variables such as their volume of deposits (Vd), their investment portfolio (Ip), interest (lending) rate (Ir), stipulated cash reserve requirements ratio (Rr) and their liquidity ratio (Lr) for the period; 1980 – 2005.

The model hypothesizes that there is functional relationship between the dependent variable and the specified independent variables. From the regression analysis, the model was found to be significant and its estimators turned out as expected and it was discovered that commercial banks deposits have the greatest impacts on their lending behaviour. The study then suggests that commercial banks should focus on mobilizing more deposits as this will enhance their lending performance and should formulate critical, realistic and comprehensive strategic and financial plans.

Tomola (2010) investigated the effect of bank lending and economic growth on the manufacturing output in Nigeria, using time series data covering the period of 36 years. They also employed co-integration and vector error correction model (VECM) techniques to analyse the data. It was found that manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria. The study recommended that policies that would foster investment friendly lending and borrowing by the financial institutions should be put in place by the appropriate authority.

Fadare (2010) investigated the effect of banking sector reforms on economic growth in Nigeria over the period of 1999 - 2009, using OLS regression technique. The study found that interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, size of banking sector, capital and cash reserve ratios account for a very high proportion of the variation in economic growth in the country.

Nwanyanwu (2009) investigated the role of bank credit in economic growth of Nigeria. The study found that bank credit did not exhibit positive relationship towards economic growth. The study claimed that this was due to apathy exhibited in lending to the private sector for productive purposes. The study recommended that the regulating body such as Central Bank of Nigeria (CBN) should adopt a direct credit control that will be beneficial to the real sector of the economy, which is the latest reform in the banking sector, where there is mandatory credit allocation to critical sectors of the economy.

In the work of Chugbenga (2009), an attempt was made to explore the link between financial sector reform and economic growth in Nigeria. The result of his regression analysis showed a positive relationship between financial development and economic growth, but explanatory variables were not statistically significant in explaining what happened to economic growth in Nigeria between 1992 - 2006. This result according to him, showed that the growth enhancing efforts of financial development is weak in Nigeria and this may be connected to the fact that, banking crises are more likely to occur in a liberalized financial system where there is little respect for the rule of law and high level of corruption.

Yakubu (2008), empirically investigated financial development and economic growth in Nigeria between 1986 - 2005. His result revealed that the supply of money (M_2) is not significant in explaining the growth rate of GDP and also credit advances to the private sector of the economy does not have much impact on the growth of the GDP as evident by a Naira

change in the credit only translate to 0.6%. Based on this result, he concluded that financial development which is supposed to be the bane of the economy has been the major factor impending its growth. Also (2007), in his empirical study of the relationship between commercial banks credit and economic growth in Nigeria came out with a regression result that showed a positive relationship between commercial banks credit and economic growth. According to his findings, a N1 increase in commercial banks credit to the real sector will bring about N7.3 increase in output. The high R^2 and F – statistics of the result pointed out that a significant and positive relationship exists between GDP and commercial banks credit.

Balogun (2007) in his study " Banking Sector Reforms and the Nigerian Economy: Performance, Pitfalls, and Future Policy Options" attempts to review the perspective of banking sector reforms in Nigeria since 1970. The study pointed these eras of banking reforms in Nigeria viz; Pre-SAP (1970-1985), Post-SAP (1986-1993), the Reforms Lethargy

(1993-1998), Pre-Soludo (1999-2005) and Post-Soludo (2006). Using both descriptive statistics and econometric methods, three sets of hypothesis were tested: firstly that each phase of reforms culminated in improved incentives; secondly that policy reforms which results in increased capitalization, exchange rate devaluation; interest rate restructuring and abolition of credit rationing may have had positive effects on real sector credit and thirdly that implicit incentives which accompany the reforms had salutary macroeconomic effects.

The empirical results confirm that eras of pursuits of market reforms were characterized by improved incentives. However, these did not translate to increased credit purvey to the real sector. Also while growth was stifled in eras of control, the reforms era was associated with rise in inflationary pressures.

Among the pitfalls of reforms identified by the study are faulty premise and wrong sequencing of reforms and a host of conflicts emanating from adopted theoretical models for

reforms and above all, frequent reversals and/or non-sustainability of reforms. In concluding, the study notes the need to bolster reforms through the deliberate adoption of policies that would ensure convergence of domestic and international rates of return on financial markets investments.

Ukeje and Akpan (2007) made an empirical investigation of the financial sector development and economic growth in Nigeria. Their work covers the period of 1980-2006. Their result showed that economic growth granger cause financial development.

Further attempt to measure the impact of the financial sector development on economic growth is an empirical study carried out by Nnanna (2004). The study covered a period of 1981-2002 and ordinary least squares (OLS) estimation technique was used. The result of the OLS showed that, there was no significant relationship between the depth of the financial sector and economic growth in Nigeria. This result according to him was not surprising given the distorted, rudimentary and shallow nature of the financial markets in Nigeria. Financial sector liberalization however, showed a positive relationship with economic growth and was highly significant. It thus, upholds the positive influence of the financial sector liberalization on economic growth.

King and Levine (1993) explored the Schumpeter's statement that "banker authorizes people in the name of society as it were to innovate". They used various measures of financial development in 12 regression equations and found that all the indicators of intermediation development are strongly associated with real per capita GDP growth, the rate of physical capital accumulation and improvements in the efficiency with which economies employ physical capital. They also show that commercial banks advance credits better than any other financial institutions and this is due to the risk sharing information services provided by commercial banks. However, their findings are not tantamount to the conclusion that finance causes growth; but it may be that finance is only a leading factor.

Fama (1980) applied the Modigliani-Miller (MM) theorem of irrelevance pure financing decision to banking sector in Nigeria. He found that portfolio management activity of banks under strong MM theorem is irrelevant to economic activities. However, the role of a competitive banking sector in a general equilibrium is passive. Johnson (1986) in a similar study observed the same line of argument by assuring that a competitive banking system would be under constant incentive to expand the nominal money supply and thereby initiating inflation. Thus if finance is money, and money is a veil financial development is a neutral factor in real economic development since increase in banking operations leads to increases in money supply, and so, inflationary prices. By implication, increasingly better resource allocation depresses saving rates such that growth is retarded (Levine, 2000).

Table 2.4: Summary of Empirical Review

S/No	Author	Year	Title	Methodology	Findings
1	Levine	1997	Empirical relationship between financial deepening and economic growth using cross country data.	Causal research design. Mann-Whitney test in support of OLS	Financial deepening exacts statistical influence on economic growth
2	Pradhan	2013	Causal nexus between economic growth, banking sector development, stock market development and macro economic variables in ASEAME.	Panel vector auto-regression	Finds out that banking sector development Granger – causes economic growth
3	Ayadi	2013	Relationship between financial sector development and economic growth across Mediterranean.	Co-integration (OLS) time series	Credit to private sector and bank deposit are negatively associated with growth.
4	Abou-Zerimb	2013	Patterns of bank credit allocation and economic growth in Sweden (1736 – 2012)	Regression Analysis	Banking System exhibit tendency of relocating bank credit toward service and trade activities for onward economic growths in the country
5	Bhwal	2012	Impact of policy reforms on financial development and economic growth in Nigeria	Exogenous break test, and time series data	Could not establish positive relationship between bank domestic credit and economic growth
6	Were	2012	Impact of access to bank credit on the economic performance of key economic sector in Kenya	Sectoral panel data	Positive relationship between bank credit and gross domestic product
7	Fafchamps and Schandein	2011	Effect of financial development on firm expansion in Morocco	Regression Analysis	Local bank is associated with SMS

8	Avirash and Mitchel	2009	Impact of the sectoral distribution of commercial banks credit on economic growth in Trinidad and Tobago	Vector error correction model	Credit and growth demonstrate a demand following relationship.
9	Valev	2000	Relationship between bank credit and investment in the real economy	Panel data from 14 economic sectors	There is correlation between credit extensions and economic performance
10	Nazmi	2005	Impact of deregulation and financial deepening on the real sector in Latin America	Used general equilibrium model	Deregulating prompt firms to increase the capital intensity of production
11	Beck	2001	Effect of Financial intermediation and total factor production (TFP)	Panel data analysis	Financial intermediation have positive impact on total factor production (TFP)
12	Oni, Akinlo and Oladepo	2014	Impact of bank credit to output growth in the manufactury and agricultural sub-sectors in Nigeria	Error correction modeling techniques which was in the context of a neoclassical growth model	Bank credit have significant effort on manufacturing but not Agricultural sector.
13	Toby and Peterside	2014	The role of banks in financing the agriculture and manufacturing sectors in Nigeria	Regression Analysis	Increased available of credit has potential of increasing Gross Domestic Product (GDP).
14	Abubakar and Gani	2013	Impact of banking Sector development on economic growth	Vector error correction modeling (VECM)	Negative relationship between credit to private and economic growth
15	Imoughele	2013	Impact of Commercial bank credit accessibility and sectoral output in Nigeria	OLS techniques	Cumulative supply and demand for credit has direct and significant impact on growth of the sector.
16	Akpansung and Babalola	2012	Effect of private sector credit on economic growth	OLS regression analysis	Lending rate impedes growth over the period 1970 – 2008.

17	Hashim	2012	Empirical study on the impact of financial intermediation on the real sector of the Nigeria economy	The study adopt historical and survey research design	Financial intermediation series in Nigeria exhibit inefficient and weak capacity in the allocation of funds to finance the real sector
18	Ikenna	2012	Long and short run impact of financial deregulation and the possibility of a credit crunch in the real sector	Therefore, regressive distributed lap (ARDL) and time series data ranging from 1970 – 2009.	The study found out that deregulating the Nigeria financial system had an adverse effect on the credit allocation to the real sector in the long run and in the short run.
19	Azeez and Oke	2012	The effect of banking reforms on the economic growth of Nigeria from 1986 – 2010.	Economic techniques of augmented Dickey – Fuller (ADF) unit root test, Johnson Co-integration test and Error correction mechanism (ECM).	Banking reforms has not adequately and positively impacted on the economy.
20	Olokoyo	2011	Investigate the determinants of commercial banks lending behaviour in Nigeria context	OLS regression analysis	Commercial banks deposits have the greatest impacts on their lending behaviour.
21	Tomola	2010	The effect of bank lending and economic growth on the manufacturing output in Nigeria	Time series data covering the period of 36 years. The study also employed co-integration and vector error correction model (VECM) techniques	Manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria.
22	Chugbenga	2009	The link between financial sector reform and economic growth in Nigeria.	Multiple regression analysis	Positive relationship between financial development and economic growth

23	Yakubu	2008	Empirical investigation of financial development and economic growth in Nigeria between 1986 – 2005.	OLS regression analysis	The supply of money (M_2) is not significant in explaining the growth of GDP and also credit advances to private sector of the economy
24	Balogun	2007	Banking sector reforms and the Nigerian economy	Descriptive statistics and econometric model	Eras of pursuits of market reforms were characterized by improved incentives.
25	Ukeje and Akpan	2007	Empirical investigation of the financial sector development and economic growth in Nigeria.	OLS estimation techniques	Economic growth granger cause financial development.
26	King and Levine	1993	Explored the Schumpeter's statement that "banker authorizes people in the name of society as it were to innovate".	OLS regression analysis	Commercial banks advance credits better than any other financial institution.
27	Fama	1980	Effect of portfolio management activities of banks on economic activities in Nigeria.	Modigliani-Miller (MM) theorem.	Activities of Banks are irrelevant to economic activities in Nigeria.

Source: Researcher

2.4 Summary and gap in Literature

In summary, most of the study above does not take into cognisant the reform segment as all the segment have objectives as set up by the reform expects and policy makers, this forms the major research gap for the study. Although Balogun (2007) made an attempt to segment the reform but it was based on pre sap and post sap segmentation. The variables used in most of the reviewed works as independent variable are not reform target, for instance Fasare (2010) used size of banking sector, parallel market premium, inflation rate. Also, none of the study considers corporate governance as one of the reform cluster or target. The chapter also explore the relevant literatures with respect to banking reforms, bank finance and the real sector of the economy. In essence the study reviewed the theoretical base of the work which is mainly championed by the works of Schumpter (1912), McKinnon (1973) and Shaw (1973). Their works were dedicated to financial liberalization for onward deposit mobilization and efficient financial intermediation.

Generally, there exists a strong linkage between financial sector development and economic growth as pointed out by both theoretical and empirical literature reviewed. Most growth models have come to accept that the ratio of growth of an economy is determined by the accumulation of physical and human capital, the efficiency of resources used and the ability to acquire and apply modern technology. In turn, financial development is postulated as an important determinant of investment and therefore of growth.

The drive to economic growth was represented by the real sector of the economy: the agricultural sector, industrial and manufacturing sectors, the construction sector and mining and quarrying sector. The sectors have been prioritized through different credit schemes by past Nigerian governments but the schemes were not without its challenges. These repressive policies/finance programmes could be hugely supplemented by a more liberalized banking industry, hence banking reforms. Five (5) banking reforms were identified according to the

model of Balogun (2007). These banking reforms were expected to have more/far reaching effects on deposit mobilization, credit allocation and financial deepening. In all, the study holds that banking reforms of whatever kind has one primary goal which is to ensure more deposit mobilization, promote a more efficient allocation of resources and ensure that financial intermediation occurs as efficiently as possible Edirisuriya (2008). This study created a research gap by identifying a successful reforms carried out with respect to the intermediation roles of banking industry on financing of the real sectors in Nigerian.

This research work centered on financial intermediation theory which explains that an institution which accept deposit or mobilize idle funds from area of surplus (servers) and channels it to deficit (area of need) for investment purposes. This role is played by financial institutions majorly money deposit banks in the economy. This result to the proper functioning and performance of these institutions and facilitate economic development of the economy.

CHAPTER THREE

METHODOLOGY

3.1 Research Design

The research design adopted in this study falls within the paradigm of an *Ex-post facto* design type. The reason is that the events observed, in this case banking reforms in Nigeria, have already taken place (Ojong, Ekpuk & Ogar, Emori, 2014). Hence, the study is intended to review and evaluate the reforms with the view to ascertaining their effectiveness in meeting desired objectives, and making possible recommendations for improvement to make the Nigerian banking industry more effective.

The data sourced are decomposed for uniformity in units. This study is based on explanatory research design. This is because the study also will seek to establish the effects of banking reforms on credit allocation to the real sector. To this end, four models will be formulated to cover for the four reforms identified and then comparison will be made as to how effective each of the banking reform indices performed with regards to credit finance to the real sector. The reforms identified are from 1986-2016: liberalization (1986-1992), Guided deregulation (1993-1997), re-liberalization and universal banking model(1998-2005) and consolidation (2006-2016) banking reforms.

3.2 Population and Sample Size of the Study

The population of this study comprises of all the deposit money banks that constituted the Nigerian banking system from 1986 through till 2016. The study covers reforms from 1986 to 2016 comprising of liberalization (1986),guided deregulation (1993), re-liberalization and universal banking model (1999-2005) banking reforms and consolidation exercise (2006).

The variables for the study were therefore structured to capture aggregate bank credit to real sector. The CBN delineates it to include (i) Agriculture (ii) Manufacturing, (iii) Mining and

quarrying, and (iv) Real Estate and construction, which they classified as the primary sector (CBN,2011).

3.3 Nature and Source of Data

This study relied primarily on secondary data. The secondary data were collected from the Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of statistics. Annual time series data for the period 1986-2016 were sourced from the CBN Statically bulletin of various issues and The National Bureau of Statistics publications. Other available sources of data used include Journals, World Bank publications, internet, Books and Magazines accessed from the Nnamdi Azikiwe University Library Awka.

3.4 Variables and Model Specifications

3.4.1 Variables identification and measurement

The variables used for data analysis and explanation of interrelationships were derived to satisfy the objectives of the study as well as suitable for testing the stated hypotheses.

The variables are divided into two, the dependent variable which is real sector and the independent variable which is banking reforms. The dependent variables are:

i. Aggregate credit (loans and advances) disbursement to the agricultural sector of the Nigerian economy for the period, 1986-2016 (RSCFA).
ii. Aggregate credit (loans and advances) disbursement to the manufacturing sub-sector of the Nigerian economy for the period, 1986-2016 (RSCFM).
iii. Aggregate credit to mining and quarrying.
iv. Aggregate credit to real estate.

The independent variables are;

i. Bank capital base (CB) in Nigeria for the period 1986-2016, an absolute figure of bank capital base for the period under study is use.

ii. **Bank Credit Allocation :** this is the total amount of funds allocate to the deficit private sectors of the Nigerian economy by the Banking sector inform of loans within the period under investigation. It is measured as the total loans and advances to the real sectors of the Nigerian economy. For the purpose of this study, it is proxied by maximum lending rate of banks (LR).

iii. **Bank Asset Quality, Asset Quality of the Banks (AQB):** is the appraisal of the credit risk relating to a particular asset. These assets usually require interest payments such as loans and investment portfolios. Loan quality and asset quality are two terms with the same meaning. Asset quality of bank (principally loans and leases) are measured by a lender's credit standards, and the liquidity of securities held in the investment portfolio. It will be measured as a ratio of loan to deposits, which measures the capacity of the bank to meet up with its demand deposits and the quality of the loans granted. Asset quality which is one of the independent variable is proxied by loan–to–deposit ratio (LDR).

iv. Annual exchange rate (ER) for the period 1986-2016.

v. **Bank Liquidity (BLQ):** is the ability of the banks to maintain sufficient cash and liquid assets to meet maturing liabilities and also provide effective financial intermediation and it is measured by Net Demand and Time Liability and It is proxy as cash reserve ratio of banks (CR).

vi. **Corporate Governance:** This denotes the management of company affairs with assiduousness, transparency, responsibility and accountability that ensure the maximization of shareholders' wealth. This is proxied by corporate governance disclosure index (CGDI) of board composition and introduced as dummy variable.

3.4.2 Model Specification

Based on the argument presented in the theoretical framework and the intuition from the

reviewed literature, the model adopted in the study is the Schumpeter's (1912) model of innovation and bank credit. The popular view underlying this theory is to accommodate the significance of banking reforms policy in form of loan and advances to real sector. Therefore, the relationship is in a linear regression form as shown below;

$Y = F(x_1, x_2, x_3 \ldots\ldots\ldots\ldots x_n)$ ..... (1)

where,

Y = dependent variable (RSCF)

X = independent variables (CB,LR,LDR,ER,CRR,CGDI)

Introducing the variables of study, the model become;

RSCF = f (CB,LR,LDR,ER,CRR,CGDI)..... (2)

where,

RSCF = Real sector credit finance

CB = Bank capital base

LR = Maximum lending rate

LDR = Loan-to-deposit ratio

ER = Exchange rate

CRR = Cash reserve ratio of deposit money banks

CGDI = Corporate governance disclosure index

The above is the implicit form of the model. The explicit form of the model is as shown below;

$RSCF = a_0 - a_1CB - a_2LR + a_3LDR - a_4ER - a_5CRR + a_6CGDI + \mu$..... (3)

Where;

a_0 = Constant

$a_1, a_2, a_3, a_4, a_5, a_6$ = Parameters to be estimated

μt = Error term

A priori Expectation

It is expected that CB, LR,ER and CRR will be negative, while LDR and CGDI are expected to be positive.

$a_3, a_6 > 0$ while $a_1, a_2, a_4, a_5 < 0$

For each of the reform periods, the model is stated in a log form so as to unify the data and shown below:

i) Liberalization Reform

$$LOG(RSCFAg) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \ldots\ldots\ldots\ldots\ldots\ldots (4)$$

$$LOG(RSCFMn) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \ldots\ldots\ldots\ldots\ldots\ldots (5)$$

$$LOG(RSCFMq) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \ldots\ldots\ldots\ldots\ldots\ldots (6)$$

$$LOG(RSCFRe) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \ldots\ldots\ldots\ldots\ldots\ldots (7)$$

ii) Guided deregulation

$$LOG(RSCFAg) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \ldots\ldots\ldots\ldots\ldots\ldots (8)$$

$$LOG(RSCFMn) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \ldots\ldots\ldots\ldots\ldots\ldots (9)$$

$$LOG(RSCFMq) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(10)}$$

$$LOG(RSCFRe) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(11)}$$

iii) Re-liberalization and Universal Banking Reform

$$LOG(RSCFAg) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(12)}$$

$$LOG(RSCFMn) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(13)}$$

$$LOG(RSCFMq) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(14)}$$

$$LOG(RSCFRe) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(15)}$$

iv) Banking Consolidation and Post-Consolidation Reform

$$LOG(RSCFAg) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(16)}$$

$$LOG(RSCFMn) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(17)}$$

$$LOG(RSCFMq) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(18)}$$

$$LOG(RSCFRe) = a_0 - a_1LOG(CB) - a_2LOG(LR) + a_3LOG(LDR) - a_4LOG(ER) - a_5LOG(CRR) + a_6LOG(CGDI) + \mu \quad \text{.....(19)}$$

Where,

RSCFAg = Real Sector Credit Finance to the Agricultural Sector

RSCFMn = Real Sector Credit Finance to the Manufacturing Sector

RSCFMq = Real Sector Credit Finance to Mining and Quarrying

RSCFRe = Real Sector Credit Finance to Real Estate

3.5 Method of Data Analysis

This research work adopted the multiple regression analysis, to find the relationship between credit finance to the real sector as affected by some banking reforms indices of performance. Data collected were presented in statistical tables and were expressed in both quantitative and qualitative form. Moreover, in order to undertake a statistical evaluation of the models, so as to determine the reliability of the results obtained the coefficient of the regression, coefficient of determination, the t-test statistics, f-test statistics and the Durbin-Watson test were employed.

Series of preliminary test to ascertain if the data is suitable for analysis were conducted. The tests include:

3.5.1 Unit root test for stationarity

A unit root is a statistical approximation of persistent behavior over the period of investigation (Juselius, 1999). In time series modeling, we first examine the properties of the data. The unit root test that was applied in this study is the Augmented Dicker-Fuller (ADF) unit root test discussed extensively in Dicker and Fuller (1979).This test examines the stationarity of the data series in this study. It consists of running a regression of the first difference of the series against lagged once, lagged difference term and optionally, a constant and a time trend. This can be expressed as,

$\delta Y_t = \beta_t + \beta Y_{t-1} + \sum ai\ \delta Y_{t-1}, + U_t\ t=1,$ --------(T)

Where Y_t = endogenous variable

δ= difference operator

β = deterministic term (constant or drift and the trend)

β and ai = coefficient of Y_{t-1} and δY_{t-1} respectively,

t = number of lags and the different terms.

δY_{t-1} is added to eliminate serial correlation in the residual term U_t.

The ADF test was carried out on all the variables in the models with the following hypothesis. Null hypothesis H_1

β = O, against Alternative hypothesis

H_i: $\beta \leq$ O. The test is based on the t-statistic of the coefficient β,

$$ADFt = t_{\beta=o} = \frac{\beta}{SE(\beta)}$$

Where β and SE(β) are the estimated values of β and its standard error estimate respectively. The decision rule that, we reject H_o if the tβ is less than asymptotic critical values. Rejection of H_o implies that the series is stationary.

An implicit assumption in Johansen's cointegration approach is that the variables should be non-stationary at level, but stationary after first differencing. The Augmented Dickey-Fuller test is utilized to check the order of integration by using the model (T):

where, $\Delta Yt = Yt - Yt - 1$, $\Delta Yt - 1 = Yt - 1 - Yt - 2$, and $\Delta Yt - 2 = Yt - 2 - Yt - 3$, etc., εt is pure white noise term, α is the constant-term, T is the time trend effect, and p is the optimal lag value which is selected on the basis of Schwartz information criterion1 (SIC). The null hypothesis is that $\beta 1$, the coefficient of $Yt - 1$ is zero.

The alternative hypothesis is: $\beta 1 < 0$. A non-rejection of the null hypothesis suggests that the time series under consideration is non-stationary2 (Gujarati, 2010).

3.5.2 Cointegration analysis

Theoretically, it is expected that a regression involving "integration" or sometimes incorrectly called "non- stationary" time series may produce spurious result (Granger, 1969; Gujarati and Porter, 2009). Cointegration analysis helps to identify long- run economic relationships between two or more variables and to avoid the risk of spurious regression. This test is very important because if two non-stationary variables are even cointegrated a vector autoregressive lead to misspecification and invalid inferences of the model due to the effect of a common trend (Masih, 1996).

Cointegration Analysis Using Johansen Methodology. The Johansen procedure examines a vector auto regressive (VAR) model of Yt , an (n × 1) vector of variables that are integrated of the order one— I (1) time series. The presence of at least one cointegrating relationship is necessary for the analysis of long-run relationship of the prices to be plausible. To detect the number of co-integrating vectors, Johansen proposed two likelihood ratio tests: trace test and maximum eigen value test. The trace test examines the null hypothesis of r cointegrating vectors against the alternative hypothesis of n cointegrating vectors. The maximum eigen value test, on the other hand, tests the null hypothesis of r cointegrating vectors against the alternative hypothesis of r+1.

3.5.3 Vector error correction model (VECM)

A vector error correction model (VECM) as presented adds error correction features to a multi-factor model such as a vector auto regression model. A rough long-run relationship can be determined by the cointegration vector and then this relationship can be utilized to develop a refined dynamic model which can have a focus on long-run or transitory aspect such as the

two VECM of a usual VAR in Johansen test. An error correction model is also a dynamical system with the characteristics that the deviation long run relationship will be fed into its short-run dynamics. An error correction model is not a model that corrects the error in another model. It is a category of multiple time series models that directly estimates the speed at which a dependent variable – y returns to equilibrium – x. VECM are a theoretically driven approach useful for estimating short term dynamics. ECMS are useful models when dealing with integrated data, but can also be used with stationary data. The short run econometric model is stated below;

$$\text{Log RSCF}_{t-1} = a_0 - a_1 \log \text{CB}_{t-1} - a_2 \log \text{LR}_{t-1} + a_3 \log \text{LDR}_{t-1} - a_4 \log \text{ER}_{t-1} - a_5 \log \text{CRR}_{t-1} + a_6 \log \text{CGDI} + {}_{t-1}U \ldots \ldots (20)$$

3.5.4 Impulse response test and variance decomposition test (VDF)

Impulse response test refers to the reaction of any dynamic system in response to some external change. In both cases the impulse response describes the reaction of the system as a function of time (or possibly as a function of some other independent variable parameterizes the dynamic behavior of the system).In all these cases, the dynamic system and its impulse response may be actual physical objects, or may be mathematical systems of equations describing such system. Impulse response function (IRF)of a dynamic system is its output when presented with a brief input signal, called an impulse. More generally, an impulse response refers to the reaction of any dynamic system in response to some external change.

Variance decomposition separates the variation in an endogenous variable into the component shock to the VAR. It is used in this study because it shows the contribution of each variable in the model.

3.5.5 Jarque–Bera test of Data Normality

In statistics, the Jarque–Bera test is a goodness-of-fit test of whether sample data have the

skewness and kurtosis matching a normal distribution. The test is named after Carlos Jarque and Anil K. Bera. If the data comes from a normal distribution, the JB statistic asymptotically has a chi-squared distribution with two degrees of freedom, so the statistic can be used to test the hypothesis that the data are from a normal distribution. The null hypothesis is a joint hypothesis of the skewness being zero and the excess kurtosis being zero. Samples from a normal distribution have an expected skewness of 0 and an expected excess kurtosis of 0 (which is the same as a kurtosis of 3). As the definition of JB shows, any deviation from this increases the JB statistic.

The Jarque-Bera Test, is also a Lagrange multiplier test, is a test for normality. Normality is one of the assumptions for many statistical tests, like the t test or F test; the Jarque-Bera test is usually run before one of these tests to confirm normality. It is usually used for large data sets, because other normality tests are not reliable when n is large (for example, Shapiro-Wilk isn't reliable with n more than 2,000).

3.5.6 Lag Length Criteria Test

The lag length is how many terms back down the AR process you want to test for serial correlation. Is checking the prior one alone enough, or do you need to check in groups of 3, 4, or more.

3.6 Characteristics of the Variables

The first step in the empirical methodology is the estimation of the characteristics of the variables which show whether the variables are stationary or non-stationary. If the variables are non-stationary, their order of integration is tested. The Augmented Dickey-Fuller test is widely used to test the presence of unit roots in the variables. In this test, sufficient lag of the autoregressive process is added to achieve white noise residuals. Lag range Multiplier test can be used to test for serial correlation and thus to check whether the chosen lag length is adequate. The distribution theory supporting the Dickey-Fuller test assumes that the errors

are statistically independent and have a constant variance (Enders, 2004).

Step 1: Investigation of the stationarity properties of the time series data using the Augmented Dickey-Fuller (ADF) test.

The purpose of 'augmenting' the Dickey-Fuller (DF) regression is to get white noise errors. A series Y_t is said to be integrated of order d denoted by $Y_t \sim I(d)$ if it becomes stationary after differencing d times and thus Y_t contains d unit roots. A series which is 1(0) is said to be stationary. To determine whether a series is stationary or non stationary, unit root test developed by Dickey and Fuller (1979) was used.

The null hypothesis of a unit root is rejected against the one-sided alternative if the t-statistics is less than the Critical value. Otherwise, the test fails to reject the null hypothesis of a unit root at 5% significance level.

Step 2: Next, the study employ Johansen Multivariate Co integration Test.

The finding that many macro time series may contain a unit root has spurred the development of the theory of non-stationarity time series analysis. Co integration is the existence of a long run equilibrium relationship among time series variables. Johansen (1988, 1991) points out that a linear combination of two or more non-stationary series may be stationary. If such a stationary linear combination of two or more non-stationary time series exists, the non-stationary time series are said to be co integrated, and may be interpreted as a long-run relationship among the variables. The Johansen procedure, determines the rank of π. The maximum likelihood estimation used in the procedure circumvents the use of two-step estimators in the error correction method and can estimate and test for the presence of multiple cointegrating vectors.

The co integrating rank is tested with two statistics, the trace and maximum eigenvalue. If

there is cointegration, it shows evidence of a long-run relationship between the variables. Cointegrated variables share common stochastic and deterministic trends and tend to move together through time in a stationary manner.

Step 3: Investigation of the direction of causality for the hypotheses using Vector Error Correction (VEC) Model based causality test.

The presence of cointegrating relationship forms the basis of the VEC specification. Eviews econometric software used for data analysis, implements Vector Autoregression (VAR)-based cointegration tests using the methodology developed by Johansen (1991, 1995).

Data collected with the aid of our study instruments were presented in statistical table while the multiple regression analysis of the ordinary least square (OLS) method was used to analyze the data. These will be express in both quantitative and qualitative form. Moreover, in order to undertake a statistical evaluation of the models, so as to determine the reliability of the results obtained the coefficient of the regression, coefficient of determination, the T-test statistics, F-test statistics and the Durbin-Watson test will be employ.

3.7 Decision Rule

The study adopted 5% as its level of significance. The following decision rules were adopted for accepting or rejecting hypotheses: If the probability value of (b_i) > the critical value of b_i, we accept the null hypothesis, that is, we accept that the estimate b_i is not statistically significant at the 5% level of significance.

If the probability value of (b_i) < the critical value of b_i, we reject the null hypothesis, in other words, that is, we accept that the estimate b_i is statistically significant at the 5% level of significance.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

This chapter deals with the analysis of data. The study segmented the data into four to comprehensively capture all the major reform programmes. The data to be made use of are bank credits to the real sector (agriculture and manufacturing, Mining and Quarrying and Real Estate sectors), bank capital base, exchange rate, loan-to-deposit ratio, cash reserve ratio and corporate governance disclosure index. The first face of this section is the global utility of data which include the normality test and the trend movement while the second face is the relative analysis which is the pre-estimation test, estimation test and the post estimation test. The relative analysis was used to test the hypotheses

4.1 Presentation of Results

This sub-section presents the analyzed data summary. This research results covered reforms for the period of 1986 to 2016 which was divided into four periods comprising of the liberalization reform (1986-1992), the Guided deregulation reform (1993-1998), the re-liberalization and universal banking reform (1999-2005), banking consolidation and post-consolidation reforms (2006-date). The probability statistic was used to test the efficacy of each of the reforms with regards to credit allocation to the real sector as defined by all the reform variables.

4.1.1 Descriptive analysis of input data

The descriptive statistics, using the data in appendix one will tell us if the data is normally distributed and whether it will be suitable for our analysis. For data to be normally distributed, it must have a skewness of not more than 3 and a kurtosis of not more than 3 also. The table for the descriptive statistics is shown below.

Table 4.1a: Descriptive statistics of input data

	RSCFAG	RSCFMN	RSCFMQ	RSCFRE	CB	LR	LDR	ER	CRR	CGDI
Mean	1258.765	459.468	522.4800	339.5839	1.16E+10	23.24839	55.05806	97.81710	8.293548	1.677419
Std. Dev	198.8842	553.5092	730.9265	301.4374	1.24E+10	4.103100	29.55359	76.64939	6.192250	0.475191
Skewness	2.416266	1.074687	1.172429	0.567042	0.188580	1.212391	0.749299	0.421169	1.008632	-0.008632
Kurtosis	8.872924	2.802131	3.016742	2.546900	1.043386	4.547051	3.892343	2.593127	3.285622	1.576190
Jarque-Bera	74.71595	6.017826	7.102411	11.926450	5.128677	10.68588	3.929339	1.130312	5.361627	5.595494
Probability	0.400002	0.749345	0.02860	0.381660	0.076970	0.058782	0.140202	0.568272	0.068507	0.060947
Observation	31	31	31	31	31	31	31	31	31	31

Source: E-View 7.0 Output, 2018

As shown from the result of the descriptive statistics in table 4.1a, Real Sector Credit Finance to Agricultural Sector has a mean of 125.7858, with a standard deviation of 197.8842 and a positive skewness of 2.416266. The result also shows that all the variables have positive mean of 459.8468,522.4800,339.5839,1.16,23.23839,55.05806,97.81710,8.293548 and 1.677419 respectively for MN,MQ,RE,CB,LR,LDR,ER,CRR and CGDI, this imply that all the variables of the study are performing well. All the variables have positive skewness meaning that they are tilted to the right of the mean on the normal distribution curve.

This indicates that the sample data have the skewness and kurtosis matching a normal distribution. When the p-value (probability) for this test is greater (i.e. greater than 0.05, the residuals is normally distributed as shown by the shape of the graph.

This preliminary investigation indicates that the data for the study are normally distributed after being subjected to normality test using Jarque Bera statistics.

Jarque-Bera test assesses model bias. The Jarque-Bera statistic indicates whether or not the residuals (the observed/known dependent variable values minus the predicted/estimated values) are normally distributed. The calculation of p-values for hypothesis testing typically is based on the assumption that the population distribution is normal. Therefore, a test of the normality assumption may be useful to inspect the data. Our results indicates that the Jarque–Bera test probability values are greater than 0.05 i.e. ($p>0.05$), for each of the variable under investigation, this means that the data is normally distributed.

Further proof of the normality test is also shown below using the Vector Error Correction Residual for Normality Tests; (see appendix 4 and 35)

Table 4.1b: VEC Residual Normality Test for Skewness

Component	Skewness	Chisquare	Df	Probability
1.	0.371667	0.644636	1	0.4220
2.	-0.507979	1.204200	1	0.2725
3.	0.563378	1.481174	1	0.2236
4.	0.947933	4.193358	1	0.0406
Joint (Total)		**7.523368**	**4**	**0.1107**

Source: E-View 7.0 Output, 2018

Table 4.1c: VEC Normality Test for Kurtosis

Component	Kurtosis	Chisquare	Df	Probability
1.	0.801697	0.045878	1	0.8304
2.	3.292506	0.099820	1	0.7520
3.	3.901851	0.948892	1	0.3300
4.	5.333523	6.352884	1	0.0117
Joint (Total)		**7.447473**	**4**	**0.1140**

Source: E-View 7.0 Output, 2018

Table 4.1d: VEC Normality Test for Jarque-Bera

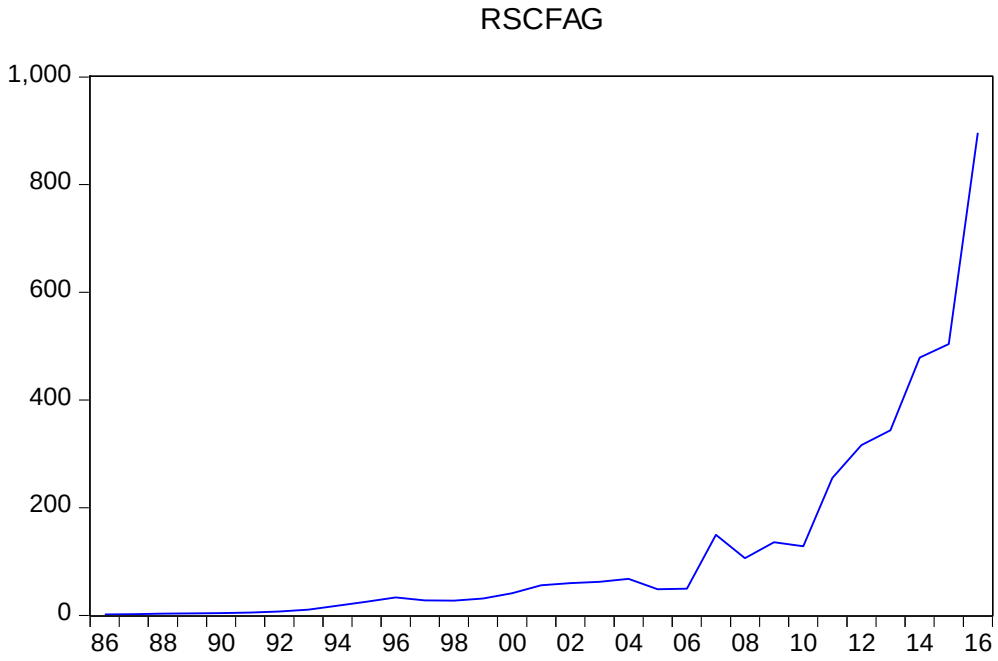
Component	Jarque-Bera	Df	Probability
1.	0.690515	2	0.7080
2.	1.304020	2	0.5210
3.	2.430065	2	0.2967
4.	10.54624	2	0.0051
Joint (Total)	**14.97084**	**8**	**0.0597**

Source: E-View 7.0 Output, 2018

The Chi square statistics and the probability value of the variables and component matches that of a normal distribution as the probability is greater than 0.05.(see appendix 5)

4.1.2 Trend analysis of the variables of the study

Trend analysis is the process of comparing data over time to identify any consistent results or trends. It helps in developing a strategy to respond to these trends in line with expected goals. The data used for the trend analysis was collected from the CBN statistical bulletin and covered the period from 1986-2016 which is the study period. The trend is for real sector credit finance against years. The data is shown in appendix 1.

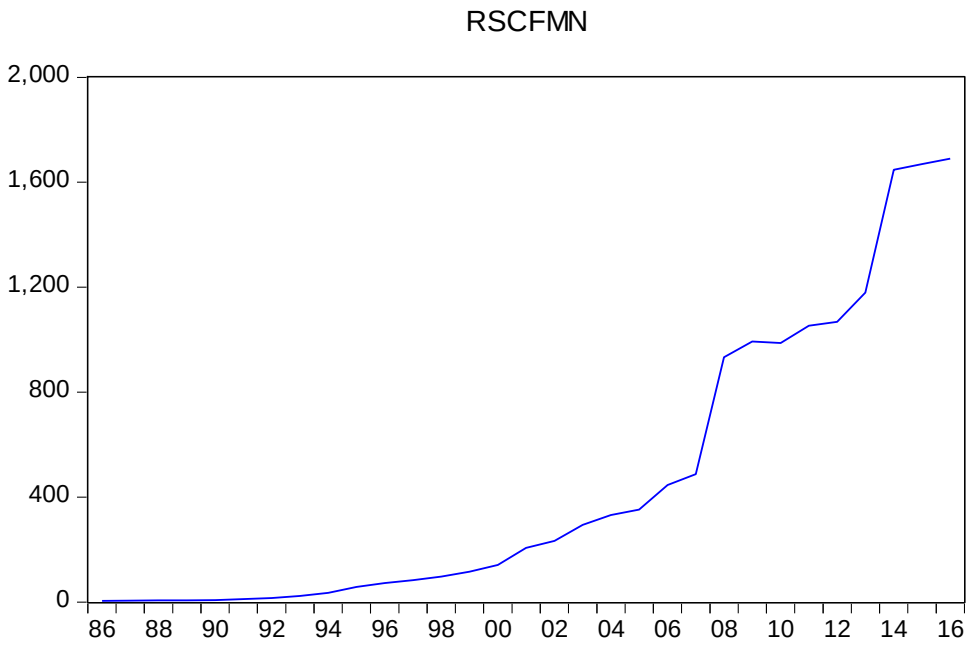


Source: Output from E-views

Figure 4.1: Trend in Agricultural Credit Finance

Source: Output from E-views

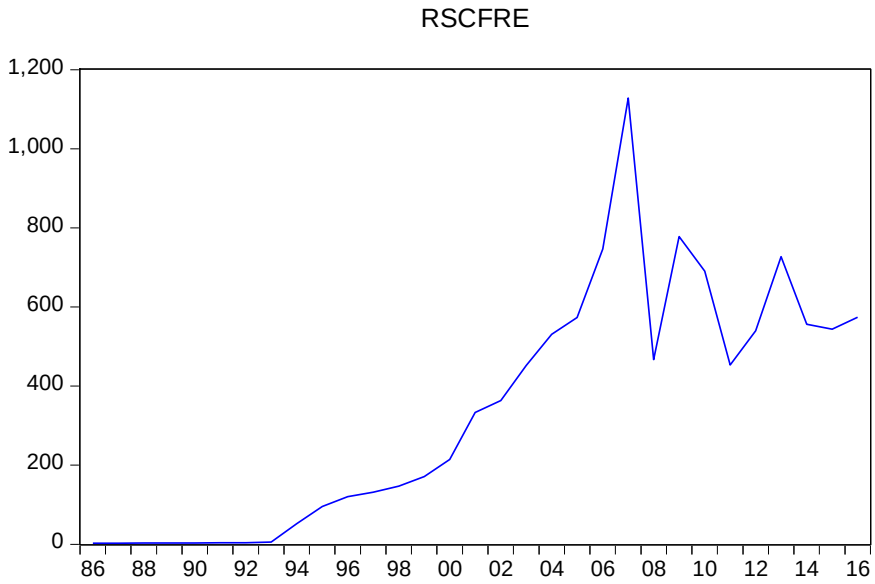
The graph of the Real Sector Credit to Agriculture ($RSCFA_g$) against year shows that Real Sector Credit to Agriculture was flat for the period of 1986 to 1992 when it started a gradual increases lowly and cascaded between 2006 and 2010 and then sharply rose to its highest point between 2014 to 2016. This could be as a result of various factors that influence the disbursement of credit to agricultural sector which might be outside the variables of our study contributing to its steady trend overtime.



Source: Output from E-views

Figure 4.2: Trend in Manufacturing Credit Finance

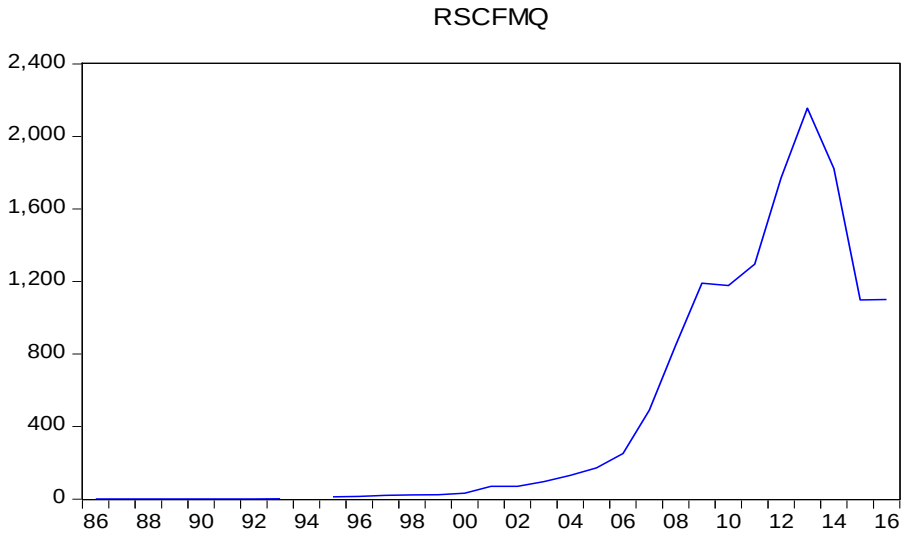
There is a stable increase in Real Sector Credit to Manufacturing (RSCFMn) against year shows that Real Sector Credit to Mn was low for the period of 1986 to 1990 when it started stable increase 1991, it at it pick in 2016. This could be as a result of increase in foreign investment in the Manufacturing sector.



Source: Output from E-views

Figure 4.3: Trend in Real Estate Credit Finance

The graph of the Real Sector Credit to Real Estate (RSCFRe) against year shows that Real Sector Credit to Re was flat for the period of 1986 to 1993 and started an undulated movement across the years.



Source: Output from E-views

Figure 4.4: Trend in Mining and Quarrying Credit Finance

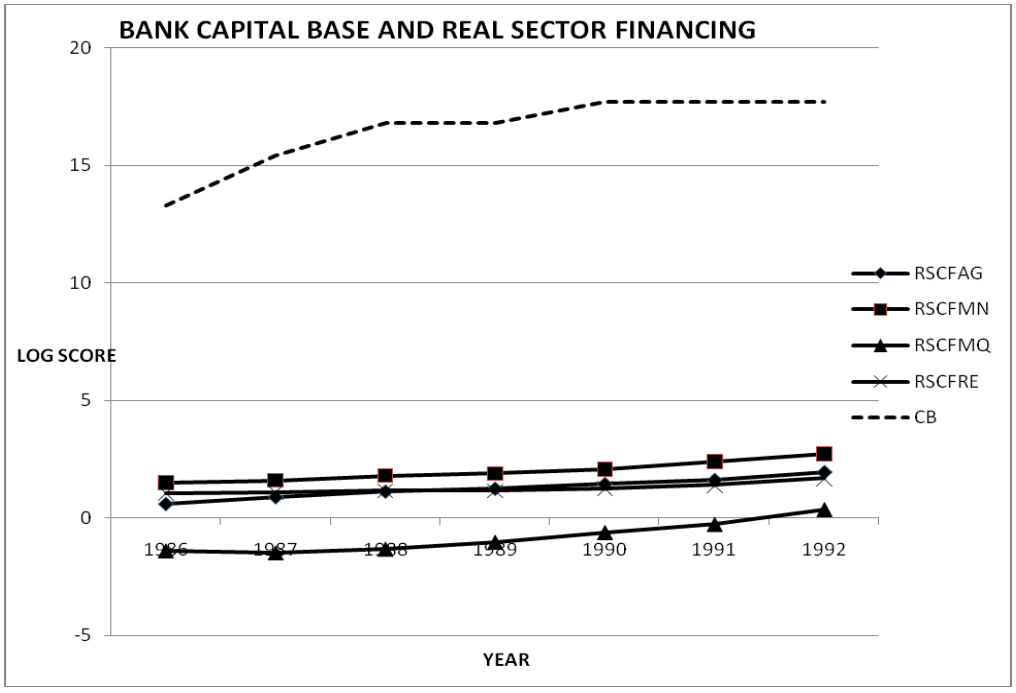
The above graph shows the trend for Real Sector Credit to Mining and Quarrying (RSCFMQ) against the year, it shows that Real Sector Credit to MQ was low from 1986 to 1995 and started picking from 1996. Credit finance to MQ increases and picked in 2011 and started dropping and became stabilized in 2014.This could be as a result of a shift in attention from mining.

4.1.3 Trend movement for the reform segment

The data used for the trend analysis for the reform segment was also collected from the CBN statistical bulletin and covered the period from 1986-2016 but splitted to the reform segment for the study period. The data is shown in appendix 2.

4.1.3.1 Trend in Libralisation Reform and Real Sector Finance

This covers the period between 1986-1992 for all the independent variables in relation to the dependent variable. The relationship are shown bellow;

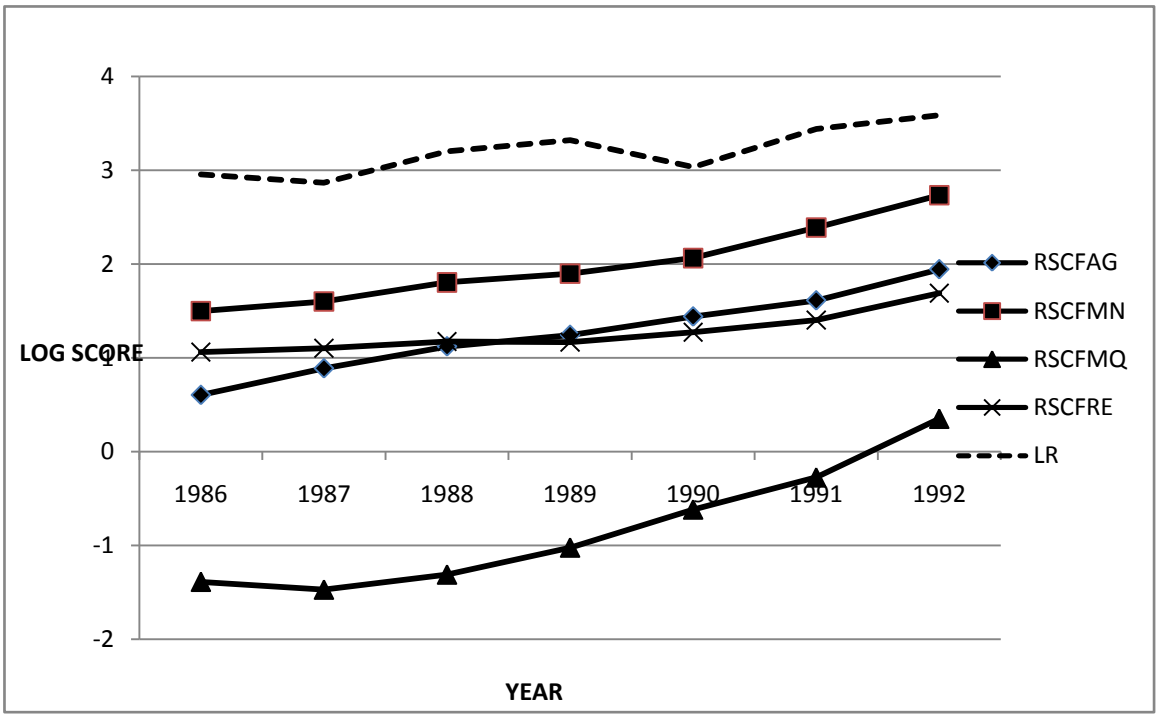


Source: Output from E-views

Figure 4.5: Bank capital base and real sector credit finance

Capital regulation and adequacy is seen as one of the most reliable indicator of banks financial soundness (Adamu, 2005). It is expected that a sound capital adequacy means a more profitable and less risky banking business (Sanusi, 2011). The liberalization reform of 1986 saw a fairly increasing trend in real sector financing. For instance, credit finance to the agricultural sector increases from N1.83billion in 1986 to N6.98billion in 1992. Similarly, credit finance to the manufacturing, mining and real estate sectors moved from N4.48billion, N0.21billion and N2.84billion in 1986 to N16.48billion and N0.76billion and N4.06billion in 1992 respectively. All of these are a pointer to the fact that a strong capital base supports a

banking business. By this outlook, we are expecting a significant effect of capital base on real sector variables when we eventually run out the test.

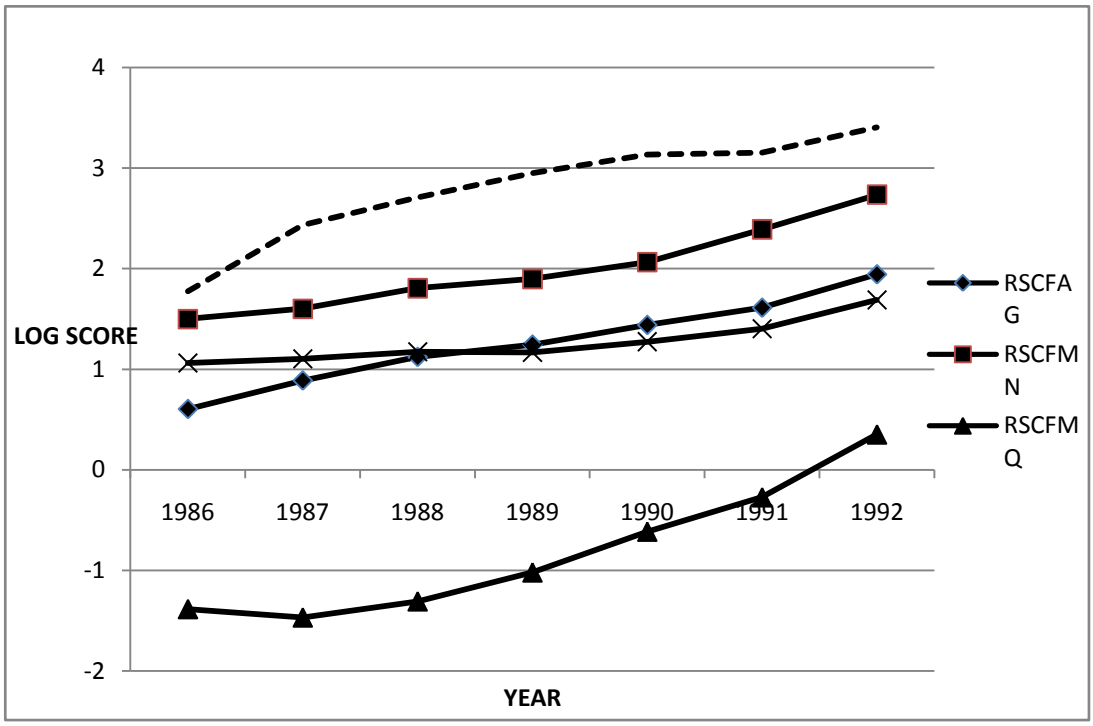


Source: Output from E-views

Figure 4.6: Lending rate and real sector financing

Banking lending rates are normally a reflection of the acceptability banks to finance certain business or sectors (Balogun, 2007). Trending the lending rate with credit finance to the real sector that is adjudged less attractive (Balogun, 2007), is a litmus test for how acceptable and willing banks are to extend loans to them. Fig 4.6 shows that that the lending rate continues to undergo readjustment as the banking sector tries to readjust itself to a new ‘’post-liberalization ‘’ operating platform. For instance, when lending rate dropped from 12% in 1986 to 19.2% in 1987, credit finance to the mining and quarrying sector also increased from N0.21billion in 1986 to N0.25billion in 1987. Besides this trend, credit to agriculture, manufacturing and real estate rose from N1.83billion, N4.48billion and N2.84billion in 1986 to N2.43billion, N4.96billion and N2.89billion in 1987. In all, the trend revealed a fairly

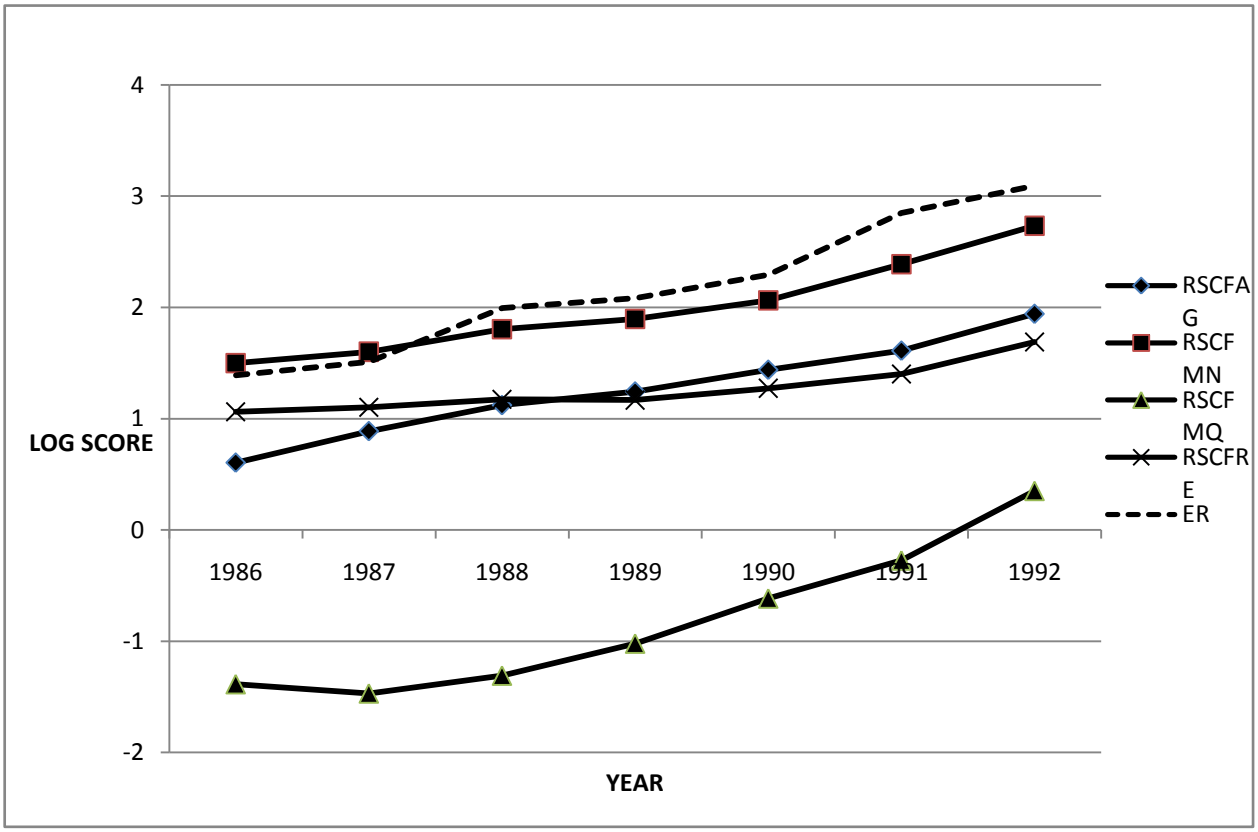
corresponding trend of credit to the real sector with bank lending rate. This shows a market acceptability of real sector finance by the banks in operations. So we are expecting a significant positive relationship from the result of our test.



Source: Output from E-views

Figure 4.7:Loan to deposit ratio and real sector financing

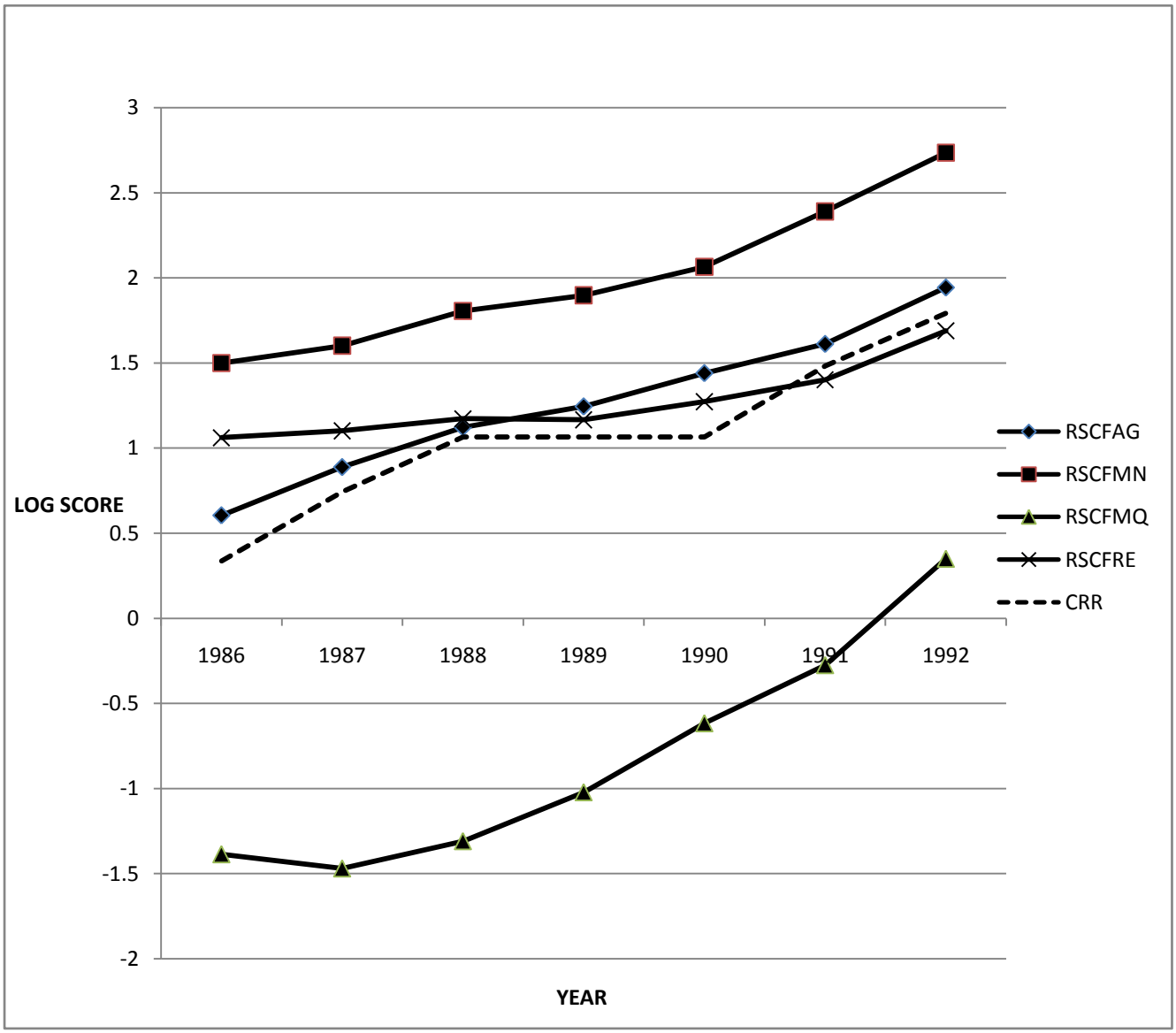
This measure which was strengthened during the liberalization period kept rising from 2.4% in 1986 to 5.9%, 11.4%, 15%, 19.1%, 23% and 23.4% in 1987, 1988, 1989, 1990, 1991 and 1992, respectively. This shows an average increase of 875% for this period. Real sector credits to agricultural, manufacturing, mining and real estate sectors increased averagely at 281.4%, 243.8%, 261.9% and 43% for this reform period. This is an indication of a positive relationship between loan to deposit ratio and real sector financing during the liberalization period.



Source: Output from E-views

Figure 4.8: Real exchange rate and real sector financing

The directional trend in the lines of this graph shows that there exist a positive relationship between real exchange rate and real sector financing during the liberalization period. There is an average increase of 888.6% for real exchange rate for this period, while credits to agricultural, manufacturing, mining and real estate sectors increased averagely at 281.4%, 243.8%, 261.9% and 43% for this reform period.



Source: Output from E-views

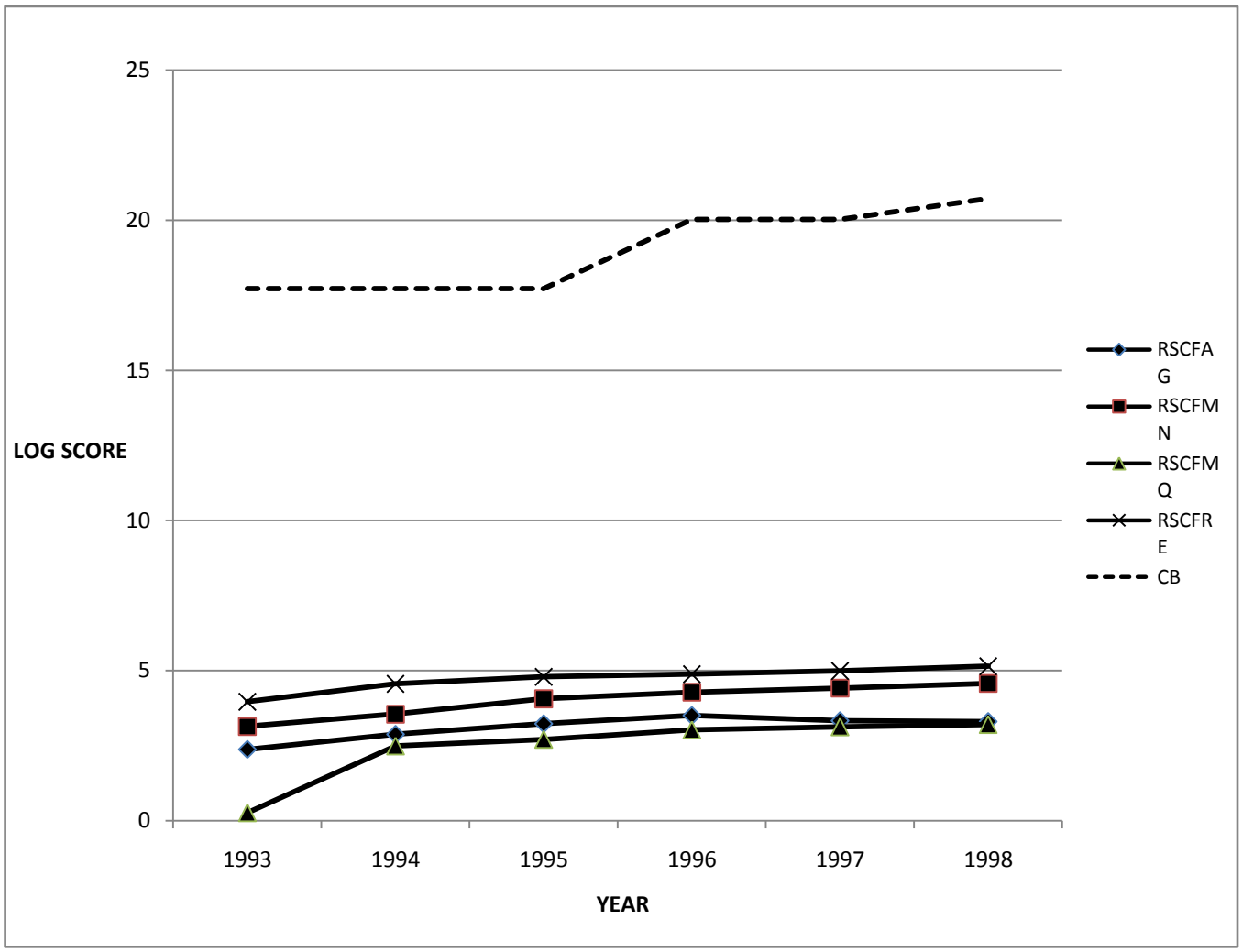
Figure 4.9: cash reserve ratio and real sector financing

As the reform period progressed from 1986 to 1992, we saw an upward adjustment of the cash reserve ratio rate as evidenced in Fig 4.9 that manufacturing and mining sectors credit correspond more with the trend of cash reserve ratio. The average growth of cash reserve ratio from 1986 to 1992 was 158.8% representing 1.7% to 4.4% was enough to propel agricultural, manufacturing, mining and real estate sectors credit to grow averagely by 281.4%, 243.8%, 261.9% and 43%, respectively. This represents a movement from N1.83billion, N4.48billion, N0.21billion N2.84billion to 0.98billion, N15.4billion,

N0.76billion and 0.06billion, respectively. This trend gives us a hint of a positive relationship effect of cash reserve ratio on real sector credit financing.

4.1.3.2 Trend in Guided deregulation Reform and Real Sector Finance

This period is from 1993-1998 also known as guided deregulation.

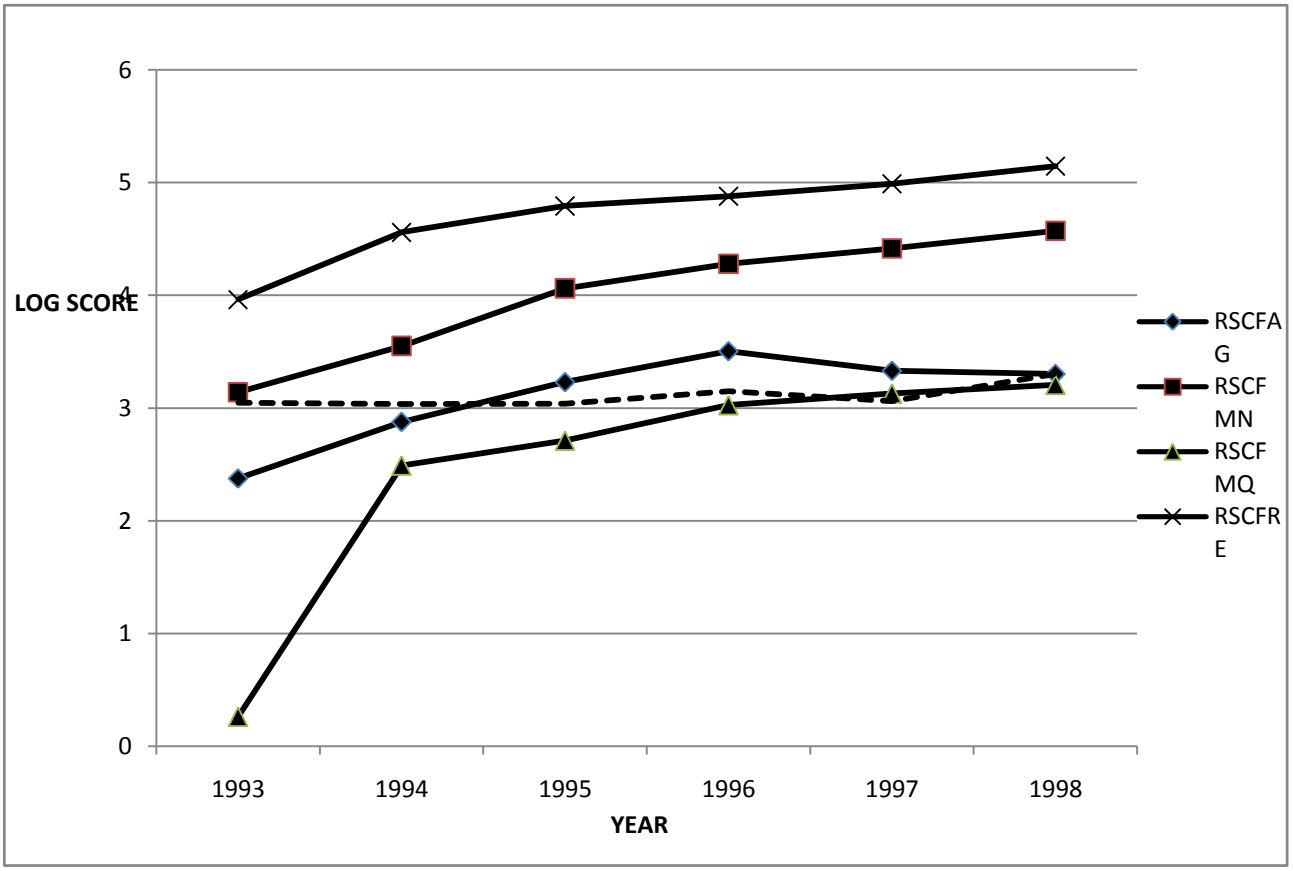


Source: Output from E-views

Figure 4.10: Capital base and real sector financing

Capital base once again acted as a boosted to the lending power of banks and credit finance to the real sector continued to increase during this reform period. Despite the stability of capital base as 50million, for the period 1992 to 1993 to 1996, credit to the agricultural sector

increased by 22.23%, 21.14% and 12.27% during this period. Manufacturing credit also increased but by 14.84%, 13.05% and 14.42% during the same period. Except for credit to the mining sector to the real sector increased during this reform period. In all, we are expecting a significant positive relationship between capital base and real sector financing.

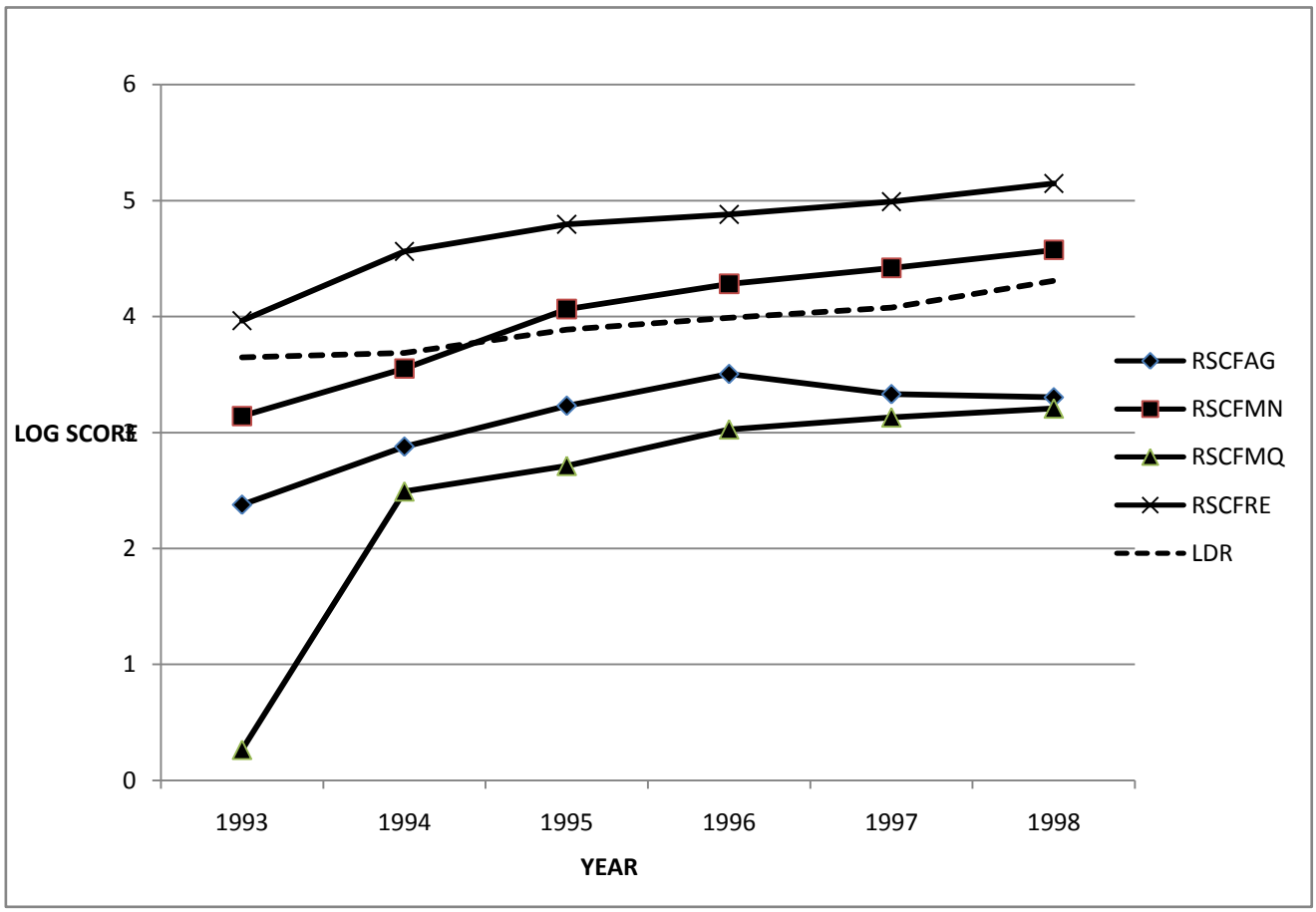


Source: Output from E-views

Figure 4.11: Lending rate and real sector financing

From figure 4.11, lending rate did not record any significant fluctuations as its changes keep alternating between increases and decreases. This is irrespective of the movements in real sector finance. Agricultural finance rose from 10.75billion at the beginning of the reform to peak at 33.26billionbefore dropping marginally to close at n27.18billion at the end of the reform period. Manufacturing credit rose from 23.11billion in 1993 to 96.73billion in 1998. Mining sector credit moved from 1.47billion in 1993 to 22.85billion in 1998. In all, aggregate

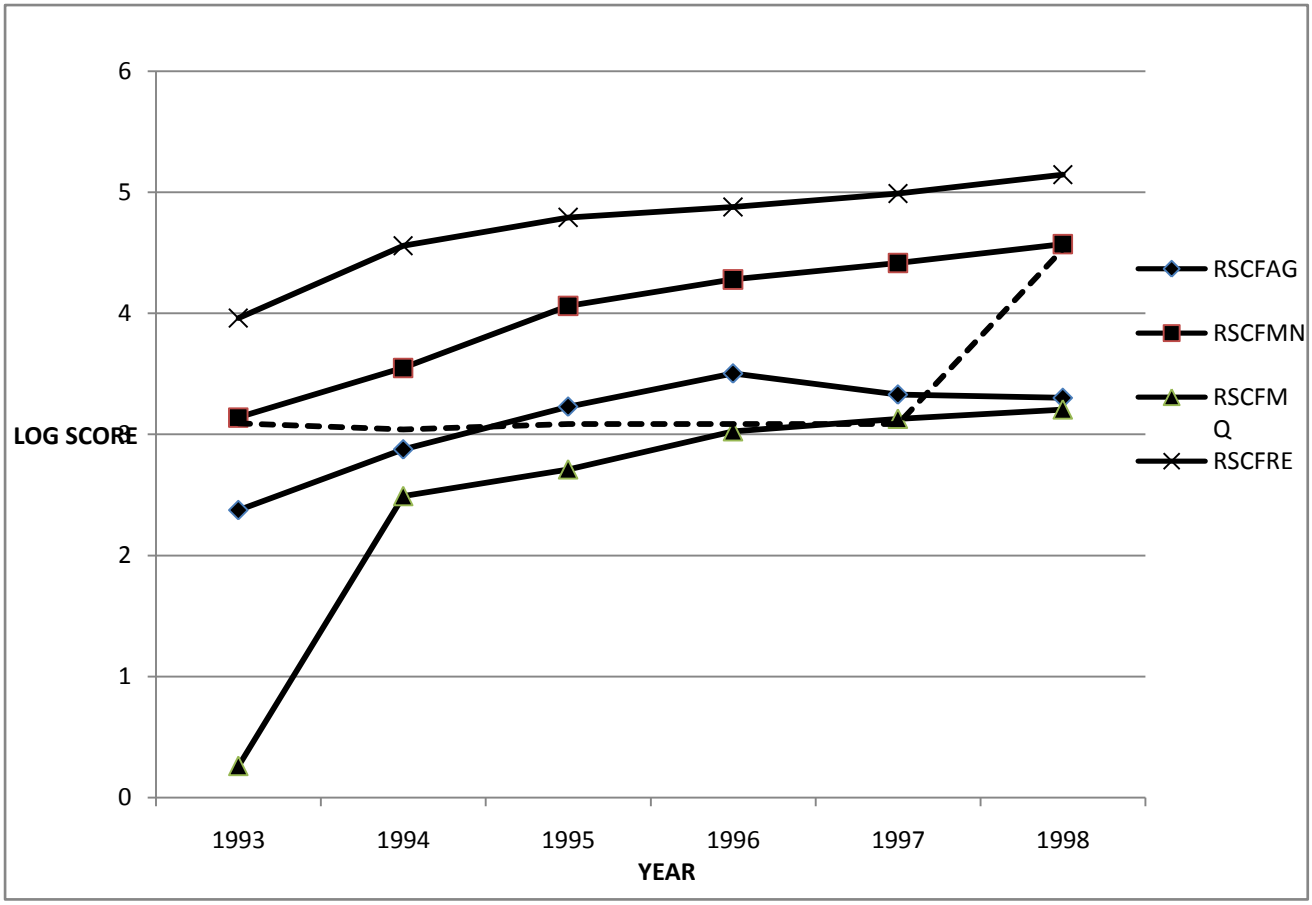
real sector credit during the Guided deregulation reform rose from 52.58billion in 1993 to 146.76billion in 1998. By this scenario, we are expecting a non significant relationship between lending rate and real sector financing.



Source: Output from E-views

Figure 4.12: Loan to deposit ratio and real sector financing

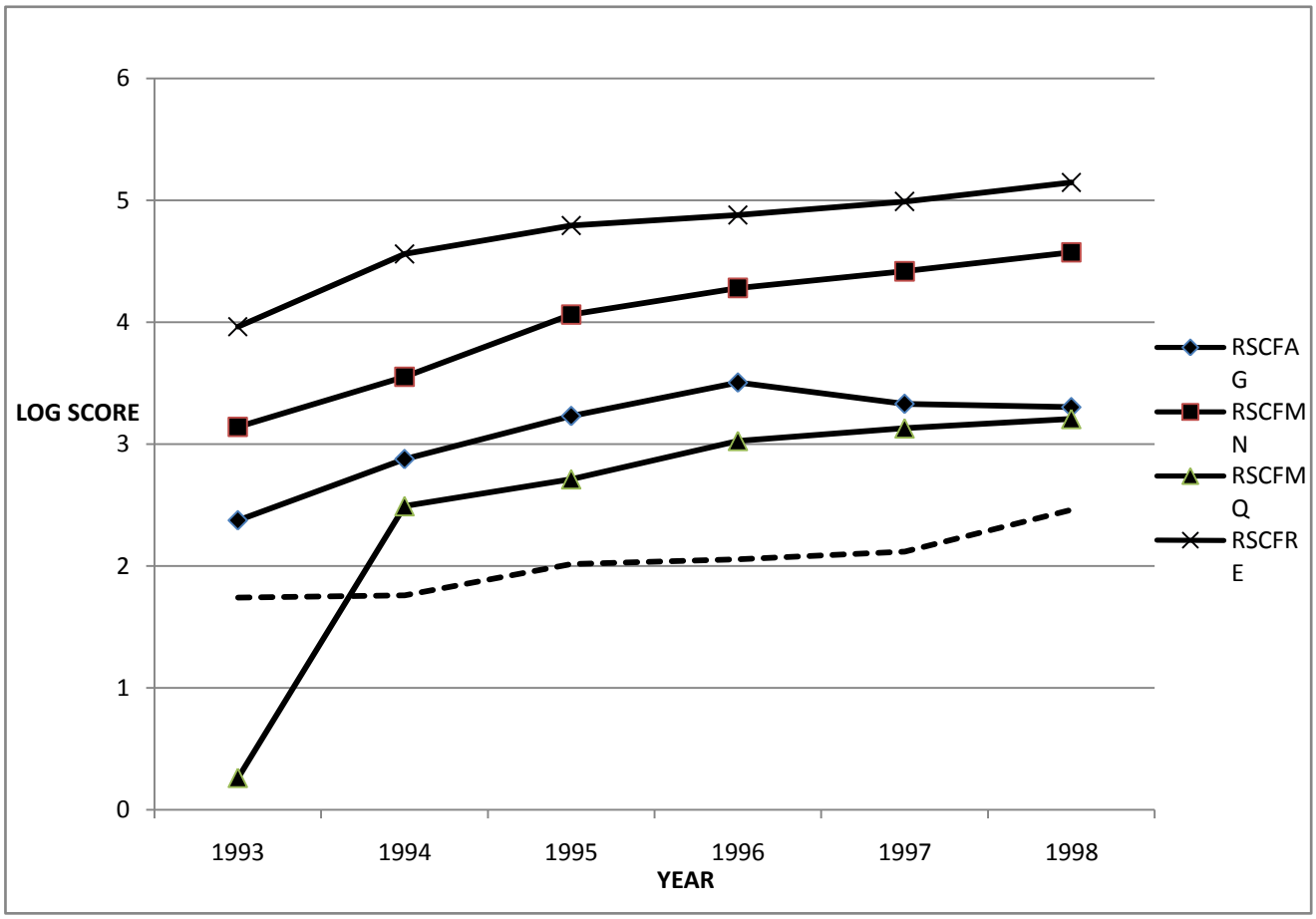
Figure 4.12 shows the trends between loan to deposit ratio of banks and real estate and manufacturing sectors and revealed a more proportional relationship between them. This is a pointer to a significant positive relationship between loan to deposit ratio and real sector financing. Besides these, credit to agricultural and mining sector did not show a significant relationship with the loan to deposit ratio. For example, in 1993 loan to deposit ratio rose by 7.08% while agricultural and mining sector credit rose by 22.23% and -25.18% in that same period. This might reveal that a non-significant relationship is expected.



Source: Output from E-views

Figure 4.13: Real exchange rate and real sector financing

Exchange rate which shows the cost of foreign capital (Soludo, 2004) was fairly instable throughout the reform period when it moved from $22.07 in 1993 to $21.89 in 1998. This is a pointer to a stable economy. During the last year of this reform period , agriculture, manufacturing mining and real estate sector recorded credit changes of -0.83%, 3.52%, 2.46% and 3.12%, respectively. In all, we are expecting a non-significant relationship between exchange rate (foreign exchange risk and or capital) with real sector financing.



Source: Output from E-views

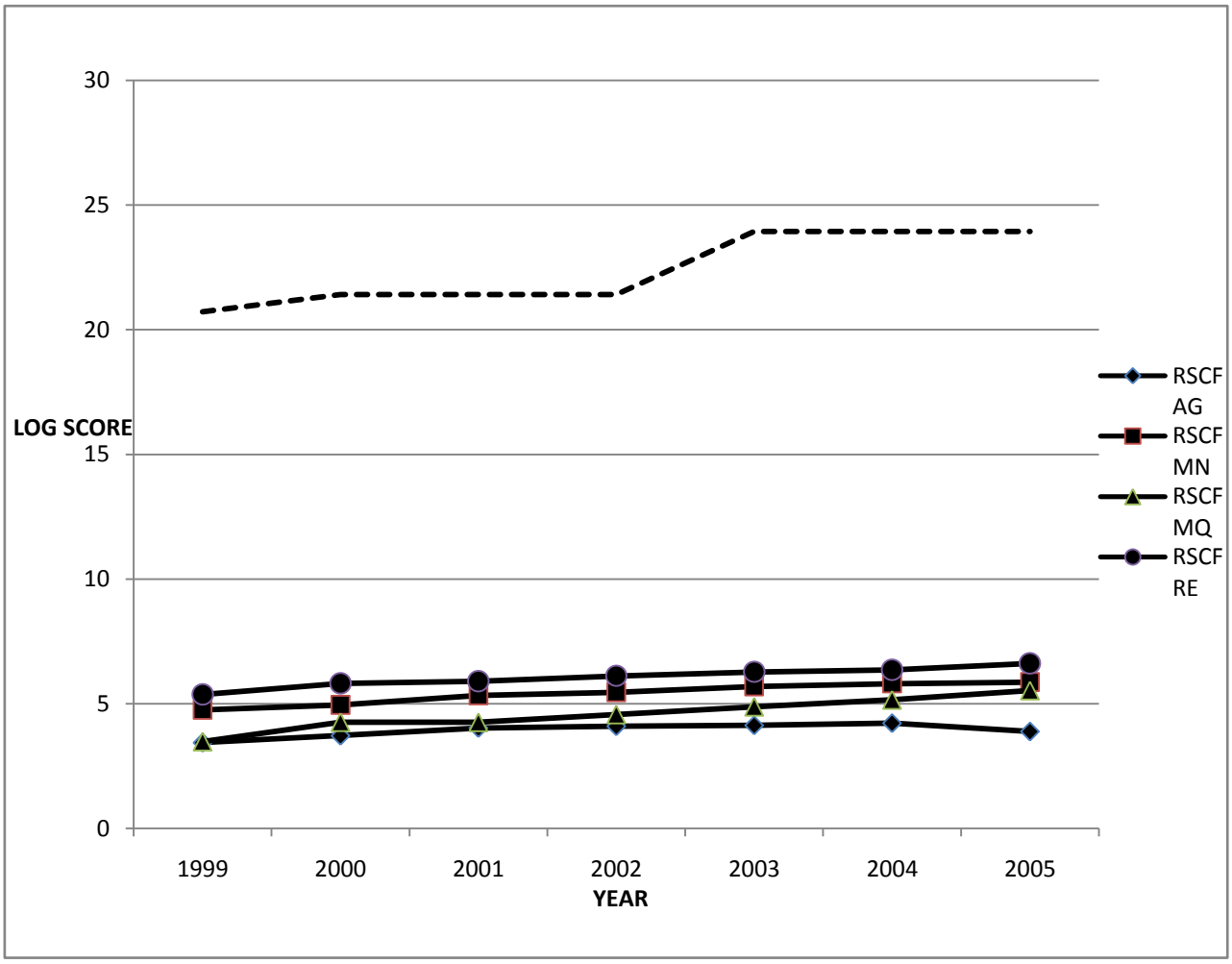
Figure 4.14: Cash reserve ratio and real sector financing

From figure 4.14, cash reserve ratio has a fairly positive directional relationship with real sector finance. For instance, from 1994 to 1995, cash reserve ratio was 5.7% to 5.8%, while mining credit was N12.07billion. in 1995 to 1996, cash reserve ratio increased from 5.8% to 7.5% and mining credit increased from N12.07billion to N15.05billion for that same period. In the period 1996 to 1997, cash reserve ratio increased from 7.5% to 7.8%, while manufacturing credit rose from N15.05billion to N20.61billion. it was agricultural credit that showed a theoretical trend with the cash reserve ratio for the period1996 to 1998. Agricultural credit dropped from N33.26billion to N27.94billion and to N27.18billion as cash reserve ratio rose from 7.5% to 7.8% and to 8.3%. but this is not significant enough to say there exist a negative relationship between cash reserve ratio and real sector finance as

itemized above.

4.1.3.3 Trend in Re-Libralisation Reform and Real Sector Finance

This regime starts from1999-2005.

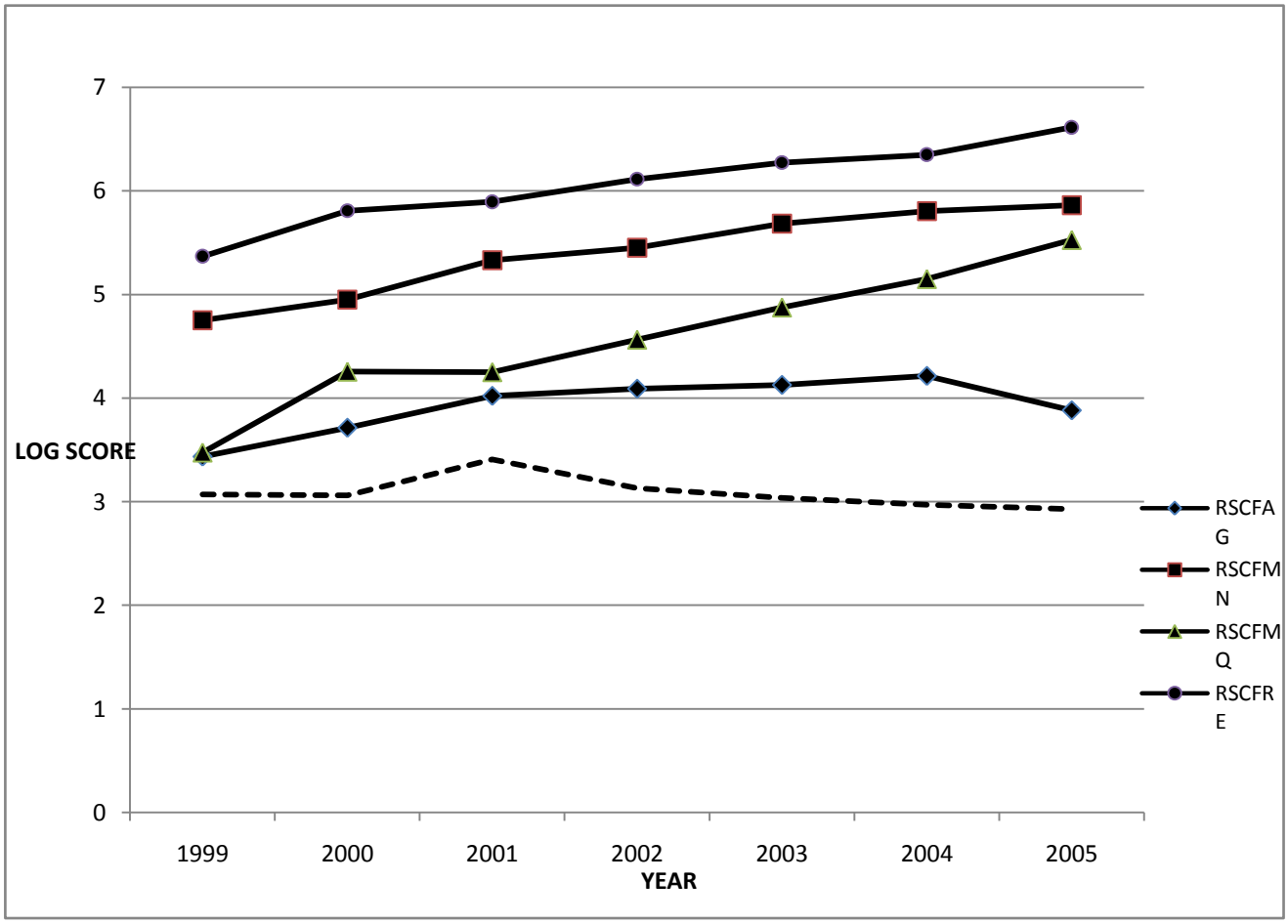


Source: Output from E-views

Figure 4.15:Capital base and real sector financing

Capital base once again acted as a boosted to the lending power of banks and credit finance to the real sector continued to increase during the re-libralisation reform period. Although capital was stable for the period 1999 to 2000 to 2005, credit to the agricultural sector still increased by 22.23%, 21.14% and 12.27% during this period. Manufacturing credit also increased but by 14.84%, 13.05% and 14.42% during the same period. Except for credit to

the mining sector to the real sector increased during this reform period. In all, we are expecting a significant positive relationship between capital base and real sector financing.

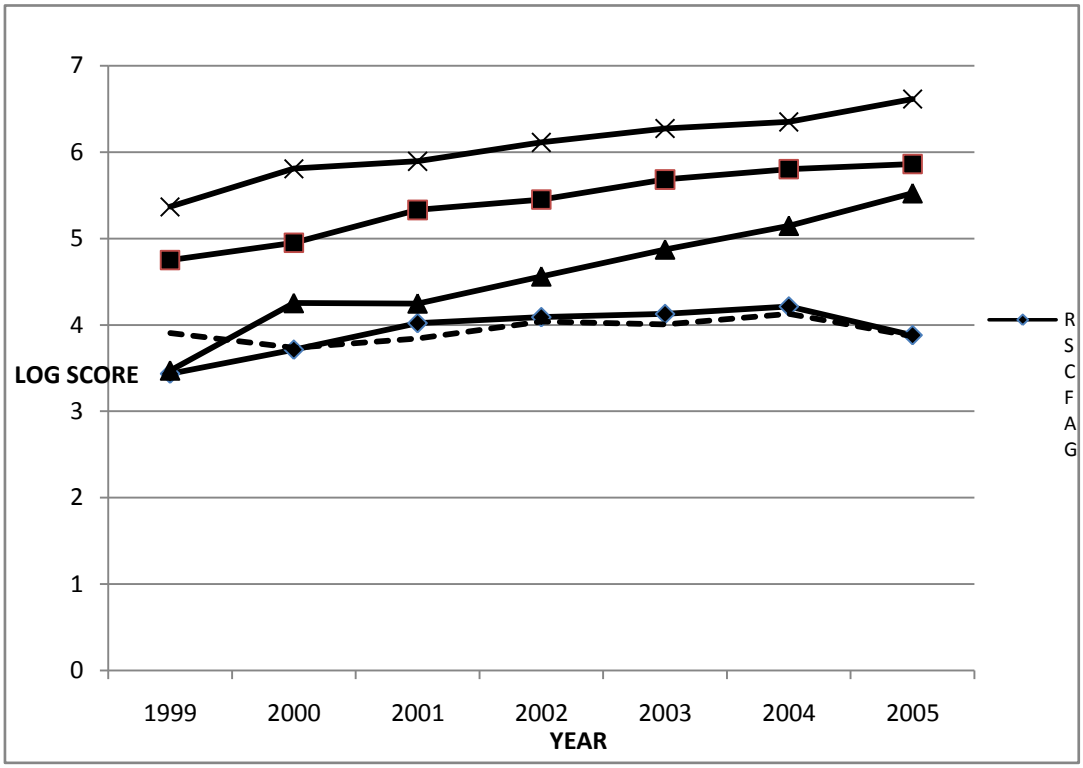


Source: Output from E-views

Figure 4.16:Lending rate and real sector financing

As said from above, Banking lending rates are normally a reflection of the acceptability of banks to finance certain business or sectors (Balogun, 2007). Trending the lending rate with credit finance to the real sector that is adjudged less attractive (Balogun, 2007), is a litmus test for how acceptable and willing banks are to extend loans to them. The Figure above shows that the lending rate continues to undergo readjustment as the banking sector tries to readjust itself to a new ‘’Re-liberalization ‘’ operating platform. For instance, when lending rate increase from 19% in 1999 to 12% in 2005, credit finance to the mining and quarrying

sector also increased from N0.21billion in 1999 to N0.25billion in 2005. Besides this trend, credit to agriculture, manufacturing and real estate rose from N1.83billion, N4.48billion and N2.84billion in 1999 to N2.43billion, N4.96billion and N2.89billion in 2006. In all, the trend revealed a fairly corresponding trend of credit to the real sector with bank lending rate. This shows a market acceptability of real sector finance by the banks in operations. So we are expecting a significant positive relationship from the result of our test.



Source: Output from E-views

Figure 4.17:Loan to deposit ratio and real sector financing

From figure 4.17 the trends between loan to deposit ratio of banks and real estate and manufacturing sectors revealed a more proportional relationship between them. This shows that to a large extent, there is a significant positive relationship between loan to deposit ratio and real sector financing. Besides these, credit to agricultural and mining sector shows a slight significant relationship with the loan to deposit ratio. For example, in 2002 loan to deposit ratio rose by 4.08% while agricultural and mining sector credit rose by 22.23% and -

3.5% in 2005. This might reveal that a non-significant relationship is expected.

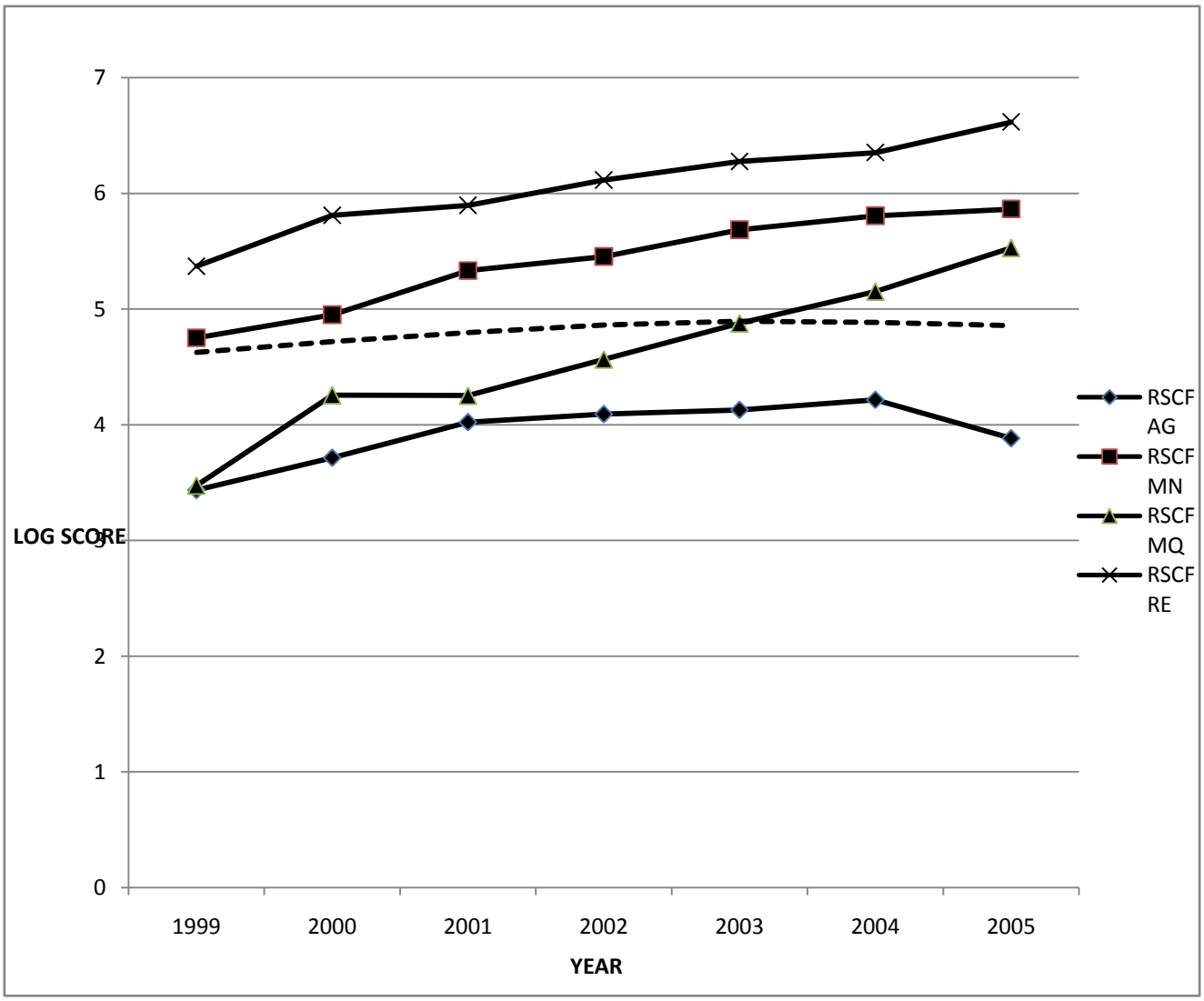
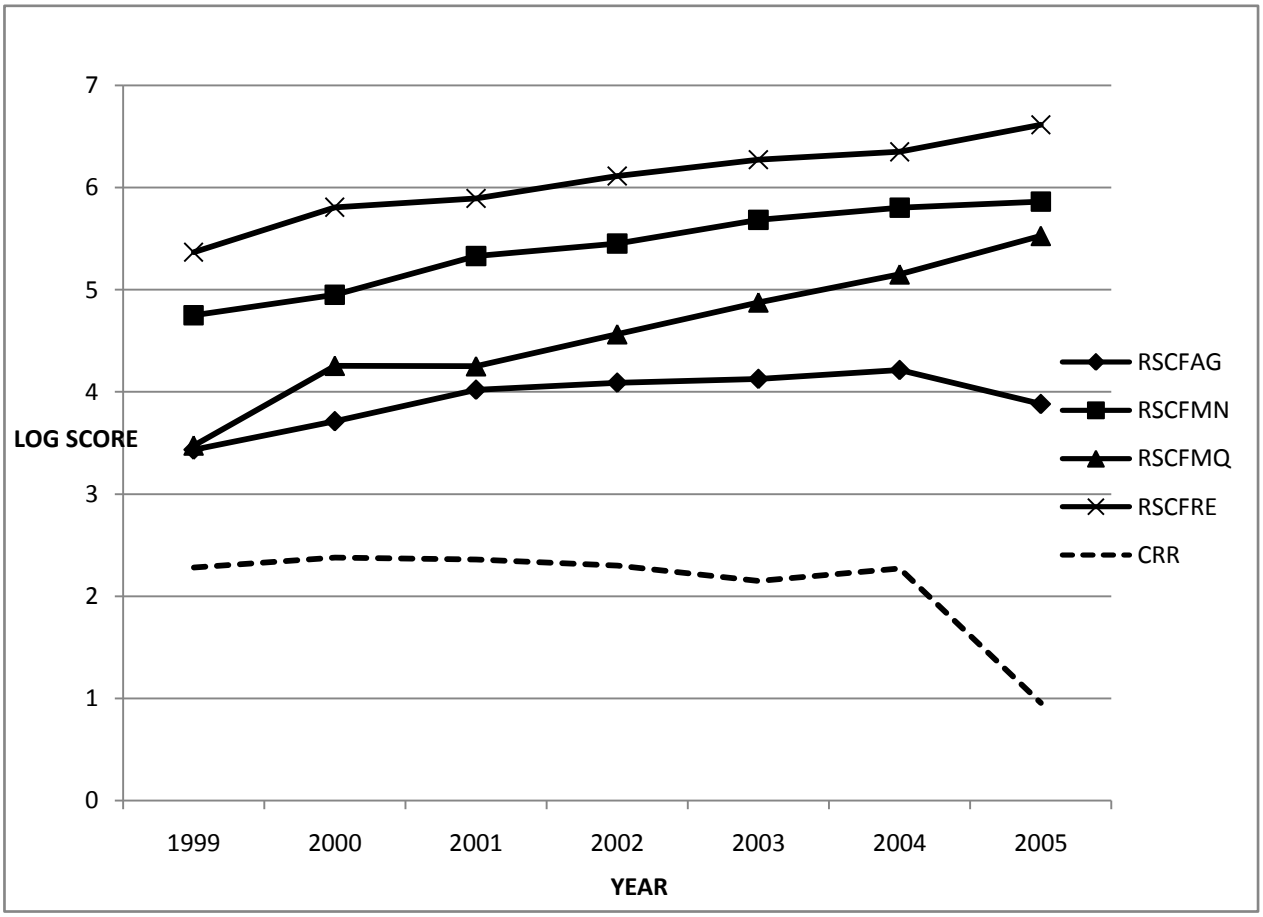


Figure4.18:Real exchange rate and real sector financing

Source: Output from E-views

From our graph, the trend in real exchange rate shows a significant relationship between credit to real estate and manufacturing but insignificant relationship between Agriculture and mining. It become significant in the case of mining as it rose from 95.98billion in 2003 to 172.53billion in 2005. Aggregate real sector credit during the re-libralisation reform rose from 117.49billion to 573.13billion. By this trend, we are expecting a significant relationship

between real exchange rate and real sector financing.



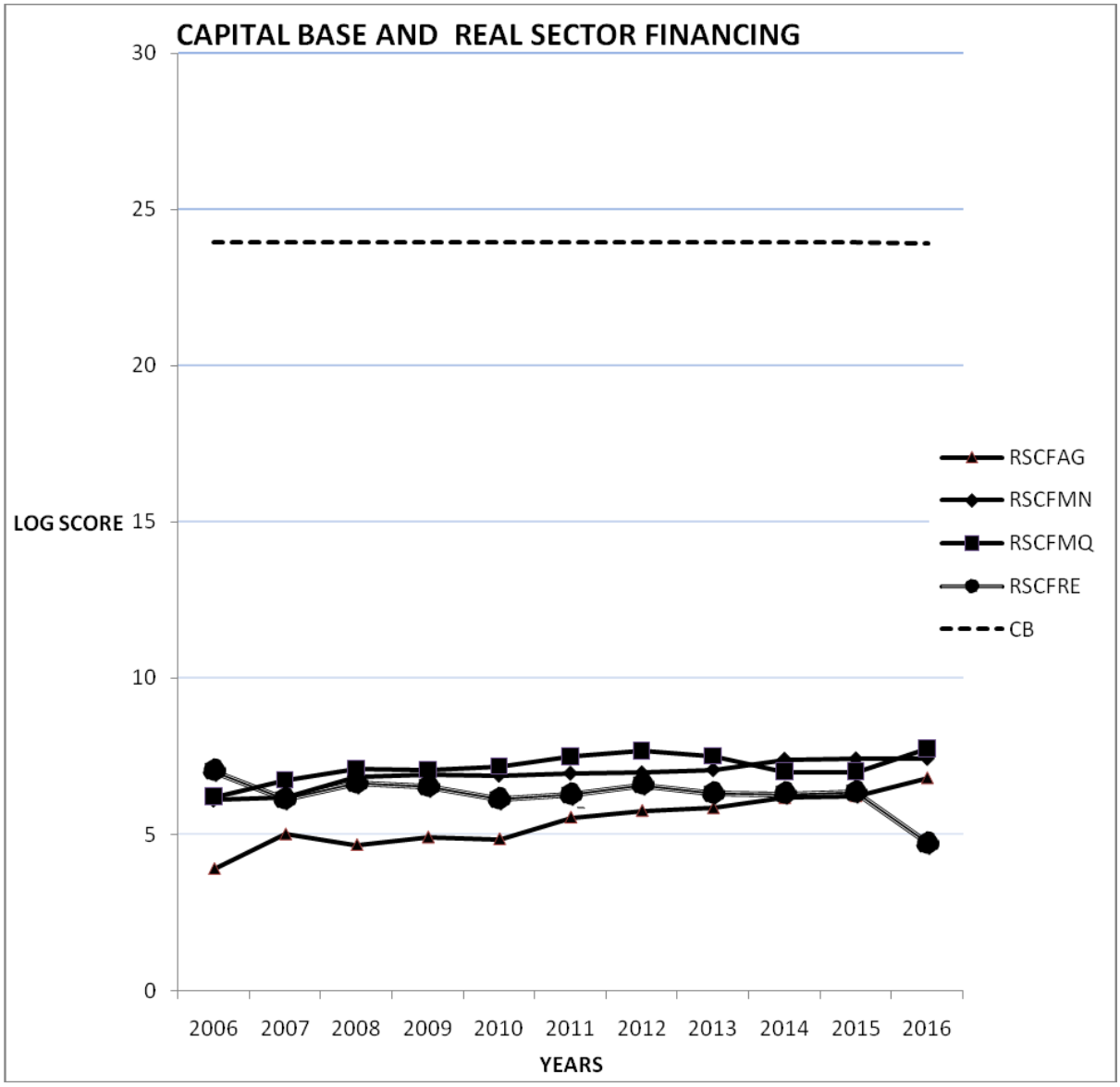
Source: Output from E-views

Figure 4.19:Cash reserve ratio and real sector financing

From figure 4.19, cash reserve ratio shows a positive relationship with real sector finance. For instance, from 1999 to 2000, cash reserve ratio was 11.7% and 9.8%, while aggregate credit to real sector increases from 117.49 to 214.6billin.The trend shows that as cash reserve ratio decreases credit to real sector increases which is in line with theoretical base.

4.1.3.4 :Trend in Banking consolidation and real sector

This is the current regime of reform which commence from 2006 to date

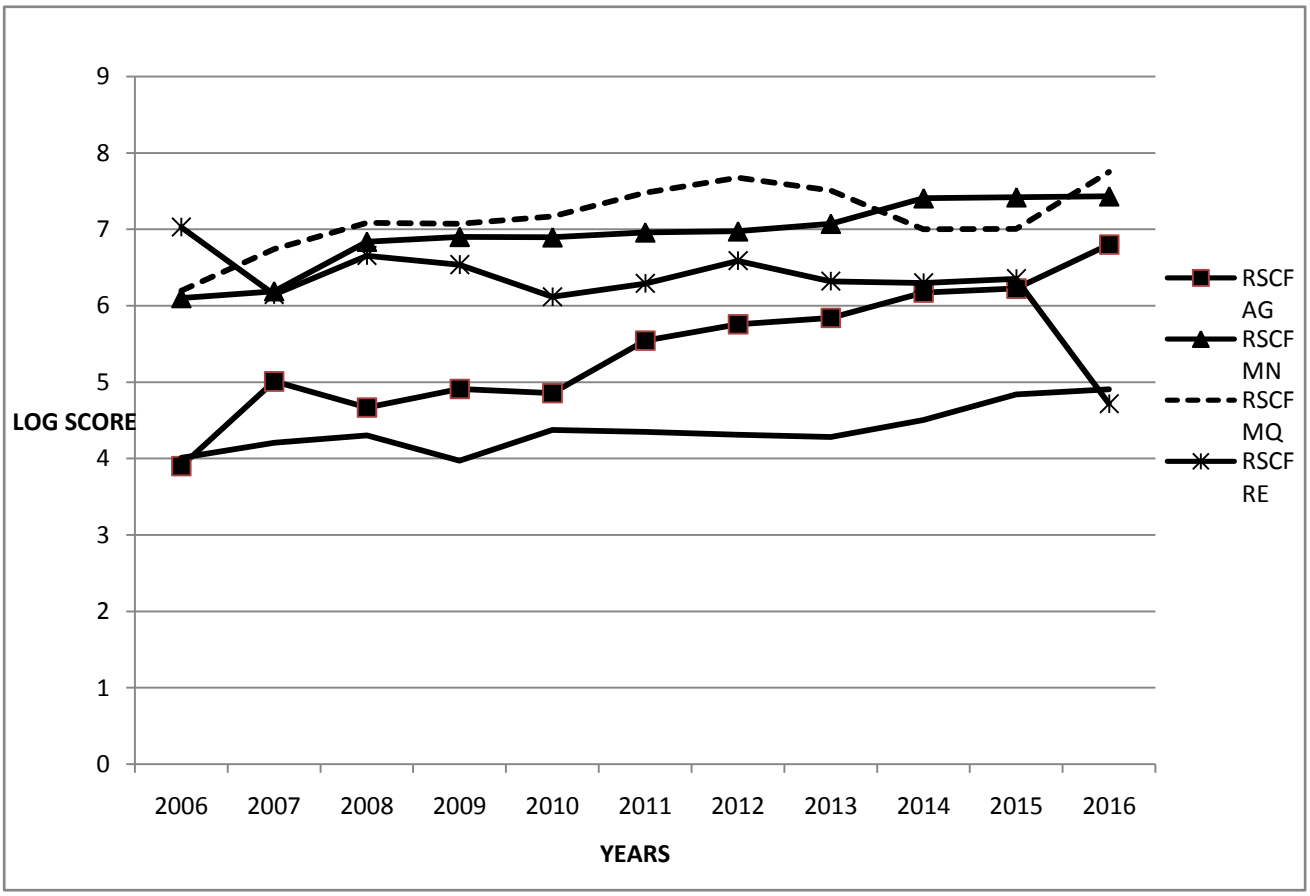


Source: Output from E-views

Figure 4.20: Capital base and real sector credit finance

Capital base once again acted as a boosted to the lending power of banks and credit finance to the real sector continued to increase during the consolidation reform period. Although capital was stable throughout the consolidation reform period, credit to the real sector maintain a stable increase. In all, we are expecting a significant positive relationship between capital

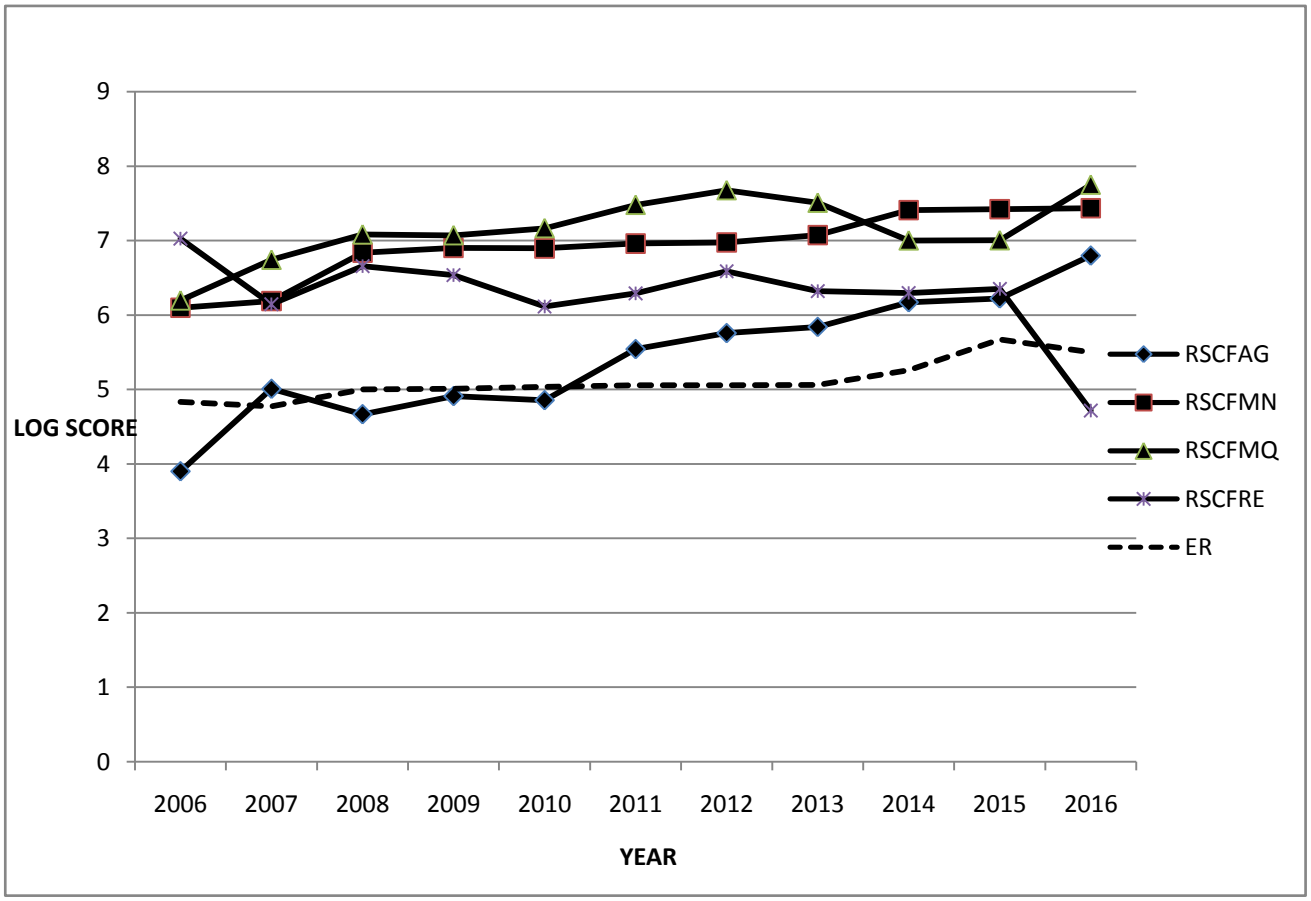
base and real sector financing.



Source: Output from E-views

Figure 4.21:Loan to deposit ratio and real sector financing

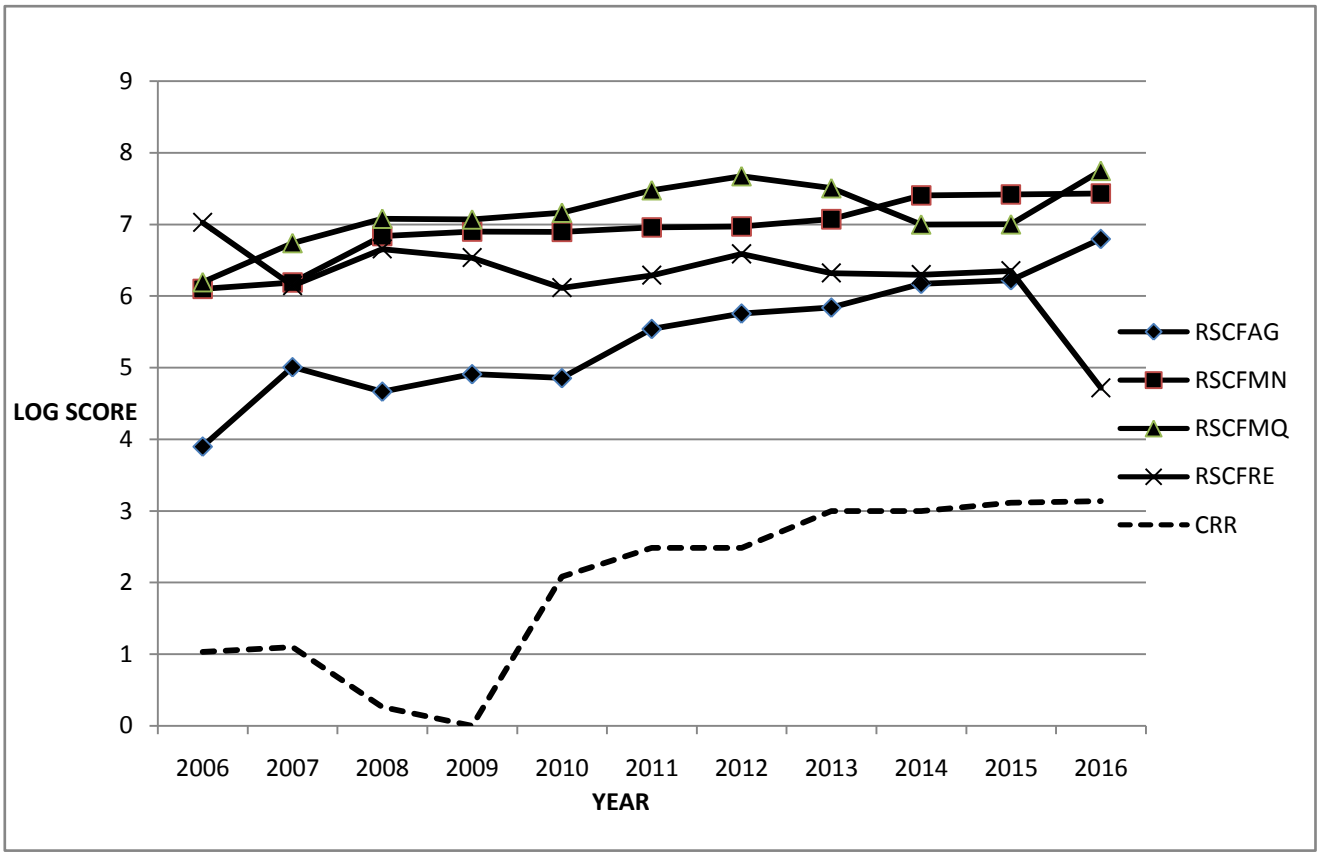
Figure 4.21 shows the trends between loan to deposit ratio of banks and real estate and manufacturing sectors revealed a more proportional relationship between them. This is a pointer to a significant positive relationship between loan to deposit ratio and real sector financing. Besides these, credit to agricultural and mining sector did not show a significant relationship with the loan to deposit ratio. For example, in 2007 loan to deposit ratio rose by 4.01% while agricultural and mining sector credit rose by 20.3% and 25.18% in that same period. This might reveal that a non-significant relationship is expected.



Source: Output from E-views

Figure 4.22:Exchange rate and real sector financing

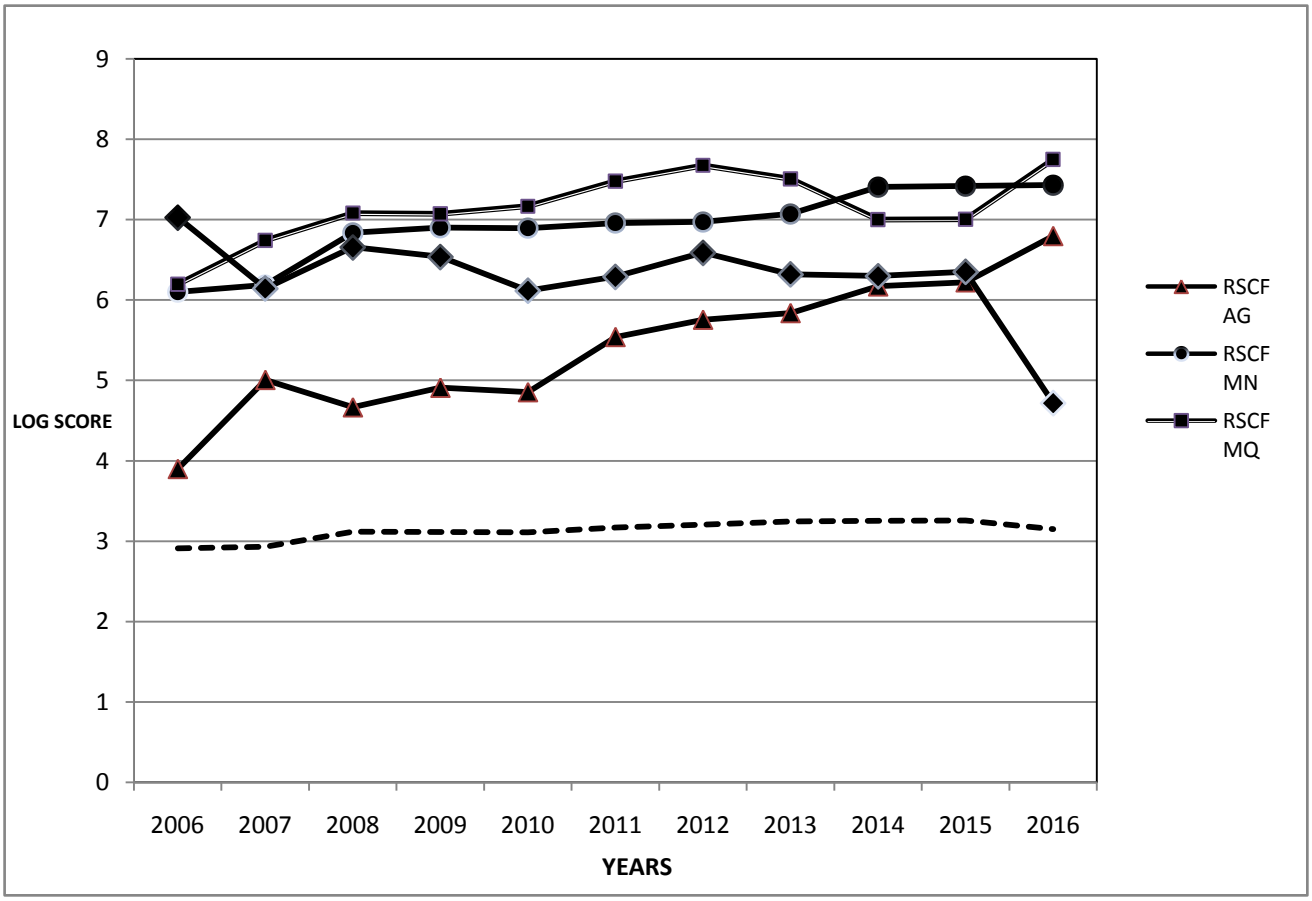
From our graph, the trend in real exchange rate shows a significant relationship between credit to real estate and manufacturing but insignificant relationship between Agriculture and mining. It become significant in the case of mining as it rose by 64% in 2014 and 55% in 2016. Aggregate real sector credit during the consolidation reform rose by 47%. By this trend, we are expecting a significant relationship between real exchange rate and real sector financing.



Source: Output from E-views

Figure 4.23:Cash reserve ratio and real sector financing

Figure 4.23 shows that cash reserve ratio has a fairly positive directional relationship with real sector finance. For instance, from 2006 to 2007, cash reserve ratio was 2.6% to 2.8%, while mining credit was N12.07billion. in 1995 to 1996, cash reserve ratio increased from 5.8% to 7.5% and mining credit increased from N251.48billion to N490.71billion for that same period. Over the periods, cash reserve ratio keep on increasing also credit to mining and manufacturing also increases. Agricultural credit increased by 78% as cash reserve ratio increases within the same period. But this is not significant enough to say there exist a negative relationship between cash reserve ratio and real sector finance as itemized above.



Source: Output from E-views

Figure 4.24: Lending rate and real sector financing

As said from above, Banking lending rates are normally a reflection of the acceptability of banks to finance certain business or sectors (Balogun, 2007). Trending the lending rate with credit finance to the real sector that is adjudged less attractive (Balogun, 2007), is a litmus test for how acceptable and willing banks are to extend loans to them. The Figure above shows that the lending rate continues to undergo readjustment as the banking sector tries to readjust itself to a new ‘’Consolidation ‘’ operating platform. For instance, when lending rate increase from 18.36% in 2007 to 18.70% in 2008, credit finance to the mining and quarrying sector also increased 34% and 56% respectively. Besides this trend, credit to agriculture, manufacturing and real estate rose by 32%, 42% and 21% respectively in 2014, 2015 and 2016. In all, the trend revealed a fairly corresponding trend of credit to the real sector with bank lending rate. This shows a market acceptability of real sector finance by the banks in operations. So we are

expecting a significant positive relationship from the result of our test. Also, this support the theoretical backing of this study.

4.2 Inferential Data Analysis

4.2.1 Testing for Unit Root (ADF-Test)

The unit root test is motivated by theory; it will be one test in combination with other tests. Testing for the order of integration is standard in applied econometric work. In this situation, it is motivated to perform very detailed tests at different levels.

Table 4.2: Augmented Dickey-Fuller Test (ADF) at Levels

Variables	ADF	5% Critical Value	Integration Order
RSCFAg	- 0.969107	-2.998064	I(1)
RSCFMn	-1.626111	-2.963972	I(1)
RSCFMq	-2.791922	-2.998064	I(0)
RSCFRe	-1.906497	-2.963972	I(0)
CB	-0.849088	-2.963972	I(1)
LR	-4.038239	-2.963972	I (1)
LDR	0.009303	-2.963972	I(0)
ER	-0.216066	-2.963972	I(0)
CRR	-3.176875	-2.981038	I(1)
CGDI	-1.668391	-2.963972	I(0)

Source: E-views 9.0 result Computation, 2018

The unit root test using Augmented Dickey Fuller test (ADF) as shown in table 4.2 extracted from appendix 5, shows that Real Sector Credit to Manufacturing, Real Sector Credit to Real Estate, Loan-to-Deposit Ratio, Exchange Rate Corporate Governance Disclosure Index were all stationary at levels and are integrated of order [I (0)]. This implies that the null hypothesis of non-stationary for all the variables at levels is rejected for Real Sector credit Finance to Agriculture. Real Sector credit Finance to Manufacturing, Capital Base, Lending Rate and Cash Reserve Ratio were not integrated at level. Hence we will proceed to further difference

the data at first difference so as to have all the data integrated of same order.

Table 4.3: Augmented Dickey-Fuller Test (ADF) at first difference

Variables	ADF	5% Critical Value	Integration Order
RSCFAg	- 5.161909	-2.998064	I(1)
RSCFMn	-0.457907	-2.991878	I(1)
RSCFMq	-3.252215	-2.991878	I(1)
RSCFRe	-8.640855	-2.967767	I(1)
CB	-5.421058	-2.967767	I(1)
LR	-5.127676	-2.967767	I (1)
LDR	-5.930422	-2.967767	I(1)
ER	-4.326085	-2.986225	I(1)
CRR	-4.536687	-3.004861	I(1)
CGDI	-4.536687	-2.963972	I(1)

E-views 9.0 Result Computation, 2018.

As shown by the result of Augmented Dickey Fuller Test statistics, all the variables of the study; Real Sector Credit to Manufacturing, Real Sector Credit to Real Estate, Loan- to-Deposit Ratio, Exchange Rate Corporate Governance Disclosure Index, Real Sector credit Finance to Agriculture, Real Sector credit Finance to Manufacturing, Capital Base, Lending Rate and Cash Reserve Ratio were all integrated at first difference and integrated of order one [I (1)]. This also implies that the null hypothesis of non-stationarity of the variables is now rejected for all the variables of the study.(see appendix 6)

Table 4.4: Lag selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-953.4205	NA	2.19e+21	66.16693	66.44982	66.25553
1	-839.8570	172.3032 *	1.10e+19*	60.81772 *	62.79795 *	61.43790 *

Estimating the lag length of autoregressive process for a time series is a crucial econometric exercise in most economic studies. This was estimated using the VAR Lag Order Selection

Criteria as shown above. The optimum lag that is used in this study is lag one as can be shown by the test statistics above.(See appendix 36)

4.2.2 Johansen co-integration test

The superior test for co-integration is Johansen's test. This is a test which has all desirable statistical properties. Once variable have been classified as integrated of order I (0), I (1), I (2) etc. is possible to set up models that lead to stationary relations among the variables, and where standard inference is possible. Testing for co-integration is necessary step to modeling empirically meaningful relationships. If variables have different trends processes, they cannot stay in fixed long-run relation to each other, implying that you cannot model the long-run, and there is usually no valid base for inference based on standard distributions. If co-integration does not exist at levels, it is necessary to continue to work with variables in differences instead.

The method used in this study is known as Johansen Full information maximum likelihood method. The unrestricted co-integration Rank Test (Trace) and the unrestricted Co-integration Rank Test (Maximum Eigen value) statistics results of the Johansen Co-integration test which was extracted from appendix 27 are presented in the following tables:

Table 4.5_a: Unrestricted Co-integration Rank Test (Trace)

Hypothesis No. of CE(s)	Eigen Value	Trace Statistics	0.05 Critical Value	Probability
None	0.822350	193.8088	125.6154	0.0000
At Most 1	0.558559	100.4999	95.75366	0.0226
At Most 2	0.377274	56.34352	69.81889	0.3643
At Most 3	0.189555	30.76649	47.85613	0.6790
At Most 4	0.179764	19.41724	29.79707	0.4632
At Most 5	0.089944	8.716402	15.49471	0.3923
At Most 6	0.064960	3.626936	3.841466	0.0568

Source: E-views 9.0 result Computation, 2018

Table 4.5$_b$: Unrestricted Co-integration Rank Test (Maximum Eigen value)

Hypothesis No. of CE(s)	Eigen Value	Mask-Eigen Statistics	0.05 Critical Value	Prob**
None	0.822350	93.30884	46.23142	0.0000
At Most 1	0.558559	44.15643	40.07757	0.0164
At Most 2	0.377274	25.57703	33.87687	0.3471
At Most 3	0.189555	11.34925	27.58434	0.9557
At Most 4	0.179764	10.70083	21.13162	0.6771
At Most 5	0.089944	5.089466	14.26460	0.7305
At Most 6	0.064960	3.626936	3.841466	0.0568

***** denotes rejection of the hypothesis at 0.05 level
****** Mackinnon-Hang-Michelis (1999) P-values
Source: E-views 9.0 result Computation, 2018

The result of the trace and maximum Eigen value test shows that there are two co-integrating equations in the system. This is indicated by the number of co-integrating equation found in the system (*). This implies that the null hypothesis is of no co-integration is rejected. This further means that at 0.05 level of significance, they exists a long run relationship among the variables, as the result, trace statistics, and the maximum Eigen values converges to 3.626936 in the table 4.5a and 4.5b respectively.

In the presence of co-integration,the long run relationship between the dependent and the independent variables of the study can be obtained by examining its long and shortrun dynamics from the estimate of the error correction estimates as it contains both the long run and short run equations.

4.2.3 Error Correction Estimates

Estimating the Long run relationship between the variables of the study using the Vector Error Correction Estimates.

Table 4.6: Longrun ECM Coefficients

Variables	Coefficient	Std. Error	t-statistic
CB	-0.410007	1.78707	-5.44776
LR	3.559948	0.44794	7.94738
LDR	0.279708	5.31863	5.25891
ER	-0.545534	15.4488	-1.58300
CGDI	-0.418850	6.66820	-6.27433
CRR	-0.270830	180.706	-12.5665]

Source: E-views 9.0 result Computation, 2018

$$ARSCF_{t-1} = 0.839719 + 0.410007CB_{t-1} - 3.559948LR_{t-1} - 0.279708LDR_{t-1} + 0.545534ER_{t-1} + 0.418850CGDI_{t-1} + 0.270830CRRt_{-1} - \quad - (1)$$

Due to inverse matrix that exist between the variables of the study, the signs of the coefficients inverts to from positive to negative and vice versa.

As show by the result of the long-run relationship between the dependent variable and the independent variables, there is a positive relationship between Capital base and Aggregate Real Sector Credit. This indicates that a unit increase in Capital base by one unit will lead to a corresponding increase in Aggregate Real Sector Credit by 41.00%. This result is in line with theoretical and economic a priori expectation. Capital base is a precursor for banks' ability to give credit to the real sector of the economy.

The long run equation shows a negative relationship between Lending Rate and Aggregate Real Sector Credit. This indicates that a unit increase in Lending Rate by one unit will lead to a corresponding increase in Aggregate Real Sector Credit by 41.00%. This result is in line with theoretical and economic a priori expectation. Lending Rate can have a negative effect of credit disbursement if it is high.

Loan to deposit ratio (LDR) was negatively related to Aggregate Real Sector Credit. This

indicates that a unit increase in Lending Rate by one unit will lead to a corresponding increase in Aggregate Real Sector Credit by 28.0%. This result is in line with theoretical and economic a priori expectation. Lending Rate can have a negative effect of credit disbursement if it is high.

The longrun equation shows a positive relationship between Exchange Rate (ER) and Aggregate Real Sector Credit (ARSCF). This is in line with our economic and theoretical a priori expectation. The result shows that in the long run, a unit increase in Exchange Rate (ER) will result in a corresponding increase in Aggregate Real Sector Credit (ARSCF) by a significant value of 54.6%.

Corporate governance disclosure index (CGDI) was positively related to Aggregate Real Sector Credit (ARSCF) in the long-run. This means that a unit increases in corporate governance disclosure index (CGDI) will lead to a corresponding increase in Aggregate Real Sector Credit (ARSCF) by 41.89%.

Cash reserve ratio(CRR) was positively related to Aggregate Real Sector Credit (ARSCF) in the long-run. This means that a unit increases in Cash reserve ratio(CRR) will lead to an increase in Aggregate Real Sector Credit (ARSCF) by 27.08% (see appendix 28)

4.2.4 Testing for the long run relationship

The hypotheses testing are on the long-run estimation as it provides the basis on with most government tax and reform programme. This is carried out by comparing the t-statistics calculated to the t-tabulated at 9 degrees of freedom. Decision rule is reject the null hypothesis if t-calculated is less than t-tabulated, otherwise accept the alternative hypothesis.

Table 4.7: Longrun ECM Coefficients

Variables	Coefficient	Std. Error	t-statistic
CB	-0.410007	1.78707	-5.44776
LR	3.559948	0.44794	7.94738
LDR	0.279708	5.31863	5.25891
ER	-0.545534	15.4488	-1.58300
CGDI	-0.418850	6.66820	-6.27433
CRR	-0.270830	180.706	-12.5665

Source: Output from E-views

$t\text{-}_{tab}$: 2.064 @ 24 df

df = n-k

n = number of observation

k = number of variables

df = n – k

= 30 -6

df = 24

H_{01}: Bank capitalization reforms have no significant effect on real sector credit finance in Nigeria.

Therefore, using the t test criteria for hypothesis one, $t\text{-}_{cal}$ = -5.44776< $t\text{-}_{tab}$2.064 @ 24 df. Thus, we reject the null hypothesis. That is, we accept that the estimate b_1 is statistically significant at the 5% level of significance. This implies that Bank capitalization reforms have a significant effect on real sector credit finance in Nigeria.

H_{02}: Credit Operation has not significantly affected real sector credit finance in Nigeria.

Therefore, using the t test criteria for hypothesis two, $t\text{-}_{cal}$ = 7.94738>2.064 @ 24 df. Thus, we accept the null hypothesis. That is, we accept that the estimate b_2 is not statistically significant at the 5% level of significance. This implies that Lending Rate which is a proxy to credit operation has not significantly affected real sector credit finance in Nigeria.

H_{03}: Loan to deposit ratio does not have a significant effect on real sector credit finance in Nigeria.

Therefore, using the t test criteria for hypothesis one, t_{cal} = 5.25891> t_{tab}: 2.064 @ 24 df. Thus, we accept the null hypothesis. That is, we accept that the estimate b_3 is not statistically significant at the 5% level of significance. This implies that Loan to deposit ratio does not have a significant effect on real sector credit finance in Nigeria.

H_{04}: Exchange Rate has no significant effect on credit to real sector in Nigeria.

Therefore, using the t test criteria for hypothesis one, t_{cal} = -1.58300< t_{tab}2.064 @ 24 df. Thus, we reject the null hypothesis. That is, we reject that the estimate b_4 is statistically significant at the 5% level of significance. This implies that Exchange Rate has a significant effect on credit to real sector in Nigeria

H_{05}: Corporate Governance Disclosure Index has no significant effect on the financing of real sector in Nigeria in Nigeria.

Therefore, using the t test criteria for hypothesis one, t_{cal} = -6.27433< t_{tab}: 2.064 @ 24 df. Thus, we reject the null hypothesis. That is, we accept that the estimate b_5 is statistically significant at the 5% level of significance. This implies that Corporate Governance Disclosure Index has a significant effect on the financing of real sector in Nigeria.

H_{06}: Cash Reserve Ratio has no significant effect on real sector finance in Nigeria.

Therefore, using the t test criteria for hypothesis one, t_{cal} = -12.5665 < t_{tab}: 2.064 @ 24 df. Thus, we reject the null hypothesis. That is, we accept that the estimate b_6 is statistically significant at the 5% level of significance. This implies that Cash Reserve Ratio has significant effect on real sector finance in Nigeria.

4.2.5 The Error Correction Model (Shortrun estimation)

Error Correction Models (ECM) directly estimates the speed at which a dependent variable returns to equilibrium after a change in an independent variable. The error-correction parameters E_{t-1}have the expected negatives sign.

The linkage between co-integration and error correction models stems from the Granger representation theorem and it state that two or more integrated time series that are co-integrated have an error correction representation, and two or more time series that are error correcting are co-integrated as represented by the equation below:

$Y_t = \rho Yt-1 + \varepsilon_{t-1}$

Table 4. 8: Shortrun ECM Coefficients

Variables	Coefficient	Std. Error	t-statistic
ε_{t-1}	- 0.702249	0.00646	0.34820
D(ARSCF-1)	-0.046017	0.15478	-0.29731
D(CB-1)	0.220008	0.309808	1.76030
D(LR-1)	-0.000888	0.01039	-0.08547
D(LDR-1)	-1.440107	2.35912	-0.61044
D(ER-1)	0.501924	0.74397	1.34673
D(CGDI-1)	0.439204	2.52540	1.36185
D(CRR-1)	0.988137	13.4987	0.14728

Source: Output from E-views

R^2 = 0.751684, F-Statistics = 1.374225

Source: E-View 9. Result Output, 2018

Table 8 shows the coefficients of the short run Error Correction modeling (ECM) of our research model Lending Rate and Loan-to-deposit ratio were negatively signed in line with a priori expectation. This indicates that policy geared toward increasing these rates on the short run will have a negative effect on Aggregate real sector credit to the various sectors under study. Capital Base, Exchange rate, Corporate Governance disclosure index and cash reserve

ratio were positively signed in line with a priori expectation. This indicates that policy geared toward increasing these variables on the short run will have a positive effect on Aggregate Real Sector Credit (ARSCF).The negative sign of (- 0.702249) of the error term indicates that a long-run equilibrium characterized the relationship among the variables ARSCF, CB, LR, LDR, ER, CGDI & CRR. The coefficient for error term (ε_{t-1}) of (- 0.702249) implies that the system corrected its previous disequilibrium period due to positive or negative shocks in one period at an adjustment speed of 70.22 percent annually. The Coefficient of determination indicates that 75.17 % of the variations in the model can be explained by the explanatory variables of the model while 24.84% of the variation can be attributed to unexplained variation captured by the stochastic term.

4.3 Testing of hypotheses and examining the various reforms

4.3.1. Testing of the First Hypothesis (H_{01})

H_{01}: Bank capitalization reforms have no significant effect on real sector bank credit in Nigeria.

Table 4.9: Effect of Capital Base on bank Credit to the Agricultural Sector

Reforms	Beta	p-values	Critical Value @ 5%	t-statistics	Decision
Liberalization	0.790009	0.0435	0.05	0.616295	Reject $H0_1$
Guided deregulation	-2.880008	0.0096	0.05	-0.855194	Reject $H0_1$
Re-Liberalization	0.830010	0.0239	0.05	0.670779	Reject $H0_1$
Banking Consolidation	0.480009	0.0451	0.05	0.735487	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018

Decision

The following decision rules were adopted for accepting or rejecting hypotheses: If the probability value of (b_i) > the critical value of b_i] we accept the null hypothesis, that is, we accept that the estimate b_i is not statistically significant at the 5% level of significance. If the probability value of (b_i) < the critical value of b_i] we reject the null hypothesis, in other

words, that is, we accept that the estimate b_i is statistically significant at the 5% level of significance.

Since the absolute p-value for Capital Base during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Bank capitalization reforms have significant effect on real sector credit finance in Nigeria during liberalization reform have significant effect on agricultural sector credit finance.

The absolute p-value for Capital Base during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we accept that the estimate b_i is statistically significant at the 5% level of significance, therefore we conclude that Bank Capital base during Guided deregulation reform have significant effect on agricultural sector credit finance. Also, the absolute p-value for Capital Base during Re-liberalization reform is less than the critical value, we reject the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Bank Capital base during Re-liberalization reform have significant effect to agricultural sector credit finance.

Since the absolute p-value for Capital Base during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we accept that the estimate b_i is statistically significant at the 5% level of significance. Therefore we conclude that Bank Capital base during Consolidation reform have significant increase in agricultural sector credit finance. This also is a confirmation of the trend movement which indicates a significant movement during libralisation reforms. Re-libralisation also follows suit as the trend movement also shows that it is significant. but for banking consolidation and Guided deregulation, though the trend movement is up ward but since it is rejected this shows that the

increase is on the decreasing rate.

Table 4.10: Effect of Capital Base on bank Credit to the Manufacturing

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	-1.040008	0.0217	0.05	-0.287551	Reject $H0_1$
Guided deregulation	0.003917	0.0135	0.05	0.816295	Reject $H0_1$
Re-Liberalization	3.000009	0.0332	0.05	1.505908	Reject $H0_1$
Banking Consolidation	-0.040008	0.2642	0.05	-1.257193	Accept $H0_1$

Source: E-Views 9.0 Result Output, 2018.

Since the absolute p-value for Bank Capital Base during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Capital base during liberalization reform have significant effect on Manufacturing sector credit finance. The p-value for Capital Base during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we accept that the estimate b_i is statistically significant at the 5% level of significance therefore we conclude that Bank Capital base during Guided deregulation reform have significant effect on Manufacturing sector credit finance.

The absolute p-value for Bank Capital Base during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Bank Capital base during Re-Liberalization reform have significant effect on Manufacturing sector credit finance. The absolute p-value for Bank Capital Base during Consolidation reform is greater than the critical value, we accept the null hypothesis. That is, we accept that the

estimate b_i is not statistically significant at the 5% level of significance therefore we conclude Bank Capital base during Consolidation reform have no significant effect Manufacturing sector credit finance.

Table 4.11: Effect of Capital Base on bank Credit to Mining and Quarrying

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.160010	0.0443	0.05	0.032188	Reject $H0_1$
Guided deregulation	0.001841	0.10178	0.05	2.544783	Accept $H0_1$
Re-Liberalization	0.050008	0.014	0.05	2.628993	Reject $H0_1$
Banking Consolidation	-0.080007	0.0311	0.05	-1.362830	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

Since the absolute p-value for Bank Capital Base during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Capital base during liberalization reform have significant effect on Mining and Quarrying sector credit finance. The p-value for Capital Base during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we accept that the estimate b_i is statistically significant at the 5% level of significance therefore we conclude that Bank Capital base during Guided deregulation reform have significant effect on Mining and Quarrying sector credit finance.

The absolute p-value for Bank Capital Base during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Bank Capital base during Re-Liberalization reform have significant effect on Mining and Quarrying sector credit finance. The absolute p-value for Bank Capital Base during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we

reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude Bank Capital base during Consolidation reform have significant effect in Mining and Quarrying sector credit finance.

Table 4.12: Effect of Capital Base on bank Credit to the Real Estate

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	3.940009	0.0424	0.05	15.00128	Reject $H0_1$
Guided deregulation	1.310008	0.0178	0.05	0.559517	Reject $H0_1$
Re-Liberalization	0.090009	0.0227	0.05	1.278044	Reject $H0_1$
Banking Consolidation	0.917008	0.0103	0.05	1.569605	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Capital Base during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Capital base during liberalization reform have significant effect on Real Estate sector credit finance. The p-value for Capital Base during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is statistically significant at the 5% level of significance therefore we conclude that Bank Capital base during Guided deregulation reform have significant effect on Real Estate sector credit finance.

The absolute p-value for Bank Capital Base during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Bank Capital base during Re-Liberalization reform have significant effect on Real Estate sector credit finance. The absolute p-value for Bank Capital Base during Consolidation reform is

less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude Bank Capital base during Consolidation reform have significant effect in Real Estate sector credit finance.

4.3.2 Testing of the Second Hypothesis (H_{02})

H_{02}: credit operation reforms have not significantly affected real sector bank credit in Nigeria.

Table 4.13: Effect of Lending Rate on bank Credit to the Agriculture

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	-2.023603	0.0422	0.05	-0.445246	Reject $H0_1$
Guided deregulation	-0.153725	0.9537	0.05	-0.072789	Accept $H0_1$
Re-Liberalization	0.364672	0.0246	0.05	0.669061	Reject $H0_1$
Banking Consolidation	-0.938701	0.0214	0.05	-0.689146	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Credit operation reform which is proxy by lending rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Credit operation reform have significant effect on Agriculture credit finance. The p-value for credit operation during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Guided deregulation reform have no significant effect on Agriculture sector credit finance.

The absolute p-value for credit operation during Re-Liberalization reform is less than the

critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that credit operation during Re-Liberalization reform have significant effect on Agriculture sector credit finance. The absolute p-value for credit operation during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Consolidation reform have significant effect in Agriculture sector credit finance.

Table 4.14: Effect of Lending Rate on bank Credit to the Manufacturing

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.314350	0.0144	0.05	4.043098	Reject $H0_1$
Guided deregulation	0.910347	0.6601	0.05	-0.445246	Accept $H0_1$
Re-Liberalization	0.795890	0.8740	0.05	0.200612	Accept $H0_1$
Banking Consolidation	0.370073	0.0365	0.05	2.226217	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Credit operation reform which is proxy by lending rate during liberalization reform is less than the critical value, we reject the null hypothesis.That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Credit operation reform have significant effect on Manufacturing sector credit finance. The p-value for credit operation during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Guided deregulation reform have no significant effect on Manufacturing sector credit finance.

The absolute p-value for credit operation during Re-Liberalization reform is more than the

critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that credit operation during Re-Liberalization reform have no significant effect on Manufacturing sector credit finance. The absolute p-value for credit operation during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Consolidation reform have significant effect in Manufacturing sector credit finance.

Table 4.15: Effect of Lending Rate on bank Credit to the Mining and Quarrying

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	-0.041485	0.0419	0.05	-1.201376	Reject $H0_1$
Guided deregulation	0.623942	0.5810	0.05	0.559517	Accept $H0_1$
Re-Liberalization	0.668184	0.6363	0.05	0.478981	Accept $H0_1$
Banking Consolidation	0.600104	0.0310	0.05	2.973541	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Credit operation reform which is proxy by lending rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Credit operation reform have significant effect on Mining and Quarrying sector credit finance. The p-value for credit operation during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Guided deregulation reform have no significant effect on Mining and Quarrying sector credit finance.

The absolute p-value for credit operation during Re-Liberalization reform is more than the

critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that credit operation during Re-Liberalization reform have no significant effect on Mining and Quarrying sector credit finance. The absolute p-value for credit operation during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Consolidation reform have significant effect in Mining and Quarrying sector credit finance.

Table 4.16: Effect of Lending Rate on bank Credit to the Real Estate

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.007452	0.0482	0.05	13.17399	Reject $H0_1$
Guided deregulation	4.506771	0.5810	0.05	0.559517	Accept $H0_1$
Re-Liberalization	2.020354	0.0415	0.05	0.254243	Reject $H0_1$
Banking Consolidation	-0.865001	0.0193	0.05	-0.692765	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Credit operation reform which is proxy by lending rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Credit operation reform have significant effect on Real Estate sector credit finance. The p-value for credit operation during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Guided deregulation reform have no significant effect on Real estate sector credit finance.

The absolute p-value for credit operation during Re-Liberalization reform is less than the

critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that credit operation during Re-Liberalization reform have significant effect on Real Estate sector credit finance. The absolute p-value for credit operation during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that credit operation during Consolidation reform have significant effect on Real Estate sector credit finance.

4.3.3 Testing of the Third Hypothesis (H_{03})

H_{03}: Decrease exchange rate during banking reforms does not significantly lead to increase in real sector bank credit in Nigeria.

Table 4.17: Effect of Exchange Rate on bank Credit to the Agriculture

Reforms	Beta	p-values	Critical Value @ 5%	t-statistics	Decision
Liberalization	-0.439269	0.0295	0.05	-0.692015	Reject $H0_1$
Guided deregulation	-3.360379	0.5732	0.05	-0.792910	Accept $H0_1$
Re-Liberalization	1.069022	0.0291	0.05	6.372171	Reject $H0_1$
Banking Consolidation	2.697604	0.0163	0.05	3.555949	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Exchange Rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate reform have significant effect on Agriculture sector credit finance. The p-value for Exchange Rate reform during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Guided deregulation

reform have no significant effect on Agriculture sector credit finance.

The absolute p-value for Exchange Rate during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Exchange Rate during Re-Liberalization reform have significant effect on Agriculture sector credit finance. The absolute p-value for Exchange Rate during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Consolidation reform have significant effect on Agriculture sector credit finance.

Table 4.18: Effect of Exchange Rate on bank Credit to the Manufacturing

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	-0.907505	0.0426	0.05	-4.389350	Reject $H0_1$
Guided deregulation	-2.938477	0.4956	0.05	-0.692015	Accept $H0_1$
Re-Liberalization	1.069022	0.991	0.05	6.372171	Accept $H0_1$
Banking Consolidation	-0.235863	0.0461	0.05	-0.647148	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Exchange Rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate reform have significant effect on Manufacturing sector credit finance. The p-value for Exchange Rate reform during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Guided deregulation reform have no significant effect on Manufacturing sector credit finance.

The absolute p-value for Exchange Rate during Re-Liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Exchange Rate during Re-Liberalization reform have no significant effect on Manufacturing sector credit finance. The absolute p-value for Exchange Rate during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Consolidation reform have significant effect on Manufacturing sector credit finance.

Table 4.19: Effect of Exchange Rate on bank Credit to the Mining and Quarrying

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.062050	0.0217	0.05	0.675747	Reject $H0_1$
Guided deregulation	-1.593249	0.6562	0.05	0.450707	Accept $H0_1$
Re-Liberalization	-3.408747	0.0100	0.05	-1.348635	Reject $H0_1$
Banking Consolidation	-0.040632	0.1556	0.05	-1.670698	Accept $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Exchange Rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate reform have significant effect on Mining and Quarrying sector credit finance. The p-value for Exchange Rate reform during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Guided deregulation reform have no significant effect on Mining and Quarrying sector credit finance.

The absolute p-value for Exchange Rate during Re-Liberalization reform is less than the

critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Exchange Rate during Re-Liberalization reform have significant effect on Mining and Quarrying sector credit finance. The absolute p-value for Exchange Rate during Consolidation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Consolidation reform have no significant effect on Mining and Quarrying sector credit finance.

Table 4.20: Effect of Exchange Rate on bank Credit to the Real Estate

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	-0.002124	0.0223	0.05	-1.411861	Reject $H0_1$
Guided deregulation	0.507034	0.6562	0.05	0.450707	Accept $H0_1$
Re-Liberalization	7.321577	0.0053	0.05	2.993394	Reject $H0_1$
Banking Consolidation	0.633577	0.0165	0.05	1.220948	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Exchange Rate during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate reform have significant effect on Real Estate sector credit finance. The p-value for Exchange Rate reform during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Guided deregulation reform have no significant effect on Real Estate sector credit finance.

The absolute p-value for Exchange Rate during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not

statistically significant at the 5% level of significance, therefore we conclude that Exchange Rate during Re-Liberalization reform have significant effect on Real Estate sector credit finance. The absolute p-value for Exchange Rate during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Exchange Rate during Consolidation reform have significant effect on Real Estate sector credit finance.

4.3.4 Testing of the Fourth Hypothesis (H_{04})

H_{04}: Bank asset quality reforms have no significant effect on bank credit to real sector in Nigeria.

Table 4.21: Effect of Loan-to-deposit ratio on bank Credit to the Agriculture

Reforms	Beta	p-values	Critical Value @ 5%	t-statistics	Decision
Liberalization	0.301761	0.0433	0.05	0.186893	Reject $H0_1$
Guided deregulation	0.775679	0.8317	0.05	0.270741	Accept $H0_1$
Re-Liberalization	0.056375	0.8161	0.05	0.297201	Accept $H0_1$
Banking Consolidation	0.373613	0.0263	0.05	0.177221	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Asset Quality proxy as Loan-to-deposit ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Bank have significant effect on Agriculture credit finance. The p-value for Asset Quality during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Banks during v reform have no significant effect on Agriculture sector credit finance.

The absolute p-value for Asset Quality reform during Re-Liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Asset Quality during Re-Liberalization reform have no significant effect on Agriculture sector credit finance. The absolute p-value for Asset Quality during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Asset Quality during Consolidation reform have significant effect on Agriculture sector credit finance.

Table 4.22: Effect of Loan-to-deposit ratio on bank Credit to the Manufacturing

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.150168	0.0255	0.05	6.617617	Reject $H0_1$
Guided deregulation	2.887575	0.8533	0.05	0.186893	Accept $H0_1$
Re-Liberalization	0.873372	0.0409	0.05	0.632558	Reject $H0_1$
Banking Consolidation	0.782895	0.0144	0.05	0.810616	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Asset Quality proxy as Loan-to-deposit ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Bank have significant effect on Manufacturing sector credit finance. The p-value for Asset Quality during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Banks during Guided deregulation reform have no significant effect on Manufacturing sector credit finance.

The absolute p-value for Asset Quality reform during Re-Liberalization reform is less than the critical value, we accept the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Asset Quality during Re-Liberalization reform have significant effect on Manufacturing sector credit finance. The absolute p-value for Asset Quality during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Asset Quality during Consolidation reform have significant effect on Manufacturing sector credit finance.

Table 4.23: Effect of Loan-to-deposit ratio on bank Credit to the Mining and Quarrying

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.048780	0.0197	0.05	4.840092	Reject $H0_1$
Guided deregulation	1.035652	0.2988	0.05	-1.062075	Accept $H0_1$
Re-Liberalization	-3.022469	0.6425	0.05	-0.470117	Accept $H0_1$
Banking Consolidation	0.142593	0.0158	0.05	0.534603	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Asset Quality proxy as Loan-to-deposit ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Bank have significant effect on Mining and Quarrying credit finance. The p-value for Asset Quality during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Banks during Guided deregulation reform have no significant effect on Mining and Quarrying sector credit finance.

The absolute p-value for Asset Quality reform during Re-Liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Asset Quality during Re-Liberalization reform have no significant effect on Mining and Quarrying sector credit finance. The absolute p-value for Asset Quality during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Asset Quality during Consolidation reform have significant effect on Mining and Quarrying sector credit finance.

Table 4.24: Effect of Loan-to-deposit ratio on bank Credit to the Real Estate

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.009055	0.0116	0.05	54.84595	Reject $H0_1$
Guided deregulation	-0.039157	0.2988	0.05	-1.062075	Accept $H0_1$
Re-Liberalization	1.293052	0.0216	0.05	0.467557	Reject $H0_1$
Banking Consolidation	-0.704573	0.0204	0.05	-1.299566	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Asset Quality as proxy as Loan-to-deposit ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Bank have significant effect on Real Estate credit finance. The p-value for Asset Quality during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Asset Quality of Banks during Guided deregulation reform have no significant effect on Real Estate sector credit finance.

The absolute p-value for Asset Quality reform during Re-Liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not

statistically significant at the 5% level of significance, therefore we conclude that Asset Quality during Re-Liberalization reform have no significant effect on Real Estate sector credit finance. The absolute p-value for Asset Quality during Consolidation reform is less than the critical value, we reject the null hypothesis, that is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Bank Asset Quality during Consolidation reform have significant effect on Real Estate sector credit finance.

4.3.5 Testing of the Fifth Hypothesis (H_{05})

H_{05}: Bank liquidity management reform have no significant effect on the financing of real sector in Nigeria.

Table 4.25: Effect of Cash Reserve Ratio on bank Credit to the Agriculture

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.723201	0.0006	0.05	3.962575	Reject $H0_1$
Guided deregulation	0.067732	0.8865	0.05	0.180138	Accept $H0_1$
Re-Liberalization	2.729390	0.5378	0.05	0.887767	Accept $H0_1$
Banking Consolidation	0.257404	0.0093	0.05	4.104021	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Liquidity reform proxy by Cash Reserve Ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity management of Bank have significant effect on Agriculture credit finance. The p-value for Liquidity Management during Guided deregulation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance

therefore we conclude that Liquidity Management of Banks during Guided deregulation reform have no significant effect on Agriculture sector credit finance.

The absolute p-value for Liquidity Management reform during Re-Liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Liquidity Management during Re-Liberalization reform have significant effect on Agriculture sector credit finance. The absolute p-value for Liquidity Management during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity Management during Consolidation reform have significant effect on Agriculture sector credit finance.

Table 4.26: Effect of Cash Reserve Ratio on bank Credit to the Manufacturing

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	1.251151	0.0148	0.05	1.854594	Reject $H0_1$
Guided deregulation	-0.144921	0.0103	0.05	-2.782264	Reject $H0_1$
Re-Liberalization	7.490177	0.0044	0.05	0.334708	Reject $H0_1$
Banking Consolidation	0.650241	0.0077	0.05	0.713033	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Liquidity reform proxy by Cash Reserve Ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity management of Bank have significant effect on Manufacturing credit finance. The p-value for Liquidity Management during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance

therefore we conclude that Liquidity Management of Banks during Guided deregulation reform have significant effect on Manufacturing sector credit finance.

The absolute p-value for Liquidity Management reform during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Liquidity Management during Re-Liberalization reform have significant effect on Manufacturing sector credit finance. The absolute p-value for Liquidity Management during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity Management during Consolidation reform have significant effect on Manufacturing sector credit finance.

Table 4.27: Effect of Cash Reserve Ratio on bank Credit to the Mining and Quarrying

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	-0.277594	0.0243	0.05	-0.926491	Reject $H0_1$
Guided deregulation	-0.423517	0.0000	0.05	-5.184308	Reject $H0_1$
Re-Liberalization	0.284992	0.0126	0.05	2.697019	Reject $H0_1$
Banking Consolidation	-0.329801	0.0140	0.05	-0.193725	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Liquidity reform proxy by Cash Reserve Ratio during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity management of Bank have significant effect on Mining and Quarrying credit finance. The p-value for Liquidity Management during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance

therefore we conclude that Liquidity Management of Banks during Guided deregulation reform have significant effect on Mining and Quarrying sector credit finance.

The absolute p-value for Liquidity Management reform during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Liquidity Management during Re-Liberalization reform have significant effect on Mining and Quarrying sector credit finance. The absolute p-value for Liquidity Management during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity Management during Consolidation reform have significant effect on Mining and Quarrying sector credit finance.

Table 4.28: Effect of Cash Reserve Ratio on bank Credit to the Real Estate

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.098692	0.0316	0.05	20.10710	Reject $H0_1$
Guided deregulation	0.731218	0.0002	0.05	4.402800	Reject $H0_1$
Re-Liberalization	19.21021	0.0022	0.05	0.428572	Reject $H0_1$
Banking Consolidation	0.206561	0.7458	0.05	0.342650	Accept $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Liquidity reform proxy by Cash Reserve Ratio during liberalization reform is more than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity management of Bank have significant effect on Real Estate credit finance. The p-value for Liquidity Management during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude

that Liquidity Management of Banks during Guided deregulation reform have significant effect on Real Estate sector credit finance.

The absolute p-value for Liquidity Management reform during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Liquidity Management during Re-Liberalization reform have significant effect on Real Estate sector credit finance. The absolute p-value for Liquidity Management during Consolidation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Liquidity Management during Consolidation reform have significant effect on Real Estate sector credit finance.

4.3.6 Testing of the Sixth Hypothesis (H_{06})

H_{06}: banking corporate governance reforms have no significant effect on real sector bank Credit in Nigeria.

Table 4.29: Effect of Corporate Governance on bank Credit to the Agriculture

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.042349	0.0103	0.05	-2.782264	Reject $H0_1$
Guided deregulation	25.19450	0.47001	0.05	1.098970	Accept $H0_1$
Re-Liberalization	-58.64976	0.2042	0.05	-3.009279	Accept $H0_1$
Banking Consolidation	-0.302694	0.0380	0.05	-0.500402	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Corporate Governance during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance of Bank have significant effect on Agriculture credit finance. The p-value for

Corporate Governance during Guided deregulation reform is More than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance of Banks during Guided deregulation reform have no significant effect on Agriculture sector credit finance.

The absolute p-value for Corporate Governance reform during Re-Liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Corporate Governance during Re-Liberalization reform have no significant effect on Agriculture sector credit finance. The absolute p-value for Corporate Governance during Consolidation reform is Less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance during Consolidation reform have significant effect on Agriculture sector credit finance.

Table 4.30: Effect of Corporate Governance on bank Credit to the Manufacturing

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.001411	0.9983	0.05	0.002682	Accept $H0_1$
Guided deregulation	-15.57512	0.0006	0.05	3.962575	Reject $H0_1$
Re-Liberalization	-24.14053	0.0382	0.05	-1.701703	Reject $H0_1$
Banking Consolidation	0.00083	0.0057	0.05	0.151202	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Corporate Governance during liberalization reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance of Bank have no significant effect on Manufacturing credit finance.

The p-value for Corporate Governance during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance of Banks during Guided deregulation reform have significant effect on Manufacturing sector credit finance.

The absolute p-value for Corporate Governance reform during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Corporate Governance during Re-Liberalization reform have significant effect on Manufacturing sector credit finance. The absolute p-value for Corporate Governance during Consolidation reform is Less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance during Consolidation reform have significant effect on Manufacturing sector credit finance.

Table 4.31: Effect of Corporate Governance on bank Credit to the Mining and Quarrying

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	0.435127	0.0137	0.05	1.862377	Reject $H0_1$
Guided deregulation	-7.333240	0.0002	0.05	4.402800	Reject $H0_1$
Re-Liberalization	-0.134610	0.0018	0.05	-3.520453	Reject $H0_1$
Banking Consolidation	-0.006333	0.7545	0.05	-0.330448	Accept $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Corporate Governance during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate

Governance of Bank have no significant effect on Mining and Quarrying credit finance. The p-value for Corporate Governance during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance of Banks during Guided deregulation reform have significant effect on Mining and Quarrying sector credit finance.

The absolute p-value for Corporate Governance reform during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Corporate Governance during Re-Liberalization reform have significant effect on Mining and Quarrying sector credit finance. The absolute p-value for Corporate Governance during Consolidation reform is more than the critical value, we accept the null hypothesis. That is, we accept that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance during Consolidation reform have no significant effect on Mining and Quarrying sector credit finance.

Table 4.32: Effect of Corporate Governance on bank Credit to the Real Estate

Reforms	**Beta**	**p-values**	**Critical Value @ 5%**	**t-statistics**	**Decision**
Liberalization	1.280525	0.0019	0.05	334.5632	Reject $H0_1$
Guided deregulation	-0.843688	0.0000	0.05	-5.184308	Reject $H0_1$
Re-Liberalization	-45.03213	0.0184	0.05	-1.584811	Reject $H0_1$
Banking Consolidation	0.678160	0.0039	0.05	-0.719740	Reject $H0_1$

Source: E-Views 9.0 Result Output, 2018.

The absolute p-value for Bank Corporate Governance during liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate

Governance of Bank have no significant effect on Real Estate credit finance. The p-value for Corporate Governance during Guided deregulation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance of Banks during Guided deregulation reform have significant effect on Real Estate credit finance.

The absolute p-value for Corporate Governance reform during Re-Liberalization reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance, therefore we conclude that Corporate Governance during Re-Liberalization reform have significant effect on Real Estate sector credit finance. The absolute p-value for Corporate Governance during Consolidation reform is less than the critical value, we reject the null hypothesis. That is, we reject that the estimate b_i is not statistically significant at the 5% level of significance therefore we conclude that Corporate Governance during Consolidation reform have significant effect on Real Estate sector credit finance.

Table 4.33: Summary of test of hypotheses

REFORM VARIABLES	**R E F O R M S E G M E N T**			
CB	**Liberalization**	**Guided deregulation**	**Re-Liberalization**	**Bank Consolidation**
	Ag = Reject Ho1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Accept Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Accept Ho_1 Mq = Reject Ho_1 Re = Reject
LR	Ag = Reject Ho_1 Mn = Accept Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Accept Ho_1 Mq = Accept Ho_1 Re = Accept Ho_1	Ag = Reject Ho_1 Mn = Accept Ho_1 Mq = Accept Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1
ER	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Accept Ho_1 Mq = Accept Ho_1 Re = Accept Ho_1	Ag = Reject Ho_1 Mn = Accept Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Accept Ho_1 Re = Reject Ho_1

LDR	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Accept Ho_1 Mq = Accept Ho_1 Re = Accept Ho_1	Ag = Accept Ho_1 Mn = Reject Ho_1 Mq = Accept Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1
CRR	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Reject Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Accept Ho_1
CGDI	Ag = Reject Ho_1 Mn = Accept Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1	Ag = Accept Ho_1 Mn = Reject Ho_1 Mq = Reject Ho_1 Re = Reject Ho_1

Source: Researchers computation

4.4 Variance Decomposition

Table 4.32 to 4.35 which was extracted from appendix 30 shows the variation in an endogenous variable into the component shock to the VAR.

Table 4.34:RSCFAg

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	29.53846	100.0000	0.000000	0.000000	0.000000
2	50.60398	59.71369	37.73463	2.473429	0.078253
3	77.06697	75.61135	23.01503	1.301296	0.072317
4	104.3850	61.90511	36.95307	1.094107	0.047711
5	146.1814	76.44424	22.81307	0.681804	0.060886
6	212.1074	67.00666	32.14649	0.812279	0.034566
7	286.7350	72.45851	26.91226	0.604552	0.024671
8	408.0291	73.50460	25.83432	0.646604	0.014475
9	599.2278	75.52270	23.81850	0.641567	0.017233
10	866.9254	71.74237	27.54319	0.705248	0.009189

Source: E-Views 9.0 Result Output, 2018.

In the short run, that is quarter, 3, impulse, or innovation or shock to RSCFAg account for 75.611% variation of the fluctuations in RSCFAg. This can be called own shock. Shock to RSCFMn can cause 23.01503% fluctuation in RSCFAg. But Shock to RSCFMq causes

1.301296% fluctuation in RSCFAg. Also, shock to RSCFRe accounts for 0.072317% fluctuation in RSCFAg. As show, total fluctuation in the variables becomes 100% (i.e. 75.61135 + 23.01503 + 1.301296 + 0.072317).

In the long run, that is at quarter 10;impulse, or innovation or shock to RSCFAg can contribute to 71.74237% variation of the fluctuations in RSCFAg. Impulse to RSCFMn can cause 27.54319% fluctuation in RSCFAg. However, shock to RSCFMq causes 0.705248% fluctuation in RSCFAg. Also, shock to RSCFRe accounts for 0.009189% fluctuation in RSCFAg.

Shock to RSCFAg, RSCFMn, RSCFMq and RSCFRe in the shortrun is slightly higher than impulse or innovation in the longrun.

Table 4.35: RSCFMn

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	56.08782	13.85427	86.14573	0.000000	0.000000
2	62.28795	13.55390	85.94911	0.010942	0.486039
3	67.21590	18.76335	73.95805	5.710788	1.567818
4	93.14962	50.92483	45.05006	3.015331	1.009777
5	105.3920	39.91033	56.36098	2.928571	0.800112
6	114.3141	34.14928	62.25708	2.905473	0.688165
7	143.1563	23.11026	74.04203	2.291365	0.556345
8	159.5957	29.36846	67.86332	1.861546	0.906677
9	190.4205	23.74592	73.44048	1.788809	1.024797
10	234.7739	26.21409	71.24548	1.826183	0.714251

Source: E-Views 9.0 Result Output, 2018.

In the short run, that is quarter, 2, impulse, or innovation or shock to RSCFAg account for 13.55390% variation of the fluctuations in RSCFMn. The own shock accounts for 85.94911%. Shock to RSCFMq can cause 0.01% fluctuation in RSCFMn which is very low. Shock to RSCFRe causes 0.49% fluctuation in RSCFMn. The total fluctuation in the variables becomes 100% .

In the long run, that is at quarter 9; innovation or shock to RSCFAg can contribute to 23.7% variation of the fluctuations in RSCFMn. Impulse to RSCFMn can cause 73.74% fluctuation

in RSCFMn. However, shock to RSCFMq causes 0.705248% fluctuation in RSCFMn. Shock to RSCFRe accounts for 1.02% fluctuation in RSCFMn.

Shock to RSCFAg, RSCFMn, RSCFMq and RSCFRe in the shortrun is slightly higher than innovation in the longrun.

Table 4.36 :RSCFMq

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	49.50287	13.68742	77.17458	9.138002	0.000000
2	90.34944	17.79177	71.26548	10.68185	0.260891
3	126.6579	54.13312	36.45921	8.974305	0.433368
4	203.9397	20.88386	75.17305	3.696959	0.246137
5	223.1176	17.51726	78.82687	3.395907	0.259964
6	261.9867	37.16493	59.89618	2.478993	0.459898
7	370.4779	21.68162	75.37421	2.706184	0.237987
8	374.7293	22.08278	74.16693	3.189387	0.560895
9	526.6006	38.69088	59.24747	1.627153	0.434495
10	749.0010	34.56261	63.38286	1.755440	0.299097

Source: E-Views 9.0 Result Output, 2018.

In the short run, that is quarter, 1, impulse, or innovation or shock to RSCFAg account for 13.68% variation of the fluctuations in RSCFMq. Shock to RSCFMn can cause 77.18% fluctuation in RSCFMq. Shock to RSCFMq, that is own shock causes 9.14% fluctuation in RSCFMq. Also, shock to RSCFRe accounts for 0.0000% fluctuation in RSCFMq, this means that a shock in Re has no effect on Mq at the short run.

In the long run, that is at quarter 8;impulse to RSCFAg can contribute to 22.1% variation of the fluctuations in RSCFMq. Impulse to RSCFMn can cause 74.2% fluctuation in RSCFMq. However, shock to RSCFMq causes 3.2% fluctuation in RSCFMq. Also, shock to RSCFRe accounts for 0.6% fluctuation in RSCFMq.

Table 4.37: RSCFRe

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	63.51364	27.45811	60.10438	2.732348	9.705168
2	308.0622	72.66094	24.33941	2.581189	0.418460
3	351.9894	66.50814	30.85421	2.296430	0.341216
4	528.2055	56.34988	41.99403	1.494750	0.161336
5	585.1286	63.50623	35.13087	1.229620	0.133284
6	831.7889	71.41253	27.49670	0.846591	0.244179
7	1060.260	62.38902	36.70219	0.756020	0.152761
8	1427.531	72.46823	26.87602	0.571477	0.084273
9	2066.638	81.02114	18.34588	0.573666	0.059319
10	3287.097	68.17364	30.91191	0.885919	0.028531

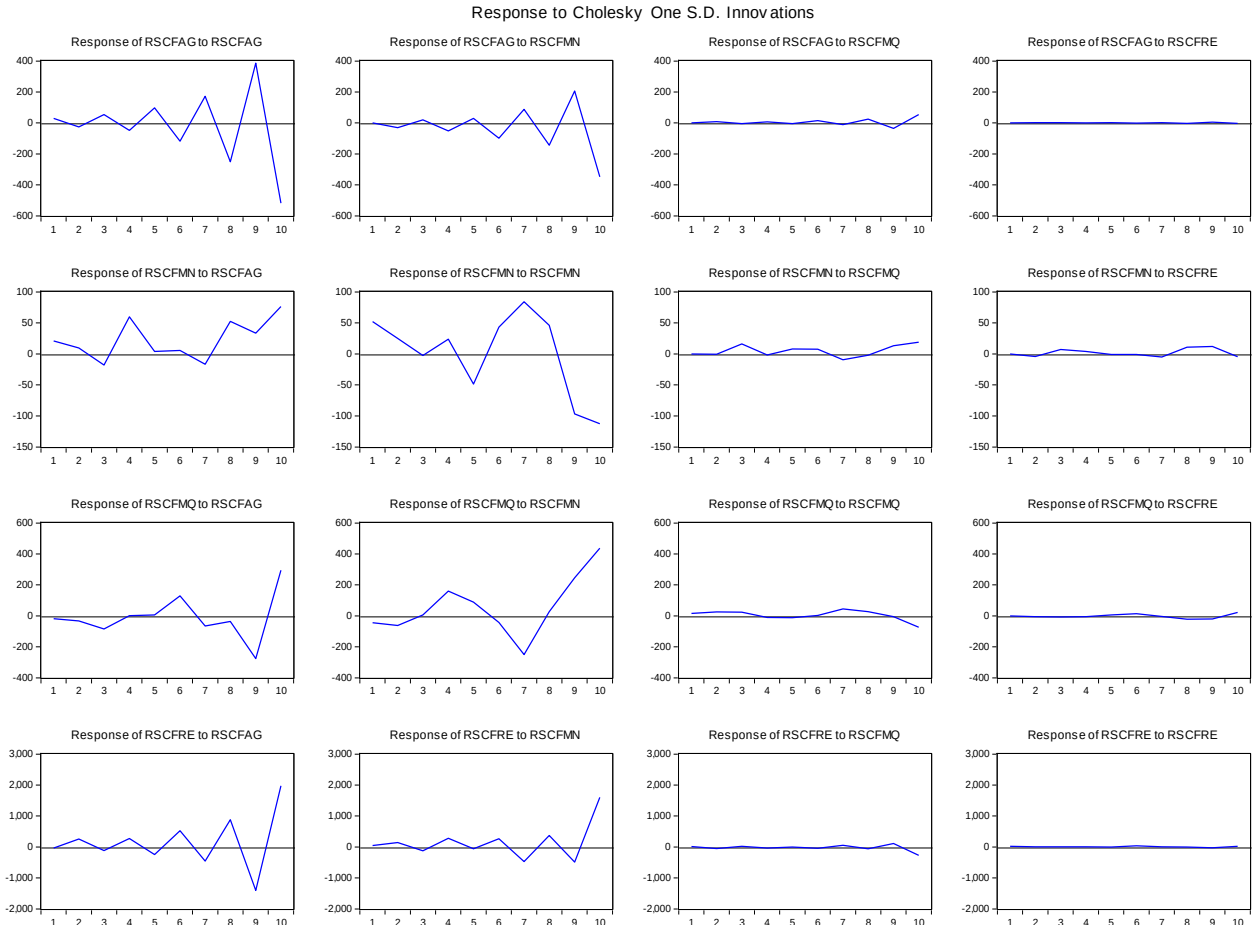
Source: E-Views 9.0 Result Output, 2018.

In the short run, that is quarter, 3, impulse, or innovation or shock to RSCFAg account for 66.5% variation of the fluctuations in RSCFRe. Shock to RSCFMn can cause 30.9% fluctuation in RSCFRe. But Shock to RSCFMq causes 2.3% fluctuation in RSCFRe. Also, shock to RSCFRe accounts for 0.3% fluctuation in RSCFRe. As show, total fluctuation in the variables becomes 100% .

In the long run, that is at quarter 10; impulse, or innovation or shock to RSCFAg can contribute 68.2% variation of the fluctuations in RSCFRe. Impulse to RSCFMn can cause 30.9% fluctuation in RSCFRe. However, shock to RSCFMq causes 0.9% fluctuation in RSCFRe. Also, own shock accounts for 0.03% fluctuation in RSCFRe.

Shock to RSCFAg, RSCFMn, RSCFMq and RSCFRe in the shortrun is slightly higher than impulse or innovation in the long run.

4.5 Impulse response functions



Source: E-Views 9.0 Result Output, 2018.

The impulse response function shows how a one-time shock to one of the endogenous variables affects not only that variable, but is also transmitted to all the other endogenous variables through the lag structure of the model. The graph shows how the pattern of the innovation is distributed. From the origin of the graph, the shock is spread above and below the graph for RSCFAg to RSCFAg own shock.

Response of RSCFAg to RSCFMn is transmitted mainly at the negative axis of the graph as shown in the graph. Response of RSCFAg to RSCFMq is mainly neutral and slitely negative while the respond on RSCFRe has no effect as it lies on neither side.

Response of RSCFMn to RSCFAg is mostly positive while to itself is negative on the aggregate. Respond of RSCFMn to RSCFMq is mostly positive while to RSCFRe is neither positive nor negative. Response of RSCFMq to RSCFAg is mostly negative while to RSCFMn is shared between positive and negative, to itself is partly positive and partly negative while to RSCFRe is neither positive nor negative. Response of RSCFRe to RSCFAg is undulated, that is partly positive and negative, to RSCFMn is also partly negative and partly positive, response to RSCFMq is negative at the extreem end while it has no response on itself.

Impulse response functions show the effects of shocks on the adjustment path of the variables. Forecast error variance decompositions measure the contribution of each type of shock to the forecast error variance. Both computations are useful in assessing how shocks to economic variables reverberate through a system.

4.6 Discussion of Results and Policy Implication

Recall also that there are four reforms that form the basis of the analysis for this study. While reforms that are based on liberalization policy include liberalization (1986-1992), re-liberalization (1999-2005) and banking consolidation (2006-2010), and the repressive reform (Guided deregulation, 1993-1998) was based on regulatory control.

In other to estimate the relationship between banking reforms and real sector financing in Nigeria, the study employed the use of Augmented Dicky-fuller(ADF) which was not stationary at levels but became stationed at first difference. Variance decomposition test was carried out and it shows that there is a significant on each of the variable when is affected by external impulse. The impulse response test also indicates that it is tilted towards the negative when there is a shock by one variable. The normality test using the Jarque–Bera test that the Jarque–Bera test probability values are greater than 0.05 i.e. ($p>0.05$), for each of the variable

under investigation implying that the data is normally distributed and performs well.

In-depth discussions of findings of analysis of each of these reforms are discussed below.

4.6.1 Effect of Bank Capital Base on bank Credit to the real sector

Minimum capital base is an important instrument in the ongoing baking reforms in Nigeria as it affects credit finance to the real sector. The long run econometric result shows that bank capital base have significant effect on real credit finance to real sector, the result shows acceptance that is, the estimate b_1 is statistically significant at the 5% level of significance. This implies that Bank capitalization reforms have a significant effect on real sector credit finance in Nigeria. This conform with the work of Ifeanyi, (2016) which concludes that bank capitalization yield a positive result on Nigeria Economy. Though the result shows a negative 41%, this means that an upward review in bank capital base will reduce real sector credit finance by 41% at the long run, this may be as a result of reduction in bank liquidity.

During liberalization reform era, Bank Capitalization have significant effect on Agricultural credit Finance, the result shows a rejection to the null hypotheses with the coefficient of 0.79 (79%), this may be as a result of the introduction and implementation of the Structural Adjustment Programme (SAP) in 1986.

The period 1993 to 1998 which represent the Guided deregulation reform era showed that the Bank capitalization have significant effect on Credit to Agricultural sector. The hypotheses was rejected, with the Beta value of -28.8%, it implies that an upward review of Bank capital base will lower credit to Agric sector by 28.8% vise-visa. Any policy aimed at increasing bank capital base during Guided deregulation reform should be avoided as that will affect allocation of credit to Agricultural sector negatively.

The re-liberalization reform era, 1999 to 2005, shows that any policy drive on Bank Capitalization will have effect on Credit to real Agricultural Sector even as the Beta value is

high at 83%. Bank Capitalization will have significant effect on Agricultural Credit Finance during the banking consolidation reform, 2006 to 2014. This period show that an increase in Bank Capital Base by one percent will attract more credit to Agricultural Sector by 48%.

Bank Capitalization has significant effect on Manufacturing Sector credit Finance accept for Guided deregulation reform period. This maybe as a result of little attention giving to the Manufacturing Sector of the Economy. The implication of this result is that Manufacturing Sector will attract more credit if the Economy undergo Guided deregulation. Again, Manufacturing sector will perform well if the economy activities are demine by market forces.

Except for Liberalization reform era, Bank Capitalization have significant effect on credit finance to Mining and Quarrying during the reform periods. Bank Capitalization have significant effect on Real sector credit finance to Real Estate with the beta values of 394%,131%,9% and 91% respectively, this policy implication of these is that any alteration on Bank Capitalization during the reforms period will have positive effect on Real Estate.

4.6.2 Effect of Credit Operation on bank Credit to the real sector

Theoretically, lending rate which is the proxy for Credit Operation Reform and credit finance have a negative relationship at the long run (Ojong, Ekpuk and Ogar, Emori, 2014). Throughout the study period, bank lending rate does not have significant effect on bank credit finance to both the agricultural and manufacturing sectors except for Liberalization reform for credit finance to Manufacturing sector which has coefficient of 31.4%, this is in line with the financial repression theory which advocates for government intervention in credit allocation to the real sector.

Consolidation reform era, 2006 to 2016, recorded a significant relationship between Real sector credit finance and Real Estate.

4.6.3 Effect of Exchange Rate on bank Credit to the real sector

Exchange Rate is one of the instruments used in measuring the Financial strength of any economy. Exchange Rate control are instruments of regulatory authority that is suppose to align with any reform ideology. Theoretically, increase in Exchange Rate leads to less liquidity and consequently less credit finance by the commercial banks (Ojong, Ekpuk and Ogar, Emori, 2014). Recall also that Mirakhor and Villaneuva (1990) had proposed that before an economy can benefit from the gains of liberalization, it should first pursue adequate regulatory control policies. Exchange Rate control of the CBN proved to be a viable mechanism for credit finance to the agricultural sector during Banking Consolidation reform but not in order reforms. By rejecting the HO_3, we are saying that Exchange Rate rates is a reliable mechanism for determining agricultural credit finance during Banking Consolidation Reform, but the positive relationship (269.7%) is quite contrary to theoretical stance. With Increase in Exchange Rate leading to less liquidity and consequently less credit finance by the commercial banks, The study finds out that for all the reform periods, accept for Banking Consolidation, all have no significant effect on Manufacturing real sector credit finance, but during the Consolidation reform is significant with beta value of 234.8%, by implication, increase exchange rate during Consolidation reform will reduce real sector credit finance to Manufacturing by 234.8%.

Exchange Rate control of the CBN proved to be a viable tool for credit finance to the Real Estate during Re-liberalization reform with coefficient of 732.2%, for every other reforms, the result shows that it is not significant to real sector credit finance to Real Estate.

4.6.4 Effect of Bank Asset Quality on bank Credit to the real sector

The long run effect of Loan-to-deposit ratio which is the proxy to Bank Asset Quality indicates that Loan-to-deposit ratio does not have a significant effect on real sector credit finance in Nigeria, this conform with the work Wyplosz, (2002) which finds that an increase

in Loan-to-deposit ratio will leads to an increase in real Sector Credit Finance to Real Sector.

The result presented based on the reform cluster shows that Liberalization reform, Guided deregulation reform and Re-liberalization reform have no significant effect on Real Sector Credit Finance to Agricultural sector. For Banking Consolidation reform, the study review a significant effect on credit Finance to Agriculture. With 0.37363 as beta value, it implies that an increase in Loan-to-deposit ratio of banks, there will be an increase in credit Finance to the Agricultural sector by 37,4%. The Manufacturing sector credit finance is significant in the Liberalization Reform period with 0.150168 as coefficient, the policy implication of this is that a unit increase in Loan-to-deposit ratio will result to a reduction in credit Finance to Manufacturing sector during Liberalization reform period. Guided deregulation, Re-Liberalization and Consolidation reform shows insignificant effect to credit Finance to Manufacturing Sector. Real sector credit finance to Mining and Quarrying and Real estate have mix result, While Mining and Quarrying it is significant with 0.048780 beta value for Liberalization and -0.142593 beta value Banking Consolidation, an increase in Loan-to-Deposit ratio during Liberalization will lead to an increase in credit Finance to Mining and Quarrying by 4.9% but for Banking Consolidation, an increase will lead to a reduction by 14.3%.For Real Estate, while Liberalization and Re-Liberalization have significant effect, Banking Consolidation and Guided deregulation reforms have no significant effect.

4.6.5 Effect of Liquidity Management on bank Credit to the real sector

At the long run, cash reserve ratio which is a proxy for Liquidity Management of Bank significantly affected credit Finance to the real sector. Therefore, any policy measure towards reducing bank cash reserve ratio will increase credit finance to the real sector by 27%.

Cash reserve ratio proved to be a viable mechanism for credit finance to the agricultural sector during liberalization reform but not in order reforms. By rejecting the HO_5, we are

saying that cash reserve ratio is a reliable mechanism for determining agricultural credit finance, but the positive relationship of 0.72321 that is 72.3% shows a strong effect on credit finance to Agriculture. Banking Consolidation reform is also relevant as it is significant with an increase by 1% will lead to an increase in credit finance to Agriculture by 25.7%. Other reforms have no significant effect on Agricultural credit finance.

Cash reserve ratio to Manufacturing sector performs well as Liberalization, Guided deregulation and Re-liberalization reforms have significant effect on credit Finance to manufacturing sector. With the beta values of 1.251152, -0.144921 and 7.490177 respectively means that any policy targeted at those reforms will improve credit finance to those three sectors. Cash reserve ratio has strong effect on Credit finance to Mining and Quarrying, though a mix result, while credit Guided deregulation and Re-liberalization have significant effect, Liberalization and Consolidation have no significant effect on credit finance to Mining and Quarrying. Real estate also has mix result.

4.6.6 Effect of Corporate Governance on bank Credit to the real sector

The long run Effect of Corporate Governance Shows that it has significant effect of real sector credit finance. The t test criteria for the hypothesis , t_{cal} = -6.27433< $t\text{-}_{tab}$: 2.064 @ 24 df. Thus, we reject the null hypothesis. That is, we accept that the estimate b_5 is statistically significant at the 5% level of significance. This implies that Corporate Governance Disclosure Index has a significant effect on the financing of real sector in Nigeria. This means that Corporate Governance play a significant role in Credit Finance to the real sector in Nigeria at the long run.

For Agriculture, Corporate Governance has significant effect on credit finance during Liberalization and Consolidation but it not significant during Re-liberalization and Guided deregulation reforms. Corporate Governance performs well on Credit Finance to

Manufacturing Sector as it is only Liberalization reform that has no effect on credit finance to Manufacturing sector. This means that any policy drive during Guided deregulation, Re-liberalization and Banking Consolidation will boost Credit Finance to Manufacturing Sector. Mining and Quarrying and also Real Estate have mix results.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The information obtained from the study indicated that CBN undertakes various banking reforms as a measure to promote financial intermediation role of banks to the economy, the reforms includes liberalization (1986), Guided deregulation (1993), re-liberalization and universal banking model (1998) banking reforms and consolidation exercise (2006). From the review of related works and analysis of data, the following findings were made:

a) Bank Capitalisation have significant effect on Agriculture, Manufacturing, Mining and Quarrying and real estate during Guided deregulation Re-liberalization and Banking consolidation but insignificant during Liberalization and Re-liberation. Increase in bank deposit during all the reforms leads to significant increase in credit finance to real sector.

b) Except for Guided deregulation reform era, Lending rate have significant effect on Agriculture during Liberalization, Re-liberalization and Consolidation reform era. It is significant on Manufacturing during Liberalization and Consolidation reform era but insignificant during Guided deregulation and Re-liberalization, likewise to Mining and Quarrying. Also Except for Guided deregulation reform era, Lending rate have significant effect on Agriculture during Liberalization, Re-liberalization and Consolidation reform era to real Estate.

c) Exchange rate has no significant effect on credit finance to Agriculture during Guided deregulation but significant during Liberalization, Re-liberalization and consolidation reforms. Exchange rate have significant effect on Manufacturing during Liberalization and Consolidation reforms but insignificant during Re-liberalization and Guided

deregulation reforms era. Mining can be affected by exchange rate during Liberalization and Re-liberalization reform era but insignificant during Consolidation and Guided deregulation reforms. Exchange rate has proving to be significant on Real Estate during Liberalization, Consolidation and Re-liberalization and but insignificant during Guided deregulation reform.

d) Bank asset quality have significant effect on credit finance to Real Estate during Liberalization, Re-Liberalization and Consolidation reforms, but insignificant during Guided deregulation reforms. It is significant on Agriculture during Liberalization and Consolidation but insignificant during Guided deregulation and Re-liberalization reforms. Asset quality of bank significantly affected credit finance to Manufacturing in all the reform era except for Guided deregulation reform. Also for Mining and Quarrying its the same as Real Estate.

e) Bank Liquidity has no significant effect on Credit finance to Agriculture during Guided deregulation and Re-Liberalization reforms but significant during Liberalization and Consolidation reforms. It is significant to Manufacturing, Mining and Quarrying and Real Estate in all the reform period except for Consolidation that is insignificant on Real Estate.

f) Corporate Governance have significant effect on credit finance to Manufacturing during Guided deregulation, Re-Liberalization and Consolidation reforms, but insignificant during Liberalization reform. Corporate Governance have significant effect on Mining and Quarrying and Real Estate in all the reform period. For Agriculture it is significant during Liberalization and Consolidation but insignificant during Guided deregulation and Re-liberalization**.**

5.2 Conclusion

Banking Sector Reforms in Nigeria have witnessed significant growth since the adoption of structural adjustment program (SAP) with potential contribution to the growth of the real sector credit finance in Nigeria. However, the Liberalization of the Nigerian Financial Institutions of which banking sector reforms is one has not manifested in changes on behaviours of operators who are still largely risk averters. While bank reforms have proved to be very indispensable in promoting banking sector intermediation financial and economic wellbeing of the real sector in Nigeria, the study have come to conclusion that Libralization reform have proven to be more effective in providing credit to the real sector in Nigeria. To this end, stakeholders in the banking sector should acknowledge the dependence of the real sector on the banking sector and be patriotic enough to sustainable funding of the economy especially the real sector.

5.3 Recommendations

Based on our findings, the following recommendations become necessary to curb or at least minimize the problems encountered by the banks in ensuring strict compliance with the flow of credit to the real sector by commercial banks. They include:

a) A More Structured Reform Programme that will Prioritize Credit to the Real Sector
   In the period under review (1986-2016), should be undertaken. The consequences of this is that the time or regime of each reform programmes are not defined, thereby making it difficult for true and proper assessment of the reforms. It is recommended that reforms should be undertaken within a specific period, that is, a convenient time frame between which reforms are made and the time of total compliance.

b) Financial liberalization should be promoted by regulatory authorities for resource mobilization since it has proved potent in this regard. The financial sector should be allowed to operate under free market operation. This will increase savings and made

available funds for loan to the real sector. Also, for policy framework, the CBN should prioritize macroeconomic stability and adequate regulatory framework before embarking on liberalization. That is ensuring a reasonable stability in price, minimum inflation rate, reduction in balance of payment disequilibrium, improve GDP and full employment.

c) On the part of commercial banks, it is recommended that greater priorities should be given to longer term (longer maturities) deposit schemes. For any bank to effectively carter for any financing to the real sector and avert the problem of maturity mismatch, longer maturity savings plans should be introduced with greater incentives to intending savers. The prevailing huge degree of demand deposit with respect to total deposit base is not sustain able for credit for investment purpose.

In order to minimize the incidence of non-performing loans credited to this sector, the CBN and commercial banks needs to adopt the "credit bureau" system here, that is to maintain a database of borrowers from lending institutions, to provide a central storage for all the information collected, to provide credit information upon request, to eliminate/reduce information discrepancy in the lending industry and to allow increased access to credit.

d) It is a centralized data base of all bank debtors. This will enable banks that are willing to lend money have access to data on prospective borrowers and sieve "toxic borrowers" aside for onward penalties. The data on the credit bureau system should be biometric as well as personal information to make it more responsible to sieve off "toxic borrowers".

e) Appropriate policies that will increase credit to the real sector and ensure efficient allocation of credit to the sector are required. For instance, policy that will results in increased capitalization, exchange rate devaluation; interest rate restructuring and

abolition of credit rationing may have had positive effects on real sector credit, this is also in addition of evolving policies to positively change banks lending behaviour and preferences as well as curtailing government interferences in the sector through crowding out effect. Also since Bank Capitalization is always upward review, two implementation strategies should be adopted, firstly, a long compliance period could be giving to the banks or secondly, the implementation should be in phases.

f) It is also recommended that right of share holders to determine who serves on their board should be respected. The CBN should proactively influence board composition to ensure that only candidates with the right personal qualities, experience and education are appointed into the board membership.

5.4 Contribution to Knowledge

1. This study has contributed to knowledge in that it has proved that liberalization reform period has the tendency to improve credit finance to the real sector.
2. The study also shows the substantial compliance to corporate governance has the tendency to improve credit finance to real sector.

5.5 Suggestion for further study

Further study on the effect of banking supervision reform is also recommended.

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APPENDIX 1

DATA FOR BANKING SECTOR REFORM VARIABLES

REFORM	Year	Cash reserve ratio	CGDIE	Bank capital base	Maximum Lending Rate (lr)	Loan-to-deposit ratio	Real exchange rate
SAP AND LIBERALIZATION	1986	1.7	0	600,000	12.00	2.4	1.75
	1987	1.4	0	600,000	19.20	5.9	4.02
	1988	2.1	0	5,000,000	17.60	11.4	4.54
	1989	2.9	0	20,000,000	24.60	15.0	7.36
	1990	2.9	0	20,000,000	27.70	19.1	8.04
	1991	2.9	0	50,000,000	20.80	23.0	9.91
	1992	4.4	0	50,000,000	31.20	23.4	17.30
Guided deregulation	1993	6.0	0	50,000,000	36.09	30.1	22.07
	1994	5.7	0	50,000,000	21.00	38.3	22.00
	1995	5.8	0	50,000,000	20.79	39.8	20.92
	1996	7.5	0	50,000,000	20.86	48.7	21.89
	1997	7.8	0	500,000,000	23.32	53.9	21.89
	1998	8.3	0	500,000,000	21.34	58.9	21.89
RE-LIBERALIZATION	1999	11.7	0	1,000,000,000	27.19	74.3	92.69
	2000	9.8	0	1,000,000,000	21.55	49.8	102.11
	2001	10.8	0	2,000,000,000	21.34	42.0	111.94
	2002	10.6	0	2,000,000,000	30.19	46.7	120.97
	2003	10.0	0	2,000,000,000	22.88	57.0	129.36
	2004	8.6	0	25,000,000,000	20.82	55.0	133.50
	2005	9.7	0	25,000,000,000	19.49	62.2	132.15
CONSOLIDATION	2006	2.6	0	25,000,000,000	18.70	48.0	128.65
	2007	2.8	1	25,000,000,000	18.36	55.0	125.83
	2008	3.0	1	25,000,000,000	18.70	67.2	118.57
	2009	1.3	0	25,000,000,000	22.62	73.8	148.88
	2010	1.0	1	25,000,000,000	22.51	53.0	150.30
	2011	8.0	1	25,000,000,000	22.42	79.2	153.86
	2012	12.0	1	25,000,000,000	23.79	77.4	157.50
	2013	12.0	1	25,000,000,000	24.69	74.5	157.31
	2014	20.0	0	25,000,000,000	25.74	72.3	158.44
	2015	20.0	1	25,000,000,000	25.90	90.3	192.44
	2016	22.50	1	25,000,000,000	26.01	126.3	291.00

Source: CBN Statistical Bulletin, 2016.

APPENDIX 2
DISAGGREGATE REAL SECTOR CREDIT FINANCE (N'BILLION)

REFORM	Year	Agriculture	Manufacturing	Mining and Quarrying	Real Estate and Construction	Total
SAP AND LIBERALIZATION	1986	1.83	4.48	0.21	2.84	9.35
	1987	2.43	4.96	0.25	2.89	10.53
	1988	3.07	6.08	0.23	3.01	12.38
	1989	3.47	6.67	0.27	3.23	13.64
	1990	4.22	7.88	0.36	3.21	15.68
	1991	5.01	10.91	0.54	3.57	20.04
	1992	6.98	15.40	0.76	4.06	27.20
Guided deregulation	1993	10.75	23.11	1.42	5.41	40.69
	1994	17.76	34.82	-	-	52.58
	1995	25.28	58.09	12.07	-	95.44
	1996	33.26	72.24	15.05	-	120.55
	1997	27.94	82.82	20.61	-	131.37
	1998	27.18	96.73	22.85	-	146.76
RE-LIBERALIZATION	1999	31.05	115.76	24.68	-	171.49
	2000	41.03	141.29	32.29	-	214.61
	2001	55.85	206.89	70.48	-	333.21
	2002	59.85	233.47	70.17	-	363.49
	2003	62.10	294.31	95.98	-	452.39
	2004	67.74	332.11	131.06	-	530.91
	2005	48.56	352.04	172.53	-	573.13
CONSOLIDATIN	2006	49.39	445.79	251.48	-	746.66
	2007	149.58	487.58	490.71	-	1,127.87
	2008	106.35	932.80	846.94	466.80	2,352.90
	2009	135.70	993.46	1,190.73	778.14	3,098.03
	2010	128.41	987.64	1,178.10	690.30	2,964.45
	2011	255.21	1,053.21	1,295.30	453.50	3,057.22
	2012	316.36	1,068.34	1,771.50	539.76	3,695.96
	2013	343.70	1,179.69	2,155.86	726.92	4,406.17
	2014	478.91	1,647.45	1,822.22	556.19	2,700.77
	2015	504.00	1,668.87	1,098.45	543.64	2,845.11
	2016	896.39	1,690.36	1,100.69	574.01	2,912.11

Source: CBN Statistical Bulletin, 2016

APPENDIX 3
LOGARITHMIC FORM OF THE DATA

yr.	RSCFAGER	RSCFMNCRR	RSCFMQ	RSCFRE	CB	LR	LDR
1986	0.604316	1.499623	-1.386294	1.061257	13.30468	2.954910	1.774952
	1.391282.	0.336472					
1987	0.887891	1.601406	-1.469676	1.101940	15.42495	2.867899	2.433613
	1.512927	0.741937					
1988	1.121678	1.805005	-1.309333	1.172482	16.81124	3.202746	2.708050
	1.996060	1.064711					
1989	1.244155	1.897620	-1.021651	1.166271	16.81124	3.32142	
	2.949688	2.084429	1.064711				
1990	1.439835	2.064328	-0.616186	1.272566	17.72753	3.034953	3.135494
	2.293544	1.064711					
1991	1.611436	2.389680	-0.274437	1.401183	17.72753	3.440418	3.152736
	2.850707	1.481605					
1992	1.943049	2.734368	0.350657	1.688249	17.72753	3.586016	3.404525
	3.094219	1.791759					
1993	2.374906	3.140265	0.262364	3.962336	17.72753	3.044522	3.645450
	3.091042	1.740466					
1994	2.876949	3.550192	2.490723	4.558498	17.72753	3.034472	3.683867
	3.040706	1.757858					
1995	3.230014	4.061994	2.711378	4.792065	17.72753	3.037833	3.885679
	3.086030	2.014903					
1996	3.504355	4.279994	3.025776	4.878018	20.03012	3.149311	3.987130
	3.086030	2.054124					
1997	3.330059	4.416670	3.128951	4.988799	20.03012	3.060583	4.075841
	3.086030	2.116256					
1998	3.302481	4.571924	3.205993	5.144525	20.72327	3.302849	4.308111
	4.529261	2.459589					
1999	3.435599	4.751519	3.474758	5.368822	20.72327	3.070376	3.908015
	4.626051	2.282382					
2000	3.714304	4.950815	4.255329	5.808773	21.41641	3.060583	3.737670
	4.717963	2.379546					
2001	4.022670	5.332187	4.250921	5.895752	21.41641	3.407511	3.843744
	4.795543	2.360854					
2002	4.091841	5.453054	4.564140	6.114545	21.41641	3.130263	4.043051
	4.862599	2.302585					
2003	4.128746	5.684634	4.875655	6.274593	23.94214	3.035914	4.007333
	4.894101	2.151762					
2004	4.215677	5.805466	5.150571	6.351113	23.94214	2.969902	4.130355
	4.883938	2.272126					
2005	3.882800	5.863745	5.527363	6.615610	23.94214	2.928524	3.871201
	4.857096	0.955511					
2006	3.899748	6.099848	6.195853	7.028086	23.94214	2.910174	4.007333
	4.834932	1.029619					
2007	5.007831	6.189454	6.741630	6.145901	23.94214	2.928524	4.207673
	4.775504	1.098612					
2008	4.666736	6.838191	7.082322	6.656906	23.94214	3.118834	4.301351
	5.003141	0.262364					

2009	4.910447	6.901194	7.071658	6.537126	23.94214	3.113960	3.970292
	5.012633	0.000000					
2010	4.855228	6.895318	7.166498	6.116995	23.94214	3.109953	4.371976
	5.036043	2.079442					
2011	5.542087	6.959598	7.479582	6.291125	23.94214	3.169265	4.348987
	5.059425	2.484907					
2012	5.756881	6.973861	7.675945	6.588816	23.94214	3.206398	4.310799
	5.058218	2.484907					
2013	5.839769	7.073007	7.507811	6.321110	23.94214	3.248046	4.280824
	5.065376	2.995732					
2014	6.171513	7.406984	7.001655	6.298287	23.94214	3.254243	4.503137
	5.259784	2.995732					
2015	6.222576	7.419902	7.003693	6.352647	23.94214	3.258471	4.838660
	5.673323	3.113515					
2016	6.798379	7.432697	7.750184	4.718499	23.92321	3.148453	4.907495
	5.501258	3.135494					

APPENDIX 4

DISCRIPTIVE STATISTICS

	RSCFAg	RSCFMn	RSCFMq	RSCFRe	CB	LR	LDR	ER	CRR	CGDI
Mean	125.7858	459.8468	522.4800	339.5839	1.16E+10	23.24839	55.05806	97.81710	8.293548	1.677419
Median	48.56000	206.8900	70.48000	333.2100	2.00E+09	22.51000	53.90000	118.5700	7.800000	2.000000
Maximum	896.3900	1690.360	2322.000	1127.870	2.50E+10	36.09000	135.3000	291.0000	23.00000	2.000000
Minimum	1.8300 00	4.480000	0.230000	2.890000	600000.0	17.60000	5.900000	4.020000	1.000000	1.000000
Std. Dev.	197.8842	553.5092	730.9265	301.4374	1.24E+10	4.103100	29.55359	76.64939	6.192250	0.475191
Skewness	2.416266	1.074687	1.172429	0.567042	0.188580	1.212391	0.749299	0.421169	1.008632	-0.759072
Kurtosis	8.872924	2.802131	3.016742	2.546900	1.043386	4.547051	3.892343	2.593127	3.285622	1.576190
Jarque-Bera	74.71595	6.017826	7.102411	1.926450	5.128677	10.68588	3.929339	1.130312	5.361627	5.595494
Probability	0.000000	0.049345	0.028690	0.381660	0.076970	0.004782	0.140202	0.568272	0.068507	0.060947
Sum	3899.360	14255.25	16196.88	10527.10	3.59E+11	720.7000	1706.800	3032.330	257.1000	52.00000
Sum Sq. Dev.	1174745.	9191172.	16027607	2725935.	4.59E+21	505.0628	26202.44	176253.9	1150.319	6.774194
Observations	31	31	31	31	31	31	31	31	31	31

APPENDIX 5

Null Hypothesis: RSCFAg has a unit root
Exogenous: Constant
Lag Length: 7 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		- 0.969107	0.0246
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFAg)
Method: Least Squares
Date: 01/29/18 Time: 10:15
Sample (adjusted): 1994 2016
Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCFAg(-1)	0.470946	0.485959	-0.969107	0.0389
D(RSCFAg(-1))	-1.223863	0.643421	-1.902119	0.0779
D(RSCFAg(-2))	-0.607176	0.703563	-0.863002	0.4027
D(RSCFAg(-3))	-0.460631	0.723681	-0.636511	0.5347
D(RSCFAg(-4))	0.617707	0.728046	0.848445	0.4105
D(RSCFAg(-5))	1.665747	0.633393	2.629878	0.0198
D(RSCFAg(-6))	0.910474	0.649839	1.401075	0.1830
D(RSCFAg(-7))	1.255273	0.521017	2.409277	0.0303
C	-15.63029	11.30932	-1.382071	0.1886

R-squared	0.919707	Mean dependent var	38.50609
Adjusted R-squared	0.873825	S.D. dependent var	88.70764
S.E. of regression	31.50998	Akaike info criterion	10.02466
Sum squared resid	13900.30	Schwarz criterion	10.46898
Log likelihood	-106.2836	Hannan-Quinn criter.	10.13640
F-statistic	20.04508	Durbin-Watson stat	1.722695
Prob(F-statistic)	0.000002		

APPENDIX 6

Null Hypothesis: RSCFMn has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.626111	0.0292
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFMn)
Method: Least Squares
Date: 01/29/18 Time: 10:17
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCFMn(-1)	0.064456	0.039638	1.626111	0.0111
C	29.19973	25.98164	1.123860	0.2706

R-squared	0.086288	Mean dependent var	56.19600
Adjusted R-squared	0.053656	S.D. dependent var	112.5266
S.E. of regression	109.4662	Akaike info criterion	12.29345
Sum squared resid	335519.5	Schwarz criterion	12.38686
Log likelihood	-182.4017	Hannan-Quinn criter.	12.32333
F-statistic	2.644237	Durbin-Watson stat	2.137116
Prob(F-statistic)	0.115130		

APPENDIX 7

Null Hypothesis: RSCFMq has a unit root
Exogenous: Constant
Lag Length: 7 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.791922	0.45000
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFMq)
Method: Least Squares
Date: 01/29/18 Time: 10:17
Sample (adjusted): 1994 2016
Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCFMq(-1)	0.495642	0.177527	2.791922	0.5144
D(RSCFMq(-1))	0.444771	0.298447	1.490286	0.1583
D(RSCFMq(-2))	-1.275393	0.369346	-3.453107	0.0039
D(RSCFMq(-3))	-0.113423	0.449320	-0.252433	0.8044
D(RSCFMq(-4))	0.184725	0.483765	0.381849	0.7083
D(RSCFMq(-5))	-0.647225	0.563003	-1.149595	0.2696
D(RSCFMq(-6))	-0.933105	0.564123	-1.654081	0.1203
D(RSCFMq(-7))	-1.878509	0.608697	-3.086117	0.0081
C	31.85041	28.01474	1.136916	0.2747

R-squared	0.951432	Mean dependent var	100.9000
Adjusted R-squared	0.923679	S.D. dependent var	343.4352
S.E. of regression	94.87812	Akaike info criterion	12.22924
Sum squared resid	126026.0	Schwarz criterion	12.67356
Log likelihood	-131.6362	Hannan-Quinn criter.	12.34098
F-statistic	34.28215	Durbin-Watson stat	1.906519
Prob(F-statistic)	0.000000		

APPENDIX 8

Null Hypothesis: RSCFRe has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.906497	0.3250
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFRe)
Method: Least Squares
Date: 01/29/18 Time: 10:18
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RSCFRe(-1)	-0.217200	0.113926	-1.906497	0.0669
C	79.04246	52.15882	1.515419	0.1409

R-squared	0.114897	Mean dependent var	3.637000
Adjusted R-squared	0.083286	S.D. dependent var	194.5178
S.E. of regression	186.2414	Akaike info criterion	13.35631
Sum squared resid	971204.3	Schwarz criterion	13.44972
Log likelihood	-198.3446	Hannan-Quinn criter.	13.38619
F-statistic	3.634732	Durbin-Watson stat	2.353328
Prob(F-statistic)	0.066896		

APPENDIX 9

Null Hypothesis: CB has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.849088	0.7902
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CB)
Method: Least Squares
Date: 01/29/18 Time: 10:19
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB(-1)	-0.053891	0.063470	-0.849088	0.4030
C	1.42E+09	1.05E+09	1.356630	0.1857

R-squared	0.025102	Mean dependent var	8.18E+08
Adjusted R-squared	-0.009716	S.D. dependent var	4.20E+09
S.E. of regression	4.22E+09	Akaike info criterion	47.22674
Sum squared resid	4.98E+20	Schwarz criterion	47.32015
Log likelihood	-706.4011	Hannan-Quinn criter.	47.25662
F-statistic	0.720950	Durbin-Watson stat	2.019884
Prob(F-statistic)	0.403034		

APPENDIX 10

Null Hypothesis: LR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.038239	0.0040
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LR)
Method: Least Squares
Date: 01/29/18 Time: 10:19
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LR(-1)	-0.718939	0.178033	-4.038239	0.0004
C	16.84959	4.202638	4.009289	0.0004

R-squared	0.368051	Mean dependent var	0.136667
Adjusted R-squared	0.345481	S.D. dependent var	4.945500
S.E. of regression	4.001025	Akaike info criterion	5.675319
Sum squared resid	448.2296	Schwarz criterion	5.768732
Log likelihood	-83.12978	Hannan-Quinn criter.	5.705202
F-statistic	16.30738	Durbin-Watson stat	1.946574
Prob(F-statistic)	0.000379		

APPENDIX 11

Null Hypothesis: LDR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.009303	0.9523
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LDR)
Method: Least Squares
Date: 01/29/18 Time: 10:19
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR(-1)	0.000808	0.086807	0.009303	0.9926
C	4.271032	5.058456	0.844335	0.4056

R-squared	0.000003	Mean dependent var	4.313333
Adjusted R-squared	-0.035711	S.D. dependent var	11.92614
S.E. of regression	12.13722	Akaike info criterion	7.894772
Sum squared resid	4124.742	Schwarz criterion	7.988185
Log likelihood	-116.4216	Hannan-Quinn criter.	7.924655
F-statistic	8.65E-05	Durbin-Watson stat	2.122168
Prob(F-statistic)	0.992644		

APPENDIX 12

Null Hypothesis: ER has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.216066	0.9259
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ER)
Method: Least Squares
Date: 01/29/18 Time: 10:27
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ER(-1)	-0.013772	0.063738	-0.216066	0.8305
C	9.312198	7.477017	1.245443	0.2233

R-squared	0.001665	Mean dependent var	8.032667
Adjusted R-squared	-0.033990	S.D. dependent var	24.58748
S.E. of regression	25.00186	Akaike info criterion	9.340118
Sum squared resid	17502.60	Schwarz criterion	9.433531
Log likelihood	-138.1018	Hannan-Quinn criter.	9.370001
F-statistic	0.046685	Durbin-Watson stat	2.106193
Prob(F-statistic)	0.830502		

APPENDIX 13

Null Hypothesis: CRR has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.176875	0.0331
Test critical values:	1% level	-3.711457	
	5% level	-2.981038	
	10% level	-2.629906	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CRR)
Method: Least Squares
Date: 01/29/18 Time: 10:29
Sample (adjusted): 1991 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRR(-1)	-0.495599	0.156002	-3.176875	0.0047
D(CRR(-1))	0.155856	0.201766	0.772457	0.4489
D(CRR(-2))	0.543509	0.206111	2.636969	0.0158
D(CRR(-3))	0.813858	0.227184	3.582382	0.0019
D(CRR(-4))	0.450825	0.253996	1.774927	0.0911
C	3.839040	1.177305	3.260872	0.0039

R-squared	0.433393	Mean dependent var	0.773077
Adjusted R-squared	0.291741	S.D. dependent var	2.837683
S.E. of regression	2.388140	Akaike info criterion	4.778081
Sum squared resid	114.0643	Schwarz criterion	5.068411
Log likelihood	-56.11506	Hannan-Quinn criter.	4.861686
F-statistic	3.059568	Durbin-Watson stat	1.842914
Prob(F-statistic)	0.032781		

APPENDIX 14

Null Hypothesis: CRR has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.176875	0.0331
Test critical values:	1% level	-3.711457	
	5% level	-2.981038	
	10% level	-2.629906	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CRR)
Method: Least Squares
Date: 01/29/18 Time: 10:29
Sample (adjusted): 1991 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRR(-1)	-0.495599	0.156002	-3.176875	0.0047
D(CRR(-1))	0.155856	0.201766	0.772457	0.4489
D(CRR(-2))	0.543509	0.206111	2.636969	0.0158
D(CRR(-3))	0.813858	0.227184	3.582382	0.0019
D(CRR(-4))	0.450825	0.253996	1.774927	0.0911
C	3.839040	1.177305	3.260872	0.0039

R-squared	0.433393	Mean dependent var	0.773077
Adjusted R-squared	0.291741	S.D. dependent var	2.837683
S.E. of regression	2.388140	Akaike info criterion	4.778081
Sum squared resid	114.0643	Schwarz criterion	5.068411
Log likelihood	-56.11506	Hannan-Quinn criter.	4.861686
F-statistic	3.059568	Durbin-Watson stat	1.842914
Prob(F-statistic)	0.032781		

APPENDIX 15

Null Hypothesis: CGDI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.668391	0.4365
Test critical values:	1% level	-3.670170	
	5% level	-2.963972	
	10% level	-2.621007	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CGDI)
Method: Least Squares
Date: 01/29/18 Time: 10:32
Sample (adjusted): 1987 2016
Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CGDI(-1)	-0.206349	0.123682	-1.668391	0.1064
C	0.317460	0.217764	1.457819	0.1560

R-squared	0.090423	Mean dependent var	-0.033333
Adjusted R-squared	0.057938	S.D. dependent var	0.319842
S.E. of regression	0.310438	Akaike info criterion	0.562677
Sum squared resid	2.698413	Schwarz criterion	0.656090
Log likelihood	-6.440151	Hannan-Quinn criter.	0.592560
F-statistic	2.783529	Durbin-Watson stat	2.400280
Prob(F-statistic)	0.106385		

APPENDIX 16

Null Hypothesis: D(RSCFAG) has a unit root
Exogenous: Constant
Lag Length: 6 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		- 5.161909	0.0000
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFAG,2)
Method: Least Squares
Date: 01/29/18 Time: 13:20
Sample (adjusted): 1994 2016
Included observations: 23 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RSCFAG(-1))	4.849339	0.939447	5.161909	0.0001
D(RSCFAG(-1),2)	-6.485295	1.024341	-6.331190	0.0000
D(RSCFAG(-2),2)	-6.459904	1.221391	-5.288975	0.0001
D(RSCFAG(-3),2)	-6.256142	1.218676	-5.133559	0.0001
D(RSCFAG(-4),2)	-4.970739	1.081719	-4.595223	0.0004
D(RSCFAG(-5),2)	-2.761711	0.879559	-3.139883	0.0067
D(RSCFAG(-6),2)	-1.483931	0.463586	-3.200983	0.0060
C	-8.621106	8.676603	-0.993604	0.3362

R-squared	0.930697	Mean dependent var	16.89652
Adjusted R-squared	0.898356	S.D. dependent var	98.63372
S.E. of regression	31.44602	Akaike info criterion	10.00263
Sum squared resid	14832.78	Schwarz criterion	10.39758
Log likelihood	-107.0302	Hannan-Quinn criter.	10.10196
F-statistic	28.77747	Durbin-Watson stat	1.766724
Prob(F-statistic)	0.000000		

APPENDIX 17

Null Hypothesis: D(RSCFMN) has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.457907	0.0233
Test critical values:	1% level	-3.737853	
	5% level	-2.991878	
	10% level	-2.635542	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFMN,2)
Method: Least Squares
Date: 01/29/18 Time: 13:22
Sample (adjusted): 1993 2016
Included observations: 24 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RSCFMN(-1))	-0.206758	0.451528	-0.457907	0.0234
D(RSCFMN(-1),2)	-0.894509	0.434198	-2.060138	0.0550
D(RSCFMN(-2),2)	-0.910335	0.408552	-2.228195	0.0397
D(RSCFMN(-3),2)	-0.911854	0.365079	-2.497690	0.0231
D(RSCFMN(-4),2)	-1.172254	0.309335	-3.789593	0.0015
D(RSCFMN(-5),2)	-0.965509	0.236031	-4.090607	0.0008
C	40.88449	30.41189	1.344358	0.1965

R-squared	0.762153	Mean dependent var	0.708333
Adjusted R-squared	0.678206	S.D. dependent var	170.9097
S.E. of regression	96.95170	Akaike info criterion	12.22480
Sum squared resid	159793.7	Schwarz criterion	12.56839
Log likelihood	-139.6975	Hannan-Quinn criter.	12.31595
F-statistic	9.079066	Durbin-Watson stat	2.133648
Prob(F-statistic)	0.000155		

APPENDIX 18

Null Hypothesis: D(RSCFMQ) has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.252215	0.0291
Test critical values:	1% level	-3.737853	
	5% level	-2.991878	
	10% level	-2.635542	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFMQ,2)
Method: Least Squares
Date: 01/29/18 Time: 13:24
Sample (adjusted): 1993 2016
Included observations: 24 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RSCFMQ(-1))	-0.737978	0.226915	-3.252215	0.0047
D(RSCFMQ(-1),2)	0.793632	0.229390	3.459751	0.0030
D(RSCFMQ(-2),2)	0.064632	0.312056	0.207118	0.8384
D(RSCFMQ(-3),2)	0.317680	0.304764	1.042380	0.3118
D(RSCFMQ(-4),2)	1.262754	0.321331	3.929762	0.0011
D(RSCFMQ(-5),2)	0.995085	0.394654	2.521409	0.0220
C	23.68121	22.89732	1.034235	0.3155

R-squared	0.916070	Mean dependent var	0.084167
Adjusted R-squared	0.886448	S.D. dependent var	257.1013
S.E. of regression	86.63654	Akaike info criterion	11.99981
Sum squared resid	127600.1	Schwarz criterion	12.34341
Log likelihood	-136.9978	Hannan-Quinn criter.	12.09097
F-statistic	30.92515	Durbin-Watson stat	2.143279
Prob(F-statistic)	0.000000		

APPENDIX 19

Null Hypothesis: D(RSCFRE) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.640855	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RSCFRE,2)
Method: Least Squares
Date: 01/29/18 Time: 13:25
Sample (adjusted): 1988 2016
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RSCFRE(-1))	-1.468703	0.169972	-8.640855	0.0000
C	28.43429	29.66417	0.958540	0.3463

R-squared	0.734420	Mean dependent var	1.045517
Adjusted R-squared	0.724584	S.D. dependent var	302.6517
S.E. of regression	158.8319	Akaike info criterion	13.04004
Sum squared resid	681144.3	Schwarz criterion	13.13434
Log likelihood	-187.0806	Hannan-Quinn criter.	13.06957
F-statistic	74.66438	Durbin-Watson stat	2.323962
Prob(F-statistic)	0.000000		

APPENDIX 20

Null Hypothesis: D(CB) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.421058	0.0001
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CB,2)
Method: Least Squares
Date: 01/29/18 Time: 13:25
Sample (adjusted): 1988 2016
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CB(-1))	-1.042347	0.192277	-5.421058	0.0000
C	8.99E+08	8.22E+08	1.092675	0.2842

R-squared	0.521174	Mean dependent var	0.000000
Adjusted R-squared	0.503439	S.D. dependent var	6.16E+09
S.E. of regression	4.34E+09	Akaike info criterion	47.28551
Sum squared resid	5.08E+20	Schwarz criterion	47.37980
Log likelihood	-683.6398	Hannan-Quinn criter.	47.31504
F-statistic	29.38787	Durbin-Watson stat	2.003624
Prob(F-statistic)	0.000010		

APPENDIX 21

Null Hypothesis: D(LR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-7.179797	0.0000
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LR,2)
Method: Least Squares
Date: 01/29/18 Time: 13:26
Sample (adjusted): 1988 2016
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LR(-1))	-1.280478	0.178345	-7.179797	0.0000
C	0.369264	0.909579	0.405972	0.6880

R-squared	0.656268	Mean dependent var	-0.244483
Adjusted R-squared	0.643537	S.D. dependent var	8.167811
S.E. of regression	4.876554	Akaike info criterion	6.073227
Sum squared resid	642.0811	Schwarz criterion	6.167523
Log likelihood	-86.06179	Hannan-Quinn criter.	6.102759
F-statistic	51.54948	Durbin-Watson stat	2.226412
Prob(F-statistic)	0.000000		

APPENDIX 22

Null Hypothesis: D(LDR) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.127676	0.0003
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LDR,2)
Method: Least Squares
Date: 01/29/18 Time: 13:26
Sample (adjusted): 1988 2016
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LDR(-1))	-1.136184	0.221579	-5.127676	0.0000
C	4.564503	2.370158	1.925823	0.0647

R-squared	0.493367	Mean dependent var	1.120690
Adjusted R-squared	0.474603	S.D. dependent var	16.88718
S.E. of regression	12.24054	Akaike info criterion	7.913857
Sum squared resid	4045.435	Schwarz criterion	8.008153
Log likelihood	-112.7509	Hannan-Quinn criter.	7.943389
F-statistic	26.29306	Durbin-Watson stat	1.767893
Prob(F-statistic)	0.000022		

APPENDIX 23

Null Hypothesis: D(ER) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.930422	0.0204
Test critical values:	1% level	-3.679322	
	5% level	-2.967767	
	10% level	-2.622989	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(ER,2)
Method: Least Squares
Date: 01/29/18 Time: 13:27
Sample (adjusted): 1988 2016
Included observations: 29 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ER(-1))	-0.626779	0.281014	-2.230422	0.0342
C	7.441743	4.561927	1.631272	0.1144

R-squared	0.155585	Mean dependent var	3.320345
Adjusted R-squared	0.124310	S.D. dependent var	24.00259
S.E. of regression	22.46122	Akaike info criterion	9.127930
Sum squared resid	13621.67	Schwarz criterion	9.222226
Log likelihood	-130.3550	Hannan-Quinn criter.	9.157462
F-statistic	4.974783	Durbin-Watson stat	1.524729
Prob(F-statistic)	0.034225		

APPENDIX 24

Null Hypothesis: D(CRR) has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=7)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.326085	0.0120
Test critical values:	1% level	-3.724070	
	5% level	-2.986225	
	10% level	-2.632604	

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CRR,2)
Method: Least Squares
Date: 01/29/18 Time: 13:28
Sample (adjusted): 1992 2016
Included observations: 25 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CRR(-1))	-0.851616	0.366115	-2.326085	0.0312
D(CRR(-1),2)	-0.216881	0.372607	-0.582062	0.5674
D(CRR(-2),2)	0.193438	0.396824	0.487464	0.6315
D(CRR(-3),2)	0.638353	0.329583	1.936848	0.0678
D(CRR(-4),2)	0.674052	0.241139	2.795285	0.0115
C	0.528732	0.524752	1.007584	0.3263

R-squared	0.713839	Mean dependent var	0.100000
Adjusted R-squared	0.638534	S.D. dependent var	4.094610
S.E. of regression	2.461765	Akaike info criterion	4.845197
Sum squared resid	115.1454	Schwarz criterion	5.137728
Log likelihood	-54.56497	Hannan-Quinn criter.	4.926333
F-statistic	9.479240	Durbin-Watson stat	2.153351
Prob(F-statistic)	0.000116		

APPENDIX 25

Null Hypothesis: D(CGDI) has a unit root
Exogenous: Constant
Lag Length: 7 (Automatic - based on SIC, maxlag=7)

		t-Statistic
Augmented Dickey-Fuller test statistic		-4.536687
Test critical values:	1% level	-3.769597
	5% level	-3.004861
	10% level	-2.642242

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

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(CGDI,2)
Method: Least Squares
Date: 01/29/18 Time: 13:29
Sample (adjusted): 1995 2016
Included observations: 22 after adjustments

Variable	Coefficient	Std. Error
D(CGDI(-1))	-1.700000	1.106276
D(CGDI(-1),2)	0.600000	0.954342
D(CGDI(-2),2)	0.550000	0.872552
D(CGDI(-3),2)	0.475000	0.785659
D(CGDI(-4),2)	0.400000	0.695591
D(CGDI(-5),2)	0.325000	0.600921
D(CGDI(-6),2)	0.250000	0.499038
D(CGDI(-7),2)	-0.825000	0.384245
C	-0.075000	0.073052

R-squared	0.884375	Mean dependent var
Adjusted R-squared	0.813221	S.D. dependent var
S.E. of regression	0.266747	Akaike info criterion
Sum squared resid	0.925000	Schwarz criterion
Log likelihood	3.642396	Hannan-Quinn criter.
F-statistic	12.42905	Durbin-Watson stat
Prob(F-statistic)	0.000060	

APPENDIX 26

VAR Lag Order Selection Criteria
Endogenous variables: RSCFAgRSCFMnRSCFMq RSCFRe
Exogenous variables: C
Date: 01/29/18 Time: 11:04
Sample: 1986 2016
Included observations: 28

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-953.4205	NA	2.19e+21	66.16693	66.44982	66.25553
1	-839.8570	172.3032*	1.10e+19*	60.81772*	62.79795*	61.43790*

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

APPENDIX 27

Date: 02/05/18 Time: 13:13
Sample (adjusted): 1986 2016
Included observations: 28 after adjustments
Trend assumption: Linear deterministic trend
Series: ARSCF CB LR LDR ER CGDI CRR
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.822350	193.8088	125.6154	0.0000
At most 1 *	0.558559	100.4999	95.75366	0.0226
At most 2	0.377274	56.34352	69.81889	0.3643
At most 3	0.189555	30.76649	47.85613	0.6790
At most 4	0.179764	19.41724	29.79707	0.4632
At most 5	0.089944	8.716402	15.49471	0.3923
At most 6	0.064960	3.626936	3.841466	0.0568

Trace test indicates 2 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 *	0.822350	93.30884	46.23142	0.0000
At most 1 *	0.558559	44.15643	40.07757	0.0164
At most 2	0.377274	25.57703	33.87687	0.3471
At most 3	0.189555	11.34925	27.58434	0.9557
At most 4	0.179764	10.70083	21.13162	0.6771
At most 5	0.089944	5.089466	14.26460	0.7305
At most 6	0.064960	3.626936	3.841466	0.0568

Max-eigenvalue test indicates 2 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):

ARSCF	CB	LR	LDR	ER	CGDI	CRR
-7.25E-05	6.82E-11	-0.000258	-0.020276	0.001773	3.032960	0.164617
-0.000646	1.54E-10	0.000270	-0.009072	0.006998	3.938745	-0.049531
-0.000286	8.05E-11	-1.94E-05	0.003624	-0.010204	-1.687189	0.003375
0.001290	-4.31E-11	3.41E-05	0.001029	-0.003244	1.806111	-0.018679
4.04E-05	2.84E-11	-3.82E-05	0.040827	-0.006366	0.244108	-0.000946
-0.000505	1.09E-10	-0.000202	0.018883	-0.001920	2.225337	0.017189
-0.000136	-2.34E-11	-4.53E-05	0.009212	-0.004286	2.464503	0.008188

Unrestricted Adjustment Coefficients (alpha):

D(ARSCF)	-31.02932	202.4533	129.4108	-110.6797	-145.1822	-0.014997	-11.14266
D(CB)	-9.51E+08	-4.08E+09	2.82E+08	-9.34E+08	-6.92E+08	-1.07E+09	1.01E+09

D(LR)	1342.477	-1789.513	471.9602	-294.1495	-440.4322	577.9012	83.25750
D(LDR)	33.41717	17.39623	11.05474	11.88608	-18.74772	-9.915359	-5.368433
D(ER)	0.853043	-33.66207	65.78272	13.24560	0.862600	-12.41095	6.056231
D(CGDI)	-0.064407	-0.140324	0.095702	-0.017832	0.012791	-0.002980	-0.076271
D(CRR)	-22.09544	-3.179402	1.964405	5.150845	-5.478436	1.997978	-0.865058

1 Cointegrating Equation(s): Log likelihood -3114.494

Normalized cointegrating coefficients (standard error in parentheses)

ARSCF	CB	LR	LDR	ER	CGDI	CRR
1.000000	-9.41E-07	3.559948	279.7018	-24.45534	-41838.50	-2270.830
	(1.7E-07)	(0.44794)	(53.1863)	(15.4488)	(6668.20)	(180.706)

Adjustment coefficients (standard error in parentheses)

D(ARSCF)	0.002249
	(0.00646)
D(CB)	68970.38
	(95318.7)
D(LR)	-0.097319
	(0.04085)
D(LDR)	-0.002422
	(0.00086)
D(ER)	-6.18E-05
	(0.00152)
D(CGDI)	4.67E-06
	(4.6E-06)
D(CRR)	0.001602
	(0.00026)

2 Cointegrating Equation(s): Log likelihood -3092.416

Normalized cointegrating coefficients (standard error in parentheses)

ARSCF	CB	LR	LDR	ER	CGDI	CRR
1.000000	0.000000	-1.768113	-76.09039	-6.215239	6027.470	873.2491
		(0.19921)	(23.6390)	(6.84522)	(2332.39)	(79.1983)
0.000000	1.000000	-5660755.	-3.78E+08	19379042	5.09E+10	3.34E+09
		(651845.)	(7.7E+07)	(2.2E+07)	(7.6E+09)	(2.6E+08)

Adjustment coefficients (standard error in parentheses)

D(ARSCF)	-0.128489	2.91E-08
	(0.05383)	(1.4E-08)
D(CB)	2701661.	-0.692706
	(738498.)	(0.19141)
D(LR)	1.058292	-1.84E-07
	(0.31388)	(8.1E-08)
D(LDR)	-0.013656	4.96E-09
	(0.00748)	(1.9E-09)
D(ER)	0.021676	-5.13E-09
	(0.01315)	(3.4E-09)
D(CGDI)	9.53E-05	-2.60E-11
	(3.8E-05)	(1.0E-11)
D(CRR)	0.003655	-2.00E-09
	(0.00233)	(6.0E-10)

3 Cointegrating Equation(s): Log likelihood -3079.627

Normalized cointegrating coefficients (standard error in parentheses)

ARSCF	CB	LR	LDR	ER	CGDI	CRR
1.000000	0.000000	0.000000	-390.3464	339.7960	109706.2	1278.675

			(279.748)	(76.0837)	(27783.2)	(546.634)
0.000000	1.000000	0.000000	-1.38E+09	1.13E+09	3.83E+11	4.64E+09
			(9.1E+08)	(2.5E+08)	(9.0E+10)	(1.8E+09)
0.000000	0.000000	1.000000	-177.7353	195.6952	58638.06	229.2985
			(159.181)	(43.2929)	(15809.1)	(311.043)

Adjustment coefficients (standard error in parentheses)

D(ARSCF)	-0.165479	3.95E-08	0.060179
	(0.05689)	(1.5E-08)	(0.02998)
D(CB)	2620962.	-0.669983	-861081.4
	(806129.)	(0.21197)	(424768.)
D(LR)	0.923388	-1.46E-07	-0.838945
	(0.33857)	(8.9E-08)	(0.17840)
D(LDR)	-0.016816	5.85E-09	-0.004140
	(0.00808)	(2.1E-09)	(0.00426)
D(ER)	0.002873	1.69E-10	-0.010588
	(0.01221)	(3.2E-09)	(0.00643)
D(CGDI)	6.79E-05	-1.83E-11	-2.31E-05
	(4.1E-05)	(1.1E-11)	(2.1E-05)
D(CRR)	0.003093	-1.84E-09	0.004805
	(0.00253)	(6.7E-10)	(0.00133)

4 Cointegrating Equation(s): Log likelihood -3073.953

Normalized cointegrating coefficients (standard error in parentheses)

ARSCF	CB	LR	LDR	ER	CGDI	CRR
1.000000	0.000000	0.000000	0.000000	-6.145369	1325.076	1.075231
				(3.20988)	(1489.18)	(20.6770)
0.000000	1.000000	0.000000	0.000000	-99507317	-1.52E+09	1.08E+08
				(2.5E+07)	(1.2E+10)	(1.6E+08)
0.000000	0.000000	1.000000	0.000000	38.17876	9289.214	-352.4271
				(7.01342)	(3253.80)	(45.1782)
0.000000	0.000000	0.000000	1.000000	-0.886242	-277.6536	-3.272989
				(0.15379)	(71.3500)	(0.99068)

Adjustment coefficients (standard error in parentheses)

D(ARSCF)	-0.308250	4.42E-08	0.056400	-0.852533
	(0.11499)	(1.5E-08)	(0.02934)	(1.75963)
D(CB)	1416642.	-0.629717	-892956.8	56340510
	(1657019)	(0.21561)	(422722.)	(2.5E+07)
D(LR)	0.543950	-1.33E-07	-0.848988	-9.577329
	(0.69869)	(9.1E-08)	(0.17824)	(10.6913)
D(LDR)	-0.001484	5.34E-09	-0.003734	-0.783106
	(0.01651)	(2.1E-09)	(0.00421)	(0.25264)
D(ER)	0.019959	-4.02E-10	-0.010136	0.540122
	(0.02513)	(3.3E-09)	(0.00641)	(0.38455)
D(CGDI)	4.49E-05	-1.75E-11	-2.37E-05	0.002907
	(8.4E-05)	(1.1E-11)	(2.1E-05)	(0.00128)
D(CRR)	0.009738	-2.06E-09	0.004981	0.489276
	(0.00510)	(6.6E-10)	(0.00130)	(0.07806)

5 Cointegrating Equation(s): Log likelihood -3068.602

Normalized cointegrating coefficients (standard error in parentheses)

ARSCF	CB	LR	LDR	ER	CGDI	CRR
1.000000	0.000000	0.000000	0.000000	0.000000	3458.683	21.85252
					(1259.44)	(19.9585)
0.000000	1.000000	0.000000	0.000000	0.000000	3.30E+10	4.45E+08
					(6.5E+09)	(1.0E+08)
0.000000	0.000000	1.000000	0.000000	0.000000	-3966.047	-481.5082

					(2295.96)	(36.3843)
0.000000	0.000000	0.000000	1.000000	0.000000	30.04016	-0.276635
					(40.9993)	(0.64972)
0.000000	0.000000	0.000000	0.000000	1.000000	347.1894	3.380966
					(95.2278)	(1.50909)

Adjustment coefficients (standard error in parentheses)

D(ARSCF)	-0.314111	4.01E-08	0.061942	-6.779820	1.324502	
	(0.10968)	(1.4E-08)	(0.02811)	(3.47231)	(1.07211)	
D(CB)	1388714.	-0.649343	-866551.8	28095511	-25663196	
	(1649378)	(0.21687)	(422781.)	(5.2E+07)	(1.6E+07)	
D(LR)	0.526170	-1.46E-07	-0.832178	-27.55865	-11.20046	
	(0.69099)	(9.1E-08)	(0.17712)	(21.8753)	(6.75422)	
D(LDR)	-0.002241	4.80E-09	-0.003018	-1.548511	0.148966	
	(0.01590)	(2.1E-09)	(0.00407)	(0.50329)	(0.15540)	
D(ER)	0.019994	-3.78E-10	-0.010169	0.575339	-0.953776	
	(0.02514)	(3.3E-09)	(0.00644)	(0.79586)	(0.24573)	
D(CGDI)	4.54E-05	-1.72E-11	-2.42E-05	0.003430	-0.002096	
	(8.4E-05)	(1.1E-11)	(2.2E-05)	(0.00266)	(0.00082)	
D(CRR)	0.009517	-2.22E-09	0.005190	0.265610	-0.063298	
	(0.00493)	(6.5E-10)	(0.00126)	(0.15615)	(0.04821)	

6 Cointegrating Equation(s): Log likelihood -3066.057

Normalized cointegrating coefficients (standard error in parentheses)

ARSCF	CB	LR	LDR	ER	CGDI	CRR
1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	-1070.472
						(421.486)
0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	-9.99E+09
						(4.0E+09)
0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	771.0527
						(466.663)
0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-9.763946
						(3.38273)
0.000000	0.000000	0.000000	0.000000	1.000000	0.000000	-106.2687
						(41.8027)
0.000000	0.000000	0.000000	0.000000	0.000000	1.000000	0.315821
						(0.12147)

Adjustment coefficients (standard error in parentheses)

D(ARSCF)	-0.314104	4.01E-08	0.061945	-6.780103	1.324531	249.5871
	(0.11595)	(1.7E-08)	(0.03189)	(3.74622)	(1.08160)	(445.746)
D(CB)	1927745.	-0.765814	-650833.7	7947610.	-23614237	-2.36E+10
	(1722740)	(0.24596)	(473817.)	(5.6E+07)	(1.6E+07)	(6.6E+09)
D(LR)	0.234215	-8.27E-08	-0.949017	-16.64599	-12.31023	-3125.798
	(0.71576)	(1.0E-07)	(0.19686)	(23.1248)	(6.67658)	(2751.52)
D(LDR)	0.002769	3.72E-09	-0.001014	-1.735745	0.168007	146.0469
	(0.01662)	(2.4E-09)	(0.00457)	(0.53693)	(0.15502)	(63.8864)
D(ER)	0.026264	-1.73E-09	-0.007660	0.340980	-0.929943	-244.4719
	(0.02639)	(3.8E-09)	(0.00726)	(0.85264)	(0.24617)	(101.452)
D(CGDI)	4.70E-05	-1.75E-11	-2.36E-05	0.003373	-0.002091	-0.945228
	(8.9E-05)	(1.3E-11)	(2.4E-05)	(0.00287)	(0.00083)	(0.34101)
D(CRR)	0.008507	-2.00E-09	0.004786	0.303338	-0.067135	-70.43992
	(0.00519)	(7.4E-10)	(0.00143)	(0.16768)	(0.04841)	(19.9510)

APPENDIX 28

Vector Error Correction Estimates
Date: 02/05/18 Time: 11:02
Sample (adjusted): 1986 2016
Included observations: 28 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
ARSCF(-1)	1.000000
CB(-1)	-0.410007 (1.78707) [-5.44776]
LR(-1)	3.559948 (0.44794) [7.94738]
LDR(-1)	0.279708 (5.31863) [5.25891]
ER(-1)	-0.545534 (15.4488) [-1.58300]
CGDI(-1)	-0.418850 (6.66820) [-6.27433]
CRR(-1)	-0.270830 (180.706) [-12.5665]
C	0.839719

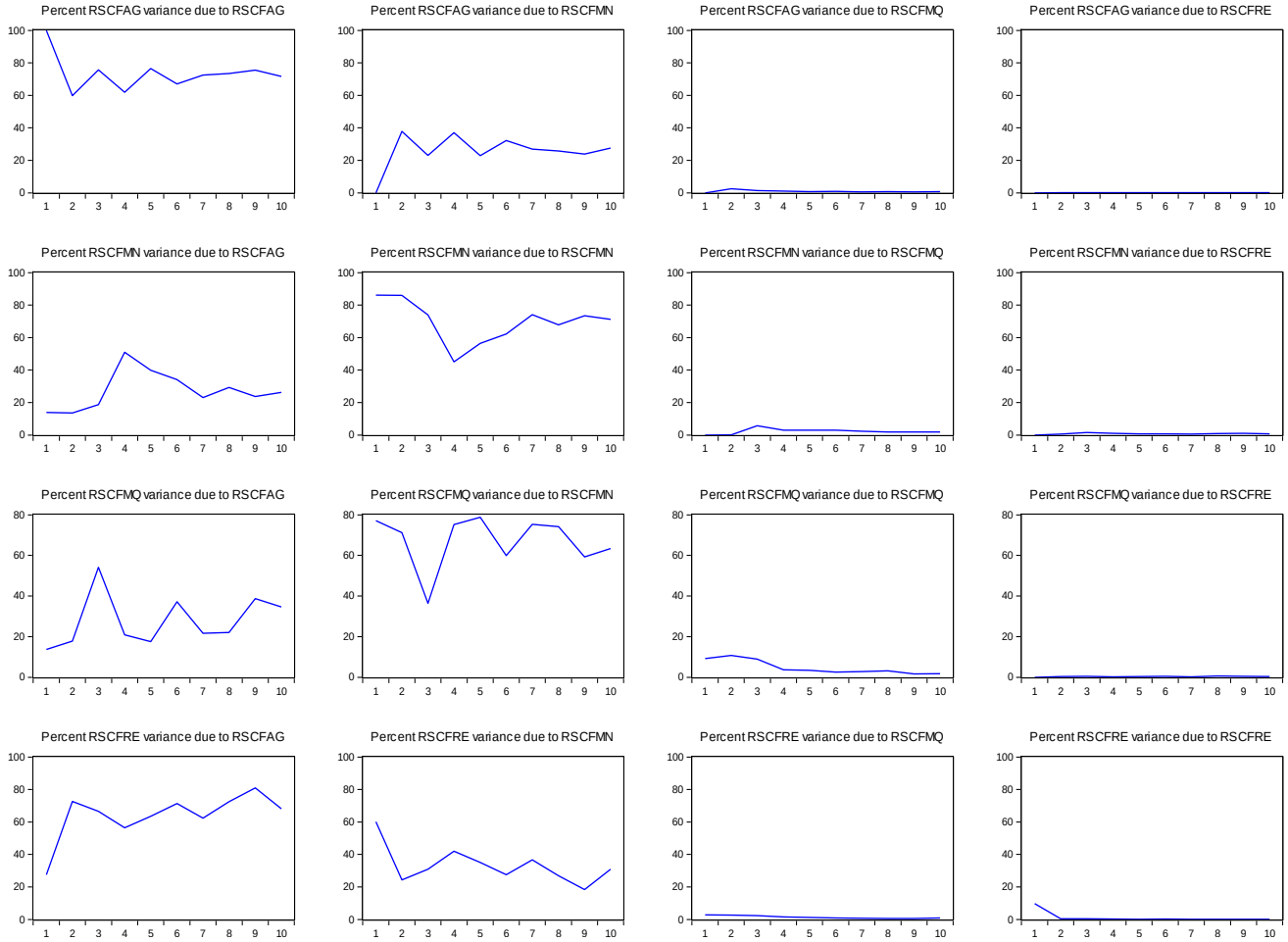
Error Correction:	D(ARSCF)	D(CB)	D(LR)	D(LDR)	D(ER)	D(CGDI)	D(CRR)
CointEq1	- 0.702249 (0.00646) [0.34820]	68970.38 (95318.7) [0.72358]	-0.097319 (0.04085) [-2.38218]	-0.002422 (0.00086) [-2.81786]	-6.18E-05 (0.00152) [-0.04068]	4.67E-06 (4.6E-06) [1.01614]	0.001602 (0.00026) [6.11199]
D(ARSCF(-1))	-0.046017 (0.15478) [-0.29731]	2511492. (2283761) [1.09972]	3.786436 (0.97880) [3.86844]	0.007875 (0.02060) [0.38232]	0.012352 (0.03642) [0.33919]	-8.36E-05 (0.00011) [-0.75957]	-0.006668 (0.00628) [-1.06193]
D(ARSCF(-2))	0.013747 (0.19205) [0.07158]	-3427037. (2833782) [-1.20935]	-3.811453 (1.21454) [-3.13820]	0.036784 (0.02556) [1.43925]	-0.065216 (0.04519) [-1.44323]	-7.44E-05 (0.00014) [-0.54458]	-0.027046 (0.00779) [-3.47138]
D(CB(-1))	0.220008 (0.309808) [1.76030]	-0.469922 (0.18635) [-2.52170]	-1.06E-07 (8.0E-08) [-1.32342]	-3.34E-10 (1.7E-09) [-0.19890]	-5.85E-09 (3.0E-09) [-1.96977]	1.93E-12 (9.0E-12) [0.21488]	7.47E-10 (5.1E-10) [1.45841]
D(CB(-2))	1.688708 (1.20808) [1.42118]	-0.090901 (0.17454) [-0.52079]	4.35E-08 (7.5E-08) [0.58176]	-2.77E-09 (1.6E-09) [-1.75669]	-4.17E-09 (2.8E-09) [-1.49744]	2.25E-12 (8.4E-12) [0.26782]	3.08E-10 (4.8E-10) [0.64089]
D(LR(-1))	-0.000888	41973.54	-0.157438	0.001650	-0.000427	-1.83E-06	0.001351

	(0.01039)	(153364.)	(0.06573)	(0.00138)	(0.00245)	(7.4E-06)	(0.00042)
	[-0.08547]	[0.27368]	[-2.39519]	[1.19300]	[-0.17468]	[-0.24700]	[3.20364]
D(LR(-2))	0.000299	-39303.39	0.024943	0.000434	-0.002986	1.14E-05	0.000832
	(0.00949)	(140079.)	(0.06004)	(0.00126)	(0.00223)	(6.8E-06)	(0.00039)
	[0.03152]	[-0.28058]	[0.41546]	[0.34358]	[-1.33685]	[1.68293]	[2.16130]
D(LDR(-1))	-1.440107	6046569.	-38.69986	0.003822	0.534693	-0.003140	-0.416374
	(2.35912)	(3.5E+07)	(14.9189)	(0.31395)	(0.55507)	(0.00168)	(0.09570)
	[-0.61044]	[0.17371]	[-2.59401]	[0.01217]	[0.96329]	[-1.87103]	[-4.35069]
D(LDR(-2))	-1.499132	14456973	-11.78728	-0.186693	0.031042	-0.001102	-0.028121
	(1.13518)	(1.7E+07)	(7.17880)	(0.15107)	(0.26709)	(0.00081)	(0.04605)
	[-1.32061]	[0.86312]	[-1.64196]	[-1.23583]	[0.11622]	[-1.36468]	[-0.61064]
D(ER(-1))	0.501924	-14995107	7.791735	-0.119631	-0.342855	-0.000165	0.002536
	(0.74397)	(1.1E+07)	(4.70480)	(0.09901)	(0.17505)	(0.00053)	(0.03018)
	[1.34673]	[-1.36600]	[1.65612]	[-1.20833]	[-1.95866]	[-0.31176]	[0.08404]
D(ER(-2))	1.372001	-5090994.	-7.281887	-0.081924	-0.453732	-0.000668	-0.007504
	(0.69982)	(1.0E+07)	(4.42559)	(0.09313)	(0.16466)	(0.00050)	(0.02839)
	[1.96052]	[-0.49303]	[-1.64541]	[-0.87968]	[-2.75561]	[-1.34279]	[-0.26434]
D(CGDI(-1))	0.439204	3.78E+08	-3043.079	-63.02527	-42.19589	-0.860582	50.01698
	(2.52540)	(3.7E+09)	(1597.04)	(33.6074)	(59.4191)	(0.17962)	(10.2448)
	[1.36185]	[0.10132]	[-1.90545]	[-1.87534]	[-0.71014]	[-4.79106]	[4.88217]
D(CGDI(-2))	348.8695	4.14E+08	-940.8809	-0.871469	62.56460	-0.535569	13.21935
	(204.746)	(3.0E+09)	(1294.80)	(27.2472)	(48.1740)	(0.14563)	(8.30599)
	[1.70391]	[0.13709]	[-0.72666]	[-0.03198]	[1.29872]	[-3.67763]	[1.59154]
D(CRR(-1))	0.988137	1.39E+08	-316.4445	-4.836316	-0.373979	0.007718	2.687161
	(13.4987)	(2.0E+08)	(85.3648)	(1.79638)	(3.17606)	(0.00960)	(0.54760)
	[0.14728]	[0.69974]	[-3.70697]	[-2.69226]	[-0.11775]	[0.80382]	[4.90712]
D(CRR(-2))	3.586475	1.29E+08	197.9430	-5.383089	-0.936203	0.009082	3.420129
	(15.5088)	(2.3E+08)	(98.0767)	(2.06388)	(3.64902)	(0.01103)	(0.62915)
	[0.23125]	[0.56326]	[2.01825]	[-2.60824]	[-0.25656]	[0.82336]	[5.43611]
C	0.604486	1.33E+08	76.11542	14.06140	8.521409	-0.013025	-1.281366
	(0.83389)	(1.3E+09)	(571.297)	(12.0221)	(21.2555)	(0.06425)	(3.66480)
	[0.52076]	[0.09992]	[0.13323]	[1.16963]	[0.40090]	[-0.20271]	[-0.34964]
R-squared	0.751684	0.521602	0.966922	0.690221	0.589809	0.725205	0.677680
Adj. R-squared	0.595770	0.332761	0.953865	0.567940	0.427892	0.616734	0.550448
Sum sq. resids	16295454	3.55E+21	6.52E+08	288587.6	902112.0	8.243836	26817.43
S.E. equation	654.8494	9.66E+09	4141.221	87.14592	154.0772	0.465771	26.56542
F-statistic	1.374225	2.762123	74.05379	5.644544	3.642655	6.685676	5.326340
Log likelihood	-417.2928	-1308.676	-516.8872	-308.3845	-339.1574	-25.87569	-244.2339
Akaike AIC	16.04788	49.06208	19.73656	12.01424	13.15398	1.550951	9.638293
Schwarz SC	16.63721	49.65141	20.32589	12.60357	13.74331	2.140280	10.22762
Mean dependent	56.38593	-92580.46	0.089259	9.862963	0.934444	0.000000	0.016667
S.D. dependent	688.6553	1.18E+10	19280.31	132.5791	203.7039	0.752355	39.62111

Determinant resid covariance (dof adj.)	3.45E+42
Determinant resid covariance	2.95E+41
Log likelihood	-3114.494
Akaike information criterion	119.7590
Schwarz criterion	124.1422

APPENDIX 29

Variance Decomposition



APPENDIX 30

Variance Decomposition of RSCFAg:

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	29.53846	100.0000	0.000000	0.000000	0.000000
2	50.60398	59.71369	37.73463	2.473429	0.078253
3	77.06697	75.61135	23.01503	1.301296	0.072317
4	104.3850	61.90511	36.95307	1.094107	0.047711
5	146.1814	76.44424	22.81307	0.681804	0.060886
6	212.1074	67.00666	32.14649	0.812279	0.034566
7	286.7350	72.45851	26.91226	0.604552	0.024671
8	408.0291	73.50460	25.83432	0.646604	0.014475
9	599.2278	75.52270	23.81850	0.641567	0.017233
10	866.9254	71.74237	27.54319	0.705248	0.009189

Variance Decomposition of RSCFMn:

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	56.08782	13.85427	86.14573	0.000000	0.000000
2	62.28795	13.55390	85.94911	0.010942	0.486039
3	67.21590	18.76335	73.95805	5.710788	1.567818
4	93.14962	50.92483	45.05006	3.015331	1.009777
5	105.3920	39.91033	56.36098	2.928571	0.800112
6	114.3141	34.14928	62.25708	2.905473	0.688165
7	143.1563	23.11026	74.04203	2.291365	0.556345
8	159.5957	29.36846	67.86332	1.861546	0.906677
9	190.4205	23.74592	73.44048	1.788809	1.024797
10	234.7739	26.21409	71.24548	1.826183	0.714251

Variance Decomposition of RSCFMq:

Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	49.50287	13.68742	77.17458	9.138002	0.000000
2	90.34944	17.79177	71.26548	10.68185	0.260891
3	126.6579	54.13312	36.45921	8.974305	0.433368
4	203.9397	20.88386	75.17305	3.696959	0.246137
5	223.1176	17.51726	78.82687	3.395907	0.259964
6	261.9867	37.16493	59.89618	2.478993	0.459898
7	370.4779	21.68162	75.37421	2.706184	0.237987
8	374.7293	22.08278	74.16693	3.189387	0.560895
9	526.6006	38.69088	59.24747	1.627153	0.434495
10	749.0010	34.56261	63.38286	1.755440	0.299097

Variance Decomposition of RSCFRe: Period	S.E.	RSCFAg	RSCFMn	RSCFMq	RSCFRe
1	63.51364	27.45811	60.10438	2.732348	9.705168
2	308.0622	72.66094	24.33941	2.581189	0.418460
3	351.9894	66.50814	30.85421	2.296430	0.341216
4	528.2055	56.34988	41.99403	1.494750	0.161336
5	585.1286	63.50623	35.13087	1.229620	0.133284
6	831.7889	71.41253	27.49670	0.846591	0.244179
7	1060.260	62.38902	36.70219	0.756020	0.152761
8	1427.531	72.46823	26.87602	0.571477	0.084273
9	2066.638	81.02114	18.34588	0.573666	0.059319
10	3287.097	68.17364	30.91191	0.885919	0.028531

Cholesky Ordering: RSCFAg RSCFMn RSCFMq RSCFRe

APPENDIX 31

SAP AND LIBERALIZATION

Dependent Variable: RSCFAg
Method: Least Squares
Date: 01/29/18 Time: 11:15
Sample: 1986 1992
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.790009	2.910009	0.616295	0.0435
LR	-2.023603	4.544908	-0.445246	0.0423
LDR	0.301761	1.614621	0.186893	0.0433
ER	-0.439269	0.634769	-0.692015	0.0295
CRR	0.723201	5.986513	3.962575	0.0006
CGDI	0.042349	65.07106	-2.782264	0.0103
C	0.543693	197.7276	1.443245	0.1619

R-squared	0.831836	Mean dependent var	125.7858
Adjusted R-squared	0.789795	S.D. dependent var	197.8842
S.E. of regression	90.72621	Akaike info criterion	12.04925
Sum squared resid	197549.9	Schwarz criterion	12.37305
Log likelihood	-179.7634	Hannan-Quinn criter.	12.15480
F-statistic	19.78629	Durbin-Watson stat	1.230322
Prob(F-statistic)	0.000000		

RSCFMn

Dependent Variable: RSCFMN
Method: Least Squares
Date: 02/07/18 Time: 11:34
Sample: 1986 1992
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	-1.040008	3.610008	-0.287551	0.0217
LR	0.314350	0.077750	4.043098	0.0144
LDR	0.150168	0.022692	6.617617	0.0255
ER	-0.907505	0.206752	-4.389350	0.0426
CGDI	0.001411	0.526066	0.002682	0.9983
CRR	1.251151	0.674623	1.854594	0.0148

R-squared	0.995625	Mean dependent var	6.225714
Adjusted R-squared	0.973748	S.D. dependent var	2.667495
S.E. of regression	0.432197	Akaike info criterion	0.928505
Sum squared resid	0.186794	Schwarz criterion	0.882143
Log likelihood	2.750232	Hannan-Quinn criter.	0.355471
Durbin-Watson stat	2.145640		

RSCFMq

Dependent Variable: RSCFMQ
Method: Least Squares
Date: 02/07/18 Time: 11:35
Sample: 1986 1992
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.160010	1.600008	0.032188	0.0443
LR	-0.041485	0.034531	-1.201376	0.0419
LDR	0.048780	0.010078	4.840092	0.0197
ER	0.062050	0.091824	0.675747	0.0217
CGDI	0.435127	0.233641	1.862377	0.0137
CRR	-0.277594	0.299619	-0.926491	0.0243

R-squared	0.994118	Mean dependent var	0.702857
Adjusted R-squared	0.964707	S.D. dependent var	1.021759
S.E. of regression	0.191951	Akaike info criterion	-0.694779
Sum squared resid	0.036845	Schwarz criterion	-0.741141
Log likelihood	8.431726	Hannan-Quinn criter.	-1.267813
Durbin-Watson stat	2.145640		

RSCFRe

Dependent Variable: RSCFRE
Method: Least Squares
Date: 02/07/18 Time: 11:37
Sample: 1986 1992
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	3.940009	2.630010	15.00128	0.0424
LR	0.007452	0.000566	13.17399	0.0482
LDR	0.009055	0.000165	54.84595	0.0116
ER	-0.002124	0.001504	-1.411861	0.0223
CGDI	1.280525	0.003827	334.5632	0.0019
CRR	0.098692	0.004908	20.10710	0.0316

R-squared	0.999982	Mean dependent var	3.192857
Adjusted R-squared	0.999894	S.D. dependent var	0.305326
S.E. of regression	0.003145	Akaike info criterion	-8.917947
Sum squared resid	9.89E-06	Schwarz criterion	-8.964309
Log likelihood	37.21281	Hannan-Quinn criter.	-9.490981
Durbin-Watson stat	2.145640		

APPENDIX 32

GUIDED DEREGULATION

Dependent Variable: RSCFAG
Method: Least Squares
Date: 02/07/18 Time: 11:43
Sample: 1993 1998
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	-2.880008	3.370008	-0.855194	0.0096
LR	-0.153725	2.111913	-0.072789	0.9537
LDR	0.775639	2.864872	0.270741	0.8317
ER	-3.360379	4.238032	-0.792910	0.5732
CGDI	25.19450	22.92557	1.098970	0.4700
CRR	0.067732	17.02985	0.180138	0.8865

R-squared	0.962709	Mean dependent var	20.93857
Adjusted R-squared	0.776257	S.D. dependent var	10.37686
S.E. of regression	4.908413	Akaike info criterion	5.788154
Sum squared resid	24.09251	Schwarz criterion	5.741791
Log likelihood	-14.25854	Hannan-Quinn criter.	5.215119
Durbin-Watson stat	2.771909		

RSCFMN

Dependent Variable: RSCFMN
Method: Least Squares
Date: 02/07/18 Time: 11:58
Sample: 1993 1998
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.003917	2.777509	0.816295	0.0135
LR	0.910347	4.544908	-0.445246	0.6601
LDR	2.887575	1.614621	0.186893	0.8533
ER	-2.938477	0.634769	-0.692015	0.4956
CGDI	-15.57512	5.986513	3.962575	0.0006
CRR	-0.144921	65.07106	-2.782264	0.0103

R-squared	1.000000	Mean dependent var	61.30167
S.D. dependent var	28.31272	Sum squared resid	3.02E-24
Durbin-Watson stat	3.026374		

RSCFMQ

Dependent Variable: RSCFMQ
Method: Least Squares
Date: 02/07/18 Time: 12:00
Sample: 1993 1998
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.001841	5.16E-09	2.544783	0.0178
LR	0.623942	8.054754	0.559517	0.5810
LDR	1.035652	2.861527	-1.062075	0.2988
ER	-1.593249	1.124975	0.450707	0.6562
CGDI	-7.333240	10.60965	4.402800	0.0002
CRR	-0.423517	115.3228	-5.184308	0.0000

R-squared	0.834400	Mean dependent var	12.24167
S.D. dependent var	0.768240	Sum squared resid	1.10E-24
Durbin-Watson stat	.167624		

Dependent Variable: RSCFRE
Method: Least Squares
Date: 01/29/18 Time: 11:23
Sample: 19931998
Included observations: 6

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	1.310008	5.160009	2.544783	0.0178
LR	4.506771	8.054754	0.559517	0.5810
LDR	-0.039157	2.861527	-1.062075	0.2988
ER	0.507034	1.124975	0.450707	0.6562
CRR	0.731218	10.60965	4.402800	0.0002
CGDI	-0.843688	115.3228	-5.184308	0.0000

R-squared	0.932491	Mean dependent var	459.8468
Adjusted R-squared	0.915614	S.D. dependent var	553.5092
S.E. of regression	160.7903	Akaike info criterion	13.19376
Sum squared resid	620484.8	Schwarz criterion	13.51756
Log likelihood	-197.5033	Hannan-Quinn criter.	13.29931
F-statistic	55.25155	Durbin-Watson stat	1.492818
Prob(F-statistic)	0.000000		

APPENDIX 33

RE-LIBERALIZATION

Dependent Variable: RSCFAG
Method: Least Squares
Date: 02/07/18 Time: 12:10
Sample: 1999 2005
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.830010	2.730010	0.670779	0.0259
LR	0.364672	0.545050	0.669061	0.0246
LDR	0.056375	0.189688	0.297201	0.8161
ER	1.069022	0.167764	6.372171	0.0291
CGDI	-58.64976	19.48964	-3.009279	0.2042
CRR	2.729390	3.074445	0.887767	0.5378

R-squared	0.990592	Mean dependent var	49.25714
Adjusted R-squared	0.943549	S.D. dependent var	16.06661
S.E. of regression	3.817324	Akaike info criterion	5.285352
Sum squared resid	14.57196	Schwarz criterion	5.238989
Log likelihood	-12.49873	Hannan-Quinn criter.	4.712317
Durbin-Watson stat	2.822507		

Dependent Variable: RSCFMN
Method: Least Squares
Date: 02/07/18 Time: 12:13
Sample: 1999 2005
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	3.000009	1.990009	1.505908	0.0332
LR	0.795890	3.967307	0.200612	0.8740
LDR	0.873372	1.380699	0.632558	0.0409
ER	4.406255	1.221121	3.608368	0.1721
CGDI	-241.4053	141.8610	-1.701703	0.0382
CRR	7.490177	22.37825	0.334708	0.0044

R-squared	0.984135	Mean dependent var	202.9371
Adjusted R-squared	0.904810	S.D. dependent var	90.05803
S.E. of regression	27.78551	Akaike info criterion	9.255282
Sum squared resid	772.0348	Schwarz criterion	9.208919
Log likelihood	-26.39349	Hannan-Quinn criter.	8.682248
Durbin-Watson stat	2.822507		

Dependent Variable: RSCFMq
Method: Least Squares
Date: 01/29/18 Time: 11:31
Sample: 1999 2005
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.050008	1.160008	2.628993	0.0147
LR	0.668184	18.09715	0.478981	0.6363
LDR	-3.022469	6.429182	-0.470117	0.6425
ER	-3.408747	2.527555	-1.348635	0.0100
CRR	0.284992	23.83740	2.697019	0.0126
CGDI	-0.134610	259.1033	-3.520453	0.0018

R-squared	0.804576	Mean dependent var	522.4800
Adjusted R-squared	0.755720	S.D. dependent var	730.9265
S.E. of regression	361.2583	Akaike info criterion	14.81274
Sum squared resid	3132181.	Schwarz criterion	15.13655
Log likelihood	-222.5975	Hannan-Quinn criter.	14.91829
F-statistic	16.46830	Durbin-Watson stat	1.671737
Prob(F-statistic)	0.000000		

Dependent Variable: RSCFRE
Method: Least Squares
Date: 02/07/18 Time: 12:15
Sample: 1999 2005
Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.090009	3.980009	1.278044	0.0227
LR	2.020354	7.946535	0.254243	0.0415
LDR	1.293052	2.765548	0.467557	0.0216
ER	7.321578	2.445912	2.993394	0.0053
CGDI	-450.3213	284.1484	-1.584811	0.0184
CRR	19.21021	44.82374	0.428572	0.0022

R-squared	0.975639	Mean dependent var	316.1229
Adjusted R-squared	0.853832	S.D. dependent var	145.5708
S.E. of regression	55.65452	Akaike info criterion	10.64458
Sum squared resid	3097.425	Schwarz criterion	10.59822
Log likelihood	-31.25603	Hannan-Quinn criter.	10.07154
Durbin-Watson stat	2.822507		

APPENDIX 34

CONSOLIDATION

Dependent Variable: RSCFAG
Method: Least Squares
Date: 02/07/18 Time: 13:03
Sample: 2006 2016
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.480009	8.810009	0.735487	0.0451
LR	-0.938701	8.617474	-0.689146	0.0214
LDR	0.373613	2.108179	0.177221	0.0263
ER	2.697604	0.758617	3.555949	0.0163
CRR	0.257404	4.204180	4.104021	0.0093
CGDI	-0.302694	46.61641	-0.500402	0.0380

R-squared	0.985957	Mean dependent var	305.8182
Adjusted R-squared	0.971913	S.D. dependent var	247.4846
S.E. of regression	41.47616	Akaike info criterion	10.59057
Sum squared resid	0.860158	Schwarz criterion	10.80760
Log likelihood	-0.524811	Hannan-Quinn criter.	10.45376
Durbin-Watson stat	2.663979		

Dependent Variable: RSCFMN
Method: Least Squares
Date: 02/07/18 Time: 13:04
Sample: 2006 2016
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	-0.040008	4.010008	-1.257193	0.2642
LR	0.370073	39.24628	2.226217	0.0365
LDR	0.782895	9.601209	0.810616	0.0144
ER	-0.235863	3.454946	-0.647148	0.0461
CRR	0.650241	19.14696	0.713033	0.0077
CGDI	0.100083	212.3036	0.151202	0.0057

R-squared	0.902835	Mean dependent var	1105.017
Adjusted R-squared	0.805669	S.D. dependent var	428.4956
S.E. of regression	188.8935	Akaike info criterion	13.62270
Sum squared resid	178403.8	Schwarz criterion	13.83973
Log likelihood	-68.92483	Hannan-Quinn criter.	13.48589
Durbin-Watson stat	1.807865		

Dependent Variable: RSCFMQ
Method: Least Squares
Date: 02/07/18 Time: 13:08
Sample: 2006 2016
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	-0.080007	7.920008	-1.362830	0.0311
LR	0.600104	77.55415	2.973541	0.0310
LDR	0.142593	18.97285	0.534603	0.0158
ER	-0.040632	6.827281	-1.670698	0.1556
CRR	-0.329801	37.83610	-0.193725	0.0140
CGDI	-0.006333	419.5308	-0.330448	0.0435

R-squared	0.781249	Mean dependent var	1200.180
Adjusted R-squared	0.562499	S.D. dependent var	564.3310
S.E. of regression	373.2704	Akaike info criterion	14.98494
Sum squared resid	696654.0	Schwarz criterion	15.20197
Log likelihood	-76.41714	Hannan-Quinn criter.	14.84813
Durbin-Watson stat	2.049406		

Dependent Variable: RSCFRE
Method: Least Squares
Date: 02/07/18 Time: 15:16
Sample: 2006 2016
Included observations: 11

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CB	0.917008	4.410008	1.569605	0.0103
LR	-0.865001	43.10984	-0.692765	0.0193
LDR	-0.704573	10.54639	-1.299566	0.0204
ER	0.633577	3.795064	1.220948	0.2765
CRR	0.206561	21.03186	0.342650	0.0162
CGDI	0.678160	233.2036	-0.719740	0.0039

R-squared	0.420749	Mean dependent var	654.8900
Adjusted R-squared	-0.158501	S.D. dependent var	192.7732
S.E. of regression	207.4889	Akaike info criterion	13.81048
Sum squared resid	215258.3	Schwarz criterion	14.02752
Log likelihood	-69.95767	Hannan-Quinn criter.	13.67368
Durbin-Watson stat	3.015041		

APPENDIX 35

VEC Residual Normality Tests

Orthogonalization: Cholesky (Lutkepohl)

Null Hypothesis: residuals are multivariate normal

Date: 01/29/18 Time: 11:01

Sample: 1986 2016

Included observations: 28

Component	Skewness	Chi-sq	Df	Prob.
1	0.371667	0.644636	1	0.4220
2	-0.507979	1.204200	1	0.2725
3	0.563378	1.481174	1	0.2236
4	0.947933	4.193358	1	0.0406
Joint		7.523368	4	0.1107

Component	Kurtosis	Chi-sq	Df	Prob.
1	2.801697	0.045878	1	0.8304
2	3.292506	0.099820	1	0.7520
3	3.901851	0.948892	1	0.3300
4	5.333523	6.352884	1	0.0117
Joint		7.447473	4	0.1140

Component	Jarque-Bera	Df	Prob.
1	0.690515	2	0.7080
2	1.304020	2	0.5210
3	2.430065	2	0.2967
4	10.54624	2	0.0051
Joint	14.97084	8	0.0597

APPENDIX 36

VAR Lag Order Selection Criteria

Endogenous variables: RSCFAgRSCFMnRSCFMq RSCFRe

Exogenous variables: C

Date: 01/29/18 Time: 11:04

Sample: 1986 2016

Included observations: 28

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-953.4205	NA	2.19e+21	66.16693	66.44982	66.25553
1	-839.8570	172.3032*	1.10e+19*	60.81772*	62.79795*	61.43790*

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

Date: 02/05/18 Time: 13:13

Sample (adjusted): 1986 2016

Included observations: 28 after adjustments

Trend assumption: Linear deterministic trend

Series: ARSCF CB LR LDR ER CGDI CRR

Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.822350	193.8088	125.6154	0.0000
At most 1 *	0.558559	100.4999	95.75366	0.0226
At most 2	0.377274	56.34352	69.81889	0.3643
At most 3	0.189555	30.76649	47.85613	0.6790
At most 4	0.179764	19.41724	29.79707	0.4632

At most 5	0.089944	8.716402	15.49471	0.3923
At most 6	0.064960	3.626936	3.841466	0.0568

Trace test indicates 2 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 *	0.822350	93.30884	46.23142	0.0000
At most 1 *	0.558559	44.15643	40.07757	0.0164
At most 2	0.377274	25.57703	33.87687	0.3471
At most 3	0.189555	11.34925	27.58434	0.9557
At most 4	0.179764	10.70083	21.13162	0.6771
At most 5	0.089944	5.089466	14.26460	0.7305
At most 6	0.064960	3.626936	3.841466	0.0568

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

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