University of Denver
Digital Commons @ DU

Electronic Theses and Dissertations | Graduate Studies

1-1-2019

Financial Crisis and Bank Lending Behavior in Nigeria

Michael A. Oyakojo
University of Denver

Follow this and additional works at: https://digitalcommons.du.edu/etd

 Part of the Economic History Commons, and the Growth and Development Commons

Recommended Citation

Oyakojo, Michael A., "Financial Crisis and Bank Lending Behavior in Nigeria" (2019). *Electronic Theses and Dissertations*. 1679.
https://digitalcommons.du.edu/etd/1679

This Thesis is brought to you for free and open access by the Graduate Studies at Digital Commons @ DU. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of Digital Commons @ DU. For more information, please contact jennifer.cox@du.edu,dig-commons@du.edu.

Financial Crisis and Bank Lending Behavior in Nigeria

Abstract

Bank lending is an important monetary policy transmission channel with significant impact on economic growth in Nigeria. The research was conducted to test the hypothesis that given the Central Bank of Nigeria (CBN) / government financial intervention, there is a significant increase in the lending behavior of Nigerian bank during and post 2008 financial crisis. Total loan ratio is the proxy for bank lending behavior while the dependent variables are bank specific characteristics like total assets, core deposit ratio and macroeconomic variables like the 91-day Treasury bill rate and inflation rate.

Using the fixed effects regression technique, it was observed that compared to the pre-crisis period, total loan ratio was higher during and post financial crisis, net of other variables. The results support the hypothesis and it suggests that due to the CBN / government financial intervention, Nigerian banks increased lending significantly following the 2008 financial crisis and they acted in a counter-cyclical manner to stimulate the Nigerian economy. Another important finding is the existence of a direct / positive relationship between inflation rate and private sector bank credit in Nigeria. Hence, the CBN can cut back on inflationary pressure through moral suasion for banks to curtail lending to non-essential and unproductive sectors of the economy.

Document Type

Thesis

Degree Name

M.A.

Department

Economics

First Advisor

Juan C. Lopez, Ph.D.

Second Advisor

Maclyn Clouse, Ph.D.

Third Advisor

Peter Ho, Ph.D.

Keywords

Nigerian economics, Bank lending in Nigeria, Economic stimulus

Subject Categories

Economic History | Economics | Growth and Development

Publication Statement

Copyright is held by the author. User is responsible for all copyright compliance.

This thesis is available at Digital Commons @ DU: https://digitalcommons.du.edu/etd/1679

Financial Crisis and Bank Lending Behavior in Nigeria

_____

A Thesis

Presented to

the Faculty of Social Sciences

University of Denver

_____

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

_____

by

Michael Abiodun Oyakojo

August 2019

Advisor: Dr. Juan Carlos Lopez

©Copyright by Michael Oyakojo 2019
All Rights Reserved

Author: Michael Abiodun Oyakojo
Title: Financial Crisis and Bank Lending Behavior in Nigeria
Advisor: Dr. Juan Carlos Lopez
Degree Date: August 2019

ABSTRACT

Bank lending is an important monetary policy transmission channel with significant impact on economic growth in Nigeria. The research was conducted to test the hypothesis that given the Central Bank of Nigeria (CBN) / government financial intervention, there is a significant increase in the lending behavior of Nigerian bank during and post 2008 financial crisis. Total loan ratio is the proxy for bank lending behavior while the dependent variables are bank specific characteristics like total assets, core deposit ratio and macroeconomic variables like the 91-day Treasury bill rate and inflation rate.

Using the fixed effects regression technique, it was observed that compared to the pre-crisis period, total loan ratio was higher during and post financial crisis, net of other variables. The results support the hypothesis and it suggests that due to the CBN / government financial intervention, Nigerian banks increased lending significantly following the 2008 financial crisis and they acted in a counter-cyclical manner to stimulate the Nigerian economy. Another important finding is the existence of a direct / positive relationship between inflation rate and private sector bank credit in Nigeria. Hence, the CBN can cut back on inflationary pressure through moral suasion for banks to curtail lending to non-essential and unproductive sectors of the economy.

EXTENDED ABSTRACT

The 2007-08 global financial crisis could be considered as the worst global economic downturn in the last five decades (Zandi, 2008). Its adverse impacts cut across economic, financial, social and political aspects of human endeavor across the globe. Globally, banks cut down on lending activities due to unfavorable global business climate, decline in local and international trade and distress in global economic activities. The 2008 global financial crisis began with the housing bubble crisis in the United States of America (U.S.) which resulted in a general concern about the quality of credit in developed countries, unanticipated contagion to other financial assets and a sharp decline in bank credit supply to various sectors and economic agents (Chudik and Fratzscher, 2011).

Three Hundred and Twenty-Five (325) bank failures were reported in the United States between 2007 and 2010 (Federal Deposit Insurance Corporation, 2019). In Europe, aggregate level of new bank loans declined by 66%, 45% and 82% in Spain, Portugal and Ireland, respectively, from 2008 to 2013 (Jenkins, 2013). The decline in bank loans increase the level of uncertainty for the private sector on the possibility of bank funding for future projects (Acharya et. al, 2016). The objective of the thesis is to assess the effect of the 2008 global financial crisis on the lending behavior of banks in Nigeria and to provide policy recommendations based on the findings of the study.

The thesis is structured into 5 chapters. Chapter 1 presents an overview of the historical evolution of the financial crisis in the United States and Nigeria, its impacts on both economies and the motivation for the study. Chapter 2 surveys the empirical literature

on bank lending behavior across the globe, depending on the conditions such as nature, size, role, ownership structure and other bank-specific characteristics.

Chapter 3 critically reviews the various stages of development and reforms in the Nigerian banking industry from 1894 to 2010. These are: the 1894-1952 era dominated by foreign banks, the introduction of the Nigerian banking ordinance (1952-1958) and the 1959-1986 period of banking regulation championed by the Central Bank of Nigeria (CBN). The era of 1986 to late 1990s witnessed massive deregulation and the universal banking model was adopted in 2001. The first phase of the banking sector consolidation reforms occurred between 2004 and 2008, while the 2008 financial crisis kick-started the second phase of the banking reforms centered on risk-based banking regulation / supervision.

Chapter 4 discusses the Minsky financial instability hypothesis and its relevance to the research. The chapter also presents the research hypothesis, descriptive statistics and the multivariate results of fixed effect regression analysis to assess the effects of two bank-specific characteristics—total assets and core deposit ratio—on bank lending behavior, measured as total loan ratio. Chapter 5 summarizes and concludes with a policy discussion.

ACKNOWLEDGEMENTS

I am thankful to the Most High for the strength and grace, without which this program might not have been successful. My deepest gratitude to my family for their love, patience, high-level understanding and encouragement to always pursue my dreams.

I would like to appreciate my professors for the enormous support during my graduate studies at the University of Denver. Professors Tracy Mott and Peter Ho: Thank you for your support all through the program. Both of you are more than economics professors to me, your fatherly role will always be remembered! I appreciate Dr Yavuz Yasar, who worked behind the scene to ensure the completion of this thesis. I am indebted to my thesis advisor, Dr. Juan Carlos Lopez, who agreed to supervise me despite the short notice. His constructive advice and guidance were invaluable to this project.

I would also like to thank the thesis committee members for their time and contributions: Professors Maclyn Clouse, Peter Ho and Robert Urquhart. Finally, I am thankful to Dr Markus Schneider and Economics department staff - Jennifer Foxcroft and Jamie Dinneen.

TABLE OF CONTENTS

LIST OF FIGURES

ABBREVIATIONS:

AIG - American International Group

AMCON – Asset Management Corporation of Nigeria

BDCs - Bureau-de-change

BOFIA - Banks and Other Financial Institutions Act

BOI - Bank of Industry

Bank PHB – Platinum – Habib Bank

CACS – Commercial Agricultural Credit Scheme

CADP – Commercial Agriculture Development Program

CBN – Central Bank of Nigeria

CBN Acts - Central Bank of Nigeria Acts

DFIs - Development Finance Institutions

DJIA – Dow Jones Industrial Average

FCMB – First City Monument Bank

FFIEC – Federal Financial Institutions Examination Council

Fed or Federal Reserve – Federal Reserve Bank

FMARD – Federal Ministry of Agriculture and Rural Development (FMARD)

FOB – Free On Board

FRED – FRED Economic Data

GDP – Gross Domestic Product

GT Bank – Guaranty Trust Bank (Nigeria)

FCs - Finance Companies

FMBN - Federal Mortgage Bank of Nigeria

ICT – Information & Communication Technology

IMF - International Monetary Funds

MFBs - Microfinance Banks

N – Naira (The Nigerian Currency)

NAICOM - National Insurance Commission

NASDAQ – NASDAQ Stock Market

NDIC - Nigerian Deposit Insurance Corporation

NIRSAL - Nigerian Incentive-Based Risk Sharing System for Agricultural Lending

PENCOM - National Pension Commission

PMBs – Primary Mortgage Banks

ROA – Return on Assets

ROE – Return on Equity

SEC - Securities and Exchange Commission

S& L crisis – Savings and Loan crisis in the United States

SME - Small and Medium Enterprises

SMECGS - Small and Medium Enterprises Credit Guarantee Scheme

Stanbic IBTC – Stanbic IBTC Bank (Standard Bank Group)

UB – Universal Banking

UBA - United Bank of Africa

U.S. – United States or United States of America

CHAPTER 1: INTRODUCTION

1.1 THE HISTORY AND THE IMPACT OF THE GLOBAL FINANCIAL CRISIS

Apart from the 1929 Great Depression, the 2008 Great Financial Crisis is the second worst economic crisis the U.S. has ever experienced. Alan Greenspan, the former Federal Reserve Chairman, described it as "*a once-in-a-century credit tsunami*," while Nobel laureate economist Paul Krugman called it the "*Second Great Depression*" (Foster and Magdoff, 2009). Several lesser economic shocks in the last 20 years paved way for the 2008 great financial crisis in the U.S. These include: the stock market crash in 1987, the savings and loan crisis in the late 1980s, the great stagnation crisis in the late 1990s, to the early 2000s dot-com crisis (also known as the technology or internet bubble). Nonetheless, the 2008 financial crisis stands out in its severity and the lessons of the 2008 great financial crisis (Foster and Magdoff, 2009).

According to Claessens et al (2010), the global financial crisis of 2008 had some new characteristics that were different from the past crises. These include; increased financial systems interconnectedness and interdependencies both locally and globally, more complex financial instruments, highly sophisticated and complicated financial intermediaries, and huge unsustainable level of household debts. These unique features

contributed to the breadth and depth of the crisis as well as the complicated policy responses. With highly complex global financial systems and cross-border interdependencies and interconnections, small local financial shocks could be easily amplified and transmitted through cross-border channels and turned into global events.

Amadeo (2019) opined that the root of the 2008 global financial crisis could be traced to the deregulation in the U.S. financial industry which allowed banks / financial institutions to carry on with speculative / hedge fund trading with derivatives. To sustain the profitable sale of derivatives, more housing mortgages were required, and banks then packaged interest-only loans to subprime borrowers, who ordinarily couldn't afford the mortgage loans. In 2006, the Federal Reserve unexpectedly raised the federal funds rate, and this resulted in an increase in the interest rates on new mortgage loans. This created a glut in the housing market – a situation when supply outpaced demand and housing prices began to crash. The implication was that homeowners were trapped in a mortgage that they couldn't afford but were unable to sell the property. Also, banks cut down on lending to one another and that led to the financial crisis that spiraled out of control to the 2008 Great Recession (Amadeo, 2019).

In 1999, the U.S. Congress repealed the Glass-Steagall Act of 1933 for the Financial Services Modernization Act of 1999 (or the Gramm-Leach-Bliley Act), which permitted banks to use depositors' funds for speculative trading and investment in derivatives. In 2000, the Commodity Futures Modernization Act was also introduced, and it granted regulatory exemptions for over-the-counter (OTC) derivatives, including the

credit default swaps (Amadeo, 2019). These lax regulatory standards and legislations on what the banks / financial institutions could do led to massive securitization. Securitization is the process of pooling and repackaging loans into securities which are then resold to investors, while banks moved those loans off their balance sheets. Securitization is one of the noticeable trends in financial innovation where banks provide fee-based services as against the traditional loan-making functions (Kwan, 2001).

Additionally, Nouriel Roubini (2008) elaborated that with securitization, financial institutions moved away from the model of "originate and hold" loans to "originate and distribute." Banks make loans and sell them off to hedge funds, who bundle and package them as mortgage backed securities, collateralized debt obligations and other derivatives for resale in the open market.

Orlowski (2008) and Arestis et. al. (2011) expatiated that the Federal Reserve dropped the federal fund rates in 2001 from 6.5% to 1% in reaction to the Russian and Asian Financial Crises, to stimulate the U.S. economic activities. This created excess liquidity and was further exacerbated by the loose monetary policies of long and consistently low interest rates, known as the '*Greenspan put'*. Furthermore, Orlowski (2008) went further that loans became available at lower interest rates (teaser rates) and this informed the considerable rise in investment in the U.S. housing market and upsurge in the households' subprime mortgage loans. By 2007, it had grown into a $1.3 trillion industry (Amadeo, 2019) (See Appendix 1, 2 & 3).

Unfortunately, the unexpected rise in the federal funds rate from 1% to 5.25% in early 2006 reduced the margins (profits) on mortgage-backed securities to investors. Similarly, the mortgage loans default skyrocketed because subprime mortgage loans were refinanced at higher rates which homeowners could not afford. In 2007, repossession rate rose by 79% (or 1.3 million), 43% of which were U.S. subprime mortgage debts (Brancaccio and Fontana, 2011).

Arestis et al. (2011) explained that the crash in the housing market created some contagious effects in the money market. The money market became illiquid, and banks were forced to tighten their credit standards and cut down on lending. This led to a credit crunch, lack of trust and loss of confidence in the U.S. banking industry, which further degenerated into liquidity and solvency crises in the U.S. financial system. In 2008, the collapse of Lehman Brothers created panic in the U.S. financial markets, and it spill over to the real economy.

From housing / asset price bubble in 2007 to liquidity crisis, then credit crisis and solvency, the economy was in complete crisis in 2008. Bank lending / credit supply plummeted with adverse impact on the aggregate levels of output, investment, employment, financial and real wealth. In 2009, the International Monetary Funds stated that the U.S. financial institutions wrote down $2.7 trillion of assets. The rate of unemployment increased by 4.5% over a 2-year period, from 4.7% in 2007 to 9.2% in 2009. This necessitated a $750 billion bail-out package to rescue the U.S financial sector

and ameliorate the downward economic trend to the path of recovery and growth (Brancaccio and Fontana, 2011).

As in the United States, the 2008 global financial crisis also had a negative effect on the Nigerian economy. The Nigerian economy was badly affected through the decline in oil price, which accounted for 75% of government foreign revenues (World Bank, 2009) and the sudden drop in international capital inflow and global banks' external credits from the developed economies like the United States (Njiforti, 2015).

According to the World Bank (2011), Nigeria is an emerging market economy with a combination of free markets, minimal state intervention (via regulation) and less sophisticated financial systems. Being the 8th largest exporter, 10th largest proven reserves and 12th largest crude oil producer globally, Nigeria's economic growth has been largely fueled by oil revenues. Since the discovery and exploration of crude oil in commercial quantity in the 1960s, oil revenue has played a significant role in the Nigerian economy, accounting for 75% of government foreign earnings and 40% of the GDP. As of 2012, Nigeria was the largest trading partner of the United States in the sub-Saharan Africa and the nation was responsible for 8% of the United States oil imports. The United States was Nigeria's largest foreign investor (US Department of State, 2012).

Bank lending is an important monetary policy transmission channel with direct impact on economic growth in Nigeria. The Nigerian banks' lending activities were

severely affected as these banks had relied on the capital markets to raise external capital and the sudden cut-off of international credit from global banks (Njiforti, 2015).

The consensus in the existing body of literature and the Minsky financial instability hypothesis suggest that banks across the globe showed mixed lending behavior during the financial crisis. While banks generally cut down on lending activities during the financial crisis (Ivashina and Scharfste, 2010; Cole, 2012; Greenstone et al, 2014; Bentolila et al, 2015; Dvorkin and Shell, 2016), banks with government support were less affected and acted counter-cyclically in sustaining lending activities during the financial crisis (Leony and Romeu, 2011; Breia and Schclarek, 2013; Robert et al, 2013).

The literature on how the global financial crisis influenced bank lending behavior in African countries like Nigeria is much sketchier, and this study attempts to fill the gap. During the 2008 financial crisis, the CBN and the federal government of Nigeria aggressively intervened in the Nigerian banking system through a plethora of direct / financial interventions to sustain banks' lending efforts to the real sectors (manufacturing, aviation, power and agriculture sectors) of the economy. Given the government's financial intervention, it is important to analyze the responses to the 2008 financial crisis among Nigerian banks. The present study examines changes in the lending behavior of Nigerian banks during and post 2008 financial crisis.

1.2 THE FINANCIAL CRISIS IN NIGERIA

The Nigerian economy felt the adverse impact through the foreign capital inflow and foreign revenue channels (Njiforti, 2015). The World Bank (2009) argued that the reversal of portfolio flows due to the global financial crisis (net equity outflows were estimated at $3.4 billion in 2008) and the decline in the Nigerian stock market had significantly affected the Nigerian banks. These banks had relied on the capital markets to raise external capital and had been involved in lending for share purchase (margin loans).

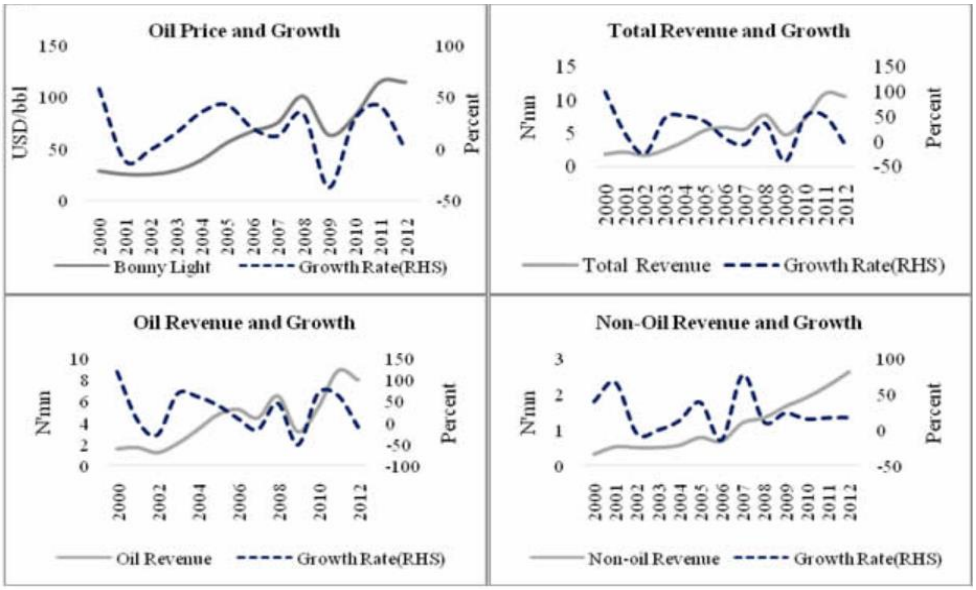
Margin loans are borrowed funds used to purchase securities, such as equity or common stocks. They are common method of financing used by investors and extended by brokerage firms and banks, giving individuals extended credit and increased risk. The collateral for margin accounts are the securities and investors get a "margin call" depending on the price and performance of the securities. The use of leverage (debt) to buy securities on margin can substantially increase the potential for a gain. It also heightens the risk for a loss especially if the market is bearish (Frederick, 2018). Securities' prices were on free fall in the Nigerian stock market during the 2008 financial crisis. Investors lost their investments and banks / financial services firms were unable to recover the margin loans (Njiforti, 2015).

The low demand for Nigeria's oil export was due to economic recessions in her dominant trading nations. As of January 2018, the Spot Price "Free on Board" (FOB) for Nigeria's Bonny Light Crude Oil was $95.16 per barrel, increased to $146.15 per barrel in

July 2008 and later declined to $76.24 per barrel in October 2008. This, coupled with the collapse in the international price of oil, led to a severe decline in foreign exchange earnings and consequently government revenue contraction. The low growth to foreign exchange reserves and demand pressure in the foreign exchange market led to a volatility and substantial depreciation of the Nigeria's naira exchange rate. The Nigerian government resorted to Excess Crude Account drawdown and domestic borrowing to finance its activities (Njiforti, 2015).

The collapse in the global oil price had severe implications for revenues and debts at all levels of government in Nigeria. Government total revenue crashed by 38% in 2009 in contrast to a 34% increase in 2008. While oil revenue which grew by 46.3% in 2008 and later dropped by 51.6% in 2009, non-oil revenue increased by 77% in 2007, 11% in 2008, and 23.7% in 2009 (Proshare, 2013).

FIGURE 1: OIL PRICE, TOTAL REVENUE AND GROWTH FOR NIGERIA (2002-2012)

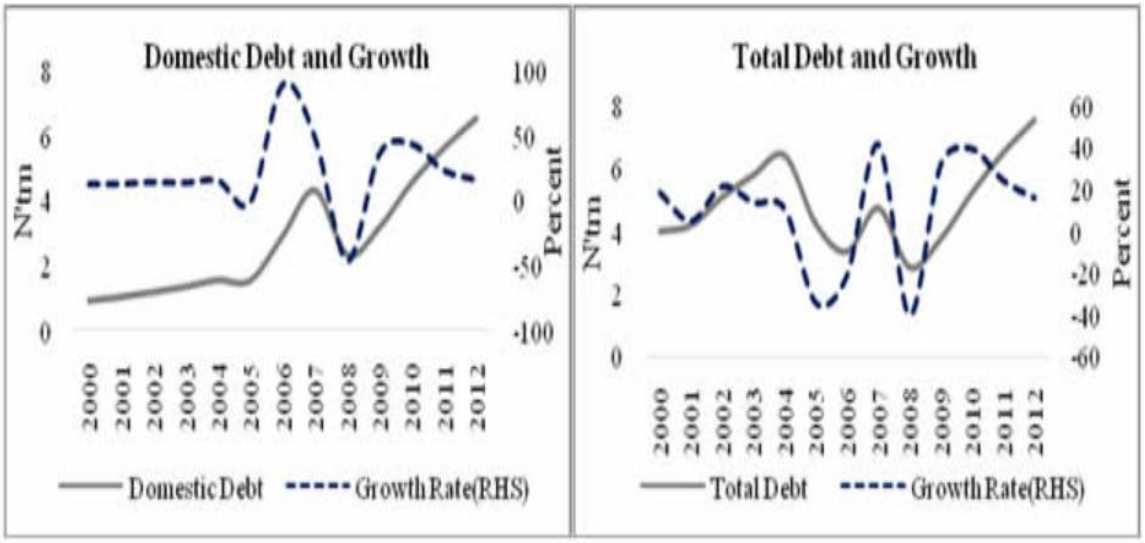


Source: Proshare 2013

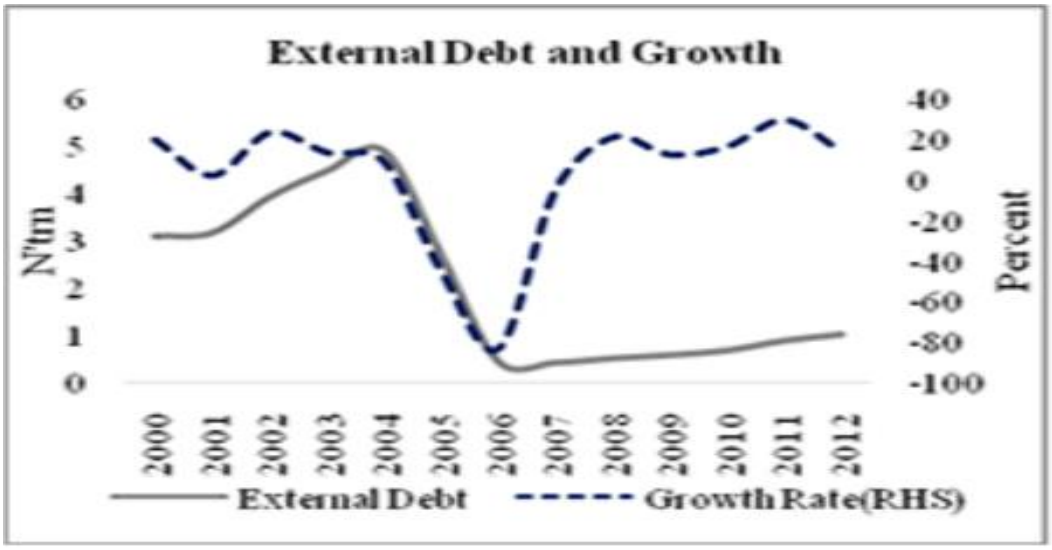
Source: World Development Indicators (2019)

The government resorted to borrowing to finance her activities in the face of a decline in revenue and foreign exchange earnings (See figure 3). In 2008, total debt fell by 39.9% but increased by 32% in 2009 and it has been on an upward trend subsequently. In 2008, domestic borrowing dropped by 46.1% but later grew by 36.4% in 2009, while external borrowing plummeted from 21% in 2008 to 12% in 2009 due to severe economic crises in developed nations and were unable to lend to fellow nations (Proshare, 2013). In fact, Nigeria suffered 3 million job losses between 2007 and 2009, with more than 20% youth unemployment rate (Punch, 2018).

FIGURE 3: DEBTS PROFILE AND GROWTH FOR NIGERIA (2000-2012)



Source: Proshare 2013



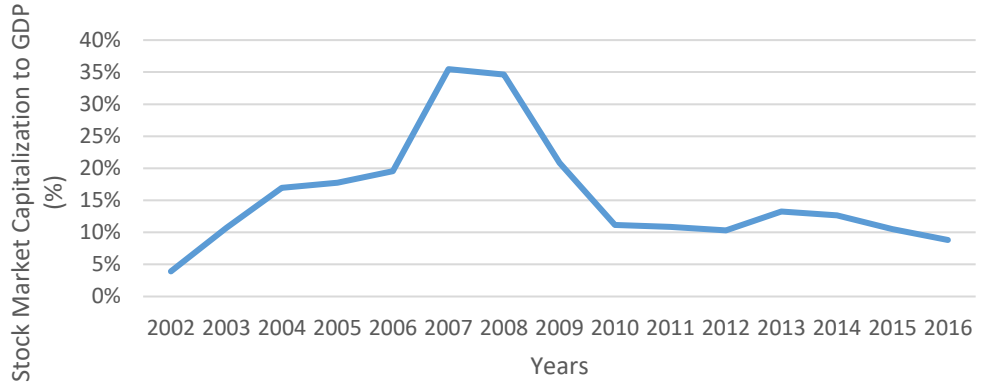
Source: Proshare 2013

As of March 2009, the foreign reserves of Nigeria had fallen by 27% within a 9-month period, from $64 billion in August 2008 to $47 billion. Additionally, the total market capitalization plummeted by 62.2% from N12.40 trillion in March 2008 to N4.69 trillion in March 2009. This was partially caused by the abrupt withdrawal of hedge funds from the Nigerian capital market, where Nigerian banks were heavily exposed through share purchase / margin loans linked to individuals and institutional investors like the insurance firms, global financial institutions and private equity firms. The sudden flight of hedge funds harmed exposed banks which, in turn, overreacted and sold their stocks to minimize their losses from the exposure to the Nigerian capital market (Njiforti, 2015).

Moreover, the bank's panic in the Nigerian capital market was further exacerbated as they were also exposed to global banks, in advanced economies badly hit by the financial crisis, through international credits and guarantees. Unfortunately, the sudden cut-off of

the global banks' credit lines, credit enhancements or credit guarantees resulted in a liquidity crisis for banks in Nigeria. This necessitated their massive sell off their stocks to enhance their liquidity. As of December 2008, the Nigerian economy had experienced a net outflow of approximately N406.8 billion. Also, the market capitalization had declined by 66% in less than 1 year, from N13.5 trillion in March 2008 to N4.6 trillion in January 2009 (Njiforti, 2015).

FIGURE 4: NIGERIA'S STOCK MARKET CAPITALIZATION TO GDP (%) - 2002-2016

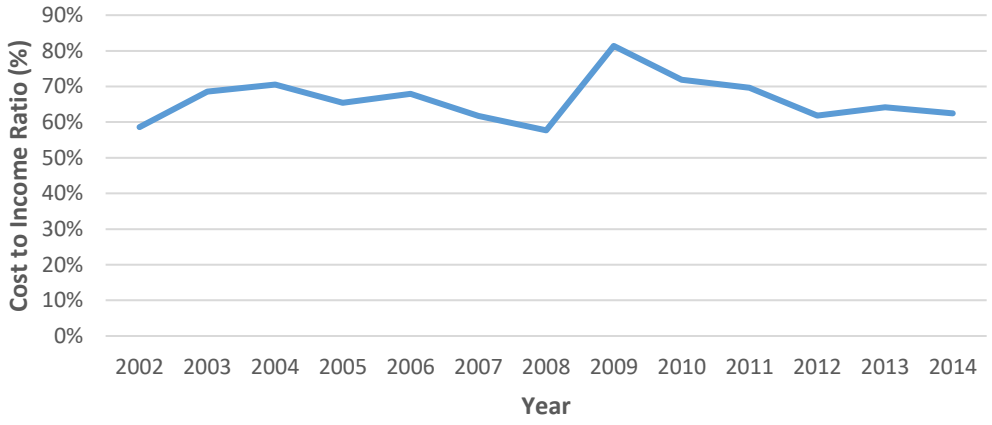


Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: Stock Market Capitalization to GDP: This is the proportion of the total value of all listed stocks / shares in a stock market to Gross Domestic Product.

The Nigerian banks sustained huge losses, particularly because of their exposure to the capital market, downstream oil and gas sector and huge non-performing loans. In late 2009, the Nigerian banks incurred losses of N2 trillion after making loan provisions and retrenched 2,268 workers across the banking industry (Eme and Onyishi, 2014). Bank's cost to income ratio rose by 25% within a year from 58% in 2008 to 83% in 2009. In 2008,

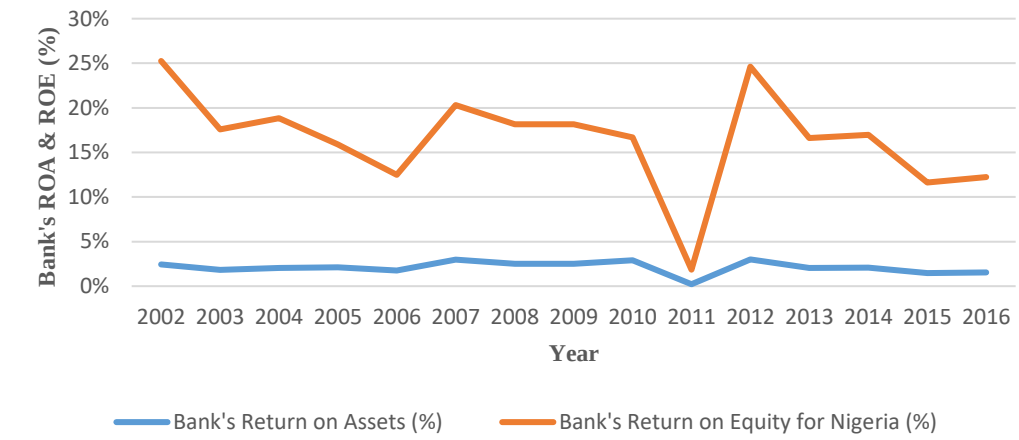
bank's return on assets was 3%, declined to 2.5% in 2010 and plummeted further to 0.2% in 2011. Also, return on equity crashed from 17% in 2007 to 2% in 2011, increased by 19% in 2012 and had been on a gradual decline afterwards (Figures 5 & 6).

FIGURE 5: COST TO INCOME RATIO (%) FOR THE NIGERIAN BANKING INDUSTRY , 2002-2014



Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: Bank's Cost to Income Ratio: The ratio of a bank's operating expenses to the sum of net-interest revenue and other operating income.

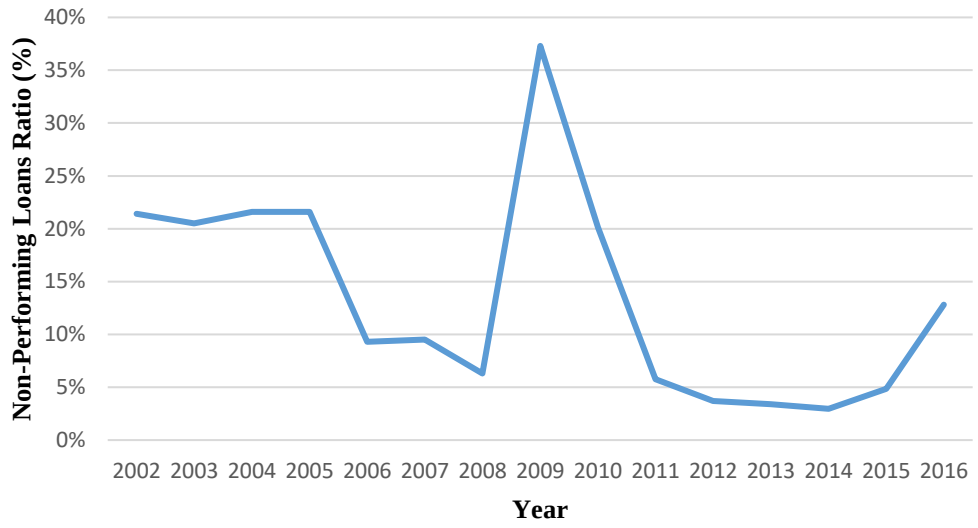
FIGURE 6: RETURN ON ASSETS (ROA) AND RETURN ON EQUITY (ROE) FOR THE NIGERIAN BANKING INDUSTRY (2002-2016)



Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Bank's Return on Assets: Commercial bank's net income to yearly averaged total assets.
Bank's Return on Equity: Commercial bank's net income to yearly averaged equity.

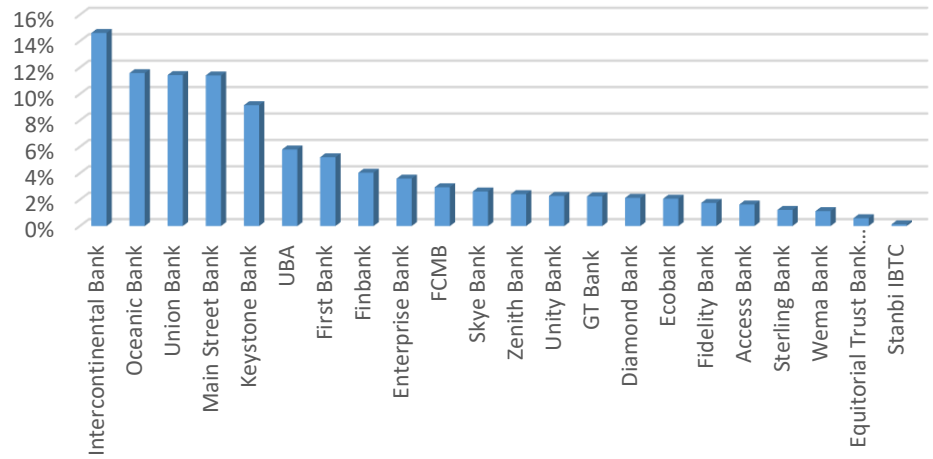
The Nigerian banking industry's non-performing loans to gross loans (non-performing loan ratio) was 21.4% in 2002, which dropped to 6.3% in 2008 but rose to 37.3% in 2009 (Federal Reserve of St. Louis, 2019). According to AMCON (2019), 8 of the 24 banks accounted for 68.4% of the industry's non-performing loan ratio, while capital markets and oil and gas sectors represented 45.2% of the total non-performing loan ratio (See Figures 7, 8 & 9). These banks are: Intercontinental Bank, Oceanic Bank, Bank PHB (Keystone Bank), Spring Bank (Enterprise Bank), Afribank (MainStreet Bank), Union Bank and Equatorial Trust Bank (Polaris Bank).

FIGURE 7: NON-PERFORMING LOANS RATIO FOR THE NIGERIAN BANKING INDUSTRY (2002-2016)



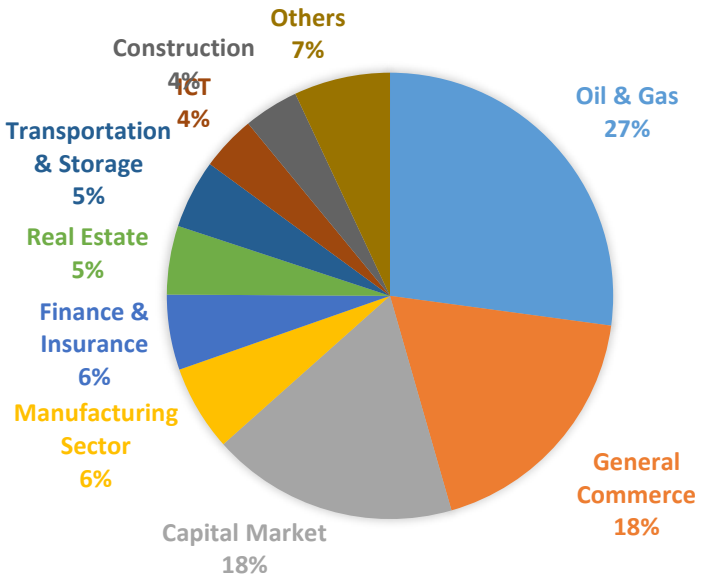
Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: The ratio of loans in default (both principal and interest payments that are unpaid for 90 days or more) to total gross loans.

FIGURE 8: NON-PERFORMING LOANS RATIO FOR NIGERIAN BANKS - 2009



Source: Asset Management Corporation of Nigeria, AMCON (2019)

FIGURE 9: SECTORIAL DISTRIBUTION OF NON-PERFORMING LOANS ACQUIRED BY ASSET MANAGEMENT CORPORATION OF NIGERIA (AMCON) (2010)



Source: Asset Management Corporation of Nigeria, AMCON (2019)

This mandated the 2009 Central Bank of Nigeria (CBN)'s intervention through a N620 billion bailout funds and guarantees to rescue 8 distressed banks to improve liquidity and restore confidence in the banking system (Sanusi, 2012). Other policy measures introduced included: the firing of the 8 distressed banks' board of directors and the appointment of interim management under close supervision of the Nigerian Deposit Insurance Corporation (NDIC), the suspension of restriction on the use of Commercial Papers and Bankers' Acceptances as well as the redemption of promissory notes issued by the CBN (Fadare, 2011).

In 2010, the Asset Management Corporation of Nigeria (AMCON), established by the Nigeria's National Assembly (the federal legislative arm of government), took over N1.7 trillion in non-performing loans or eligible bank assets and managed them to improve liquidity and enhance stability of the Nigerian financial systems (Sanusi, 2012). In 2011, the CBN withdrew the banking licenses of the 3 distressed banks - Afribank, Spring Bank and Bank PHB due to recapitalization issues. In turn, the CBN in collaboration with the NDIC created Bridge Banks to take over the assets and the liabilities of these 3 insolvent banks to the Bridge Banks as follows: Mainstreet Bank (Afribank), Enterprise Bank (Spring Bank) and Keystone Bank (Bank PHB). A bridge bank is a temporary bank formed by financial regulators (in this case, the CBN and NDIC) to operate a distressed bank until a buyer could be found to take over its operations. AMCON acquired and injected N679 billion into these bridge banks (Mainstreet Bank – N285 billion, Enterprise Bank – N111 billion and Keystone Bank – N283 billion) through bond issuance to meet the required N25 billion capital base and 15% capital adequacy ratio (Vanguard Newspapers, 2011). The next chapter surveys the empirical evidences on bank lending behavior during financial crisis.

CHAPTER 2: LITERATURE REVIEW

Over the years, researchers have attempted to understand bank lending behavior during financial crisis. According to Ivashina and Scharfste (2010), new debt to large corporations decreased by 47% in the fourth quarter of 2008 compared to the second quarter of 2007 in the United States. Also, new debt for real investment plummeted by 14% in fourth quarter of 2008 compared to the second quarter of 2007. Banks curtail lending activities due to massive draw down of credit lines by borrowers and the reduction in deposits financing and bank runs.

Kapan and Minoiu (2010) evaluated the effect of exposure to the 2007-2008 market freezes on bank credit supply in the U.S. They discovered that while banks generally cut down on lending during financial crisis, banks with strong balance sheet were more liquid and had better capabilities to lend compared to banks with weak balance sheet. Weak banks were less liquid, more dependent on market funding, which led to a decline in their lending activities.

Cole (2012) utilized the Federal Financial Institutions Examination Council (FFIEC) data on the U.S. small-business loans to examine how small-business lending by banks changed during the financial crisis years. He concluded that while bank lending to small-business declined by 18% or $116 billion over a 3-year period from $659 billion in

June 2008 to $543 billion in June 2011, industrial and small commercial lending fell by more than 20% over similar period.

Also, Adrian et al (2012) investigated the fluctuations in bank credits provided to U.S. listed firms from 1998 to 2010. They observed a decline in the quantity of bank credit received by the U.S. firms between 2007 and 2009. This suggests that while there were decline in bank lending to businesses during the crisis, bond financing increased to bridge the financing gap.

Moreover, Greenstone et. al. (2014) evaluated the impact of the 2007-2009 financial crisis on the lending activities of banks to U.S. small businesses. Using the Community Reinvestment Act (CRA) data from 1997 to 2010, they found that loan originations for small businesses contracted by 17% between 2007 and 2009.

In 2014, Chodorow-Reich (2014) considered how disruptions in the syndicated loan market during the 2008 financial crisis impacts on bank lending. He concluded that while bank credit declined across all banks, borrowers of stronger banks faced lower restrictions in credit supply compared to borrowers of weaker banks. This showed the importance of banking relationships and its impact on the cost of borrowing to businesses. Firms with pre-crisis relationships with weaker banks experienced higher loan rejection rates following the crisis, paid a higher cost of borrowing for bank loans compared to pre-crisis customers of stronger banks.

Furthermore, the work of Cornett et al. (2011) focused on the role of liquidity-risk management on bank' loans availability. Their result revealed that banks holding more illiquid assets funded by sources other than core deposits and equity capital reduced lending more than other banks to increase their liquid assets. This showed the importance of core deposits and other long-term funds to banks' ability to generate credit.

The 2008 financial crisis also had a great impact on European banks' lending activities. For instance, Burietz and Ureche-Rangau (2017) analyzed the lending behavior of banks in Italy, Germany, Spain and France between 2005 and 2013. With 3,749 loans generated by 62 banks for 1,948 borrowers, they affirmed that banks generally discontinued lending post-financial crisis to businesses with existing banking relationships. Additionally, while French banks' lending behavior skewed towards domestic businesses (described as flight-to-home), Spanish banks increased borrowing cost to their domestic companies, and this led to a reduction in their lending activities.

Merilainean (2015) also examined the effect of the 2008 financial crisis on bank lending among 18 Western European banks from 2004 to 2013. Based on ownership structure, banks were categorized into 4 groups – cooperative banks, commercial banks, publicly-owned savings banks and private savings banks. Evidence showed that all the European banks cut down on lending during the 2008 financial crisis, while commercial banks had the highest negative shock.

In Germany, Puri et al. (2011) investigated how the U.S. financial crisis impacted on German retail banks from 2006 to 2008. They grouped the German retail banks into 2 categories – unaffected banks and affected banks with exposure to the U.S. subprime mortgage through their holdings in Landesbanken. They confirmed that both affected and non-affected banks experienced contraction in credit origination during the financial crisis in 2008.

Balduzzi et al (2014) investigated Italian banks' lending behavior during the 2007–2009 financial crisis and the 2010–2012 sovereign debt crisis. They concluded that financial market fluctuations resulted in an increase in the cost of borrowing during the crisis period, which reduced the amount of loans available to businesses. In Spain, Bentolila et. al. (2015) examined the 2008 financial crisis on business lending. Data from the Bank of Spain revealed that banks cut down on credit supply prior to their bailout.

Aiyar (2011) analyzed how the crisis in the international funding markets affected bank lending activities in the United Kingdom. The result revealed that the external shock to international funding markets resulted in a decline in domestic lending in the United Kingdom. Lending by foreign-owned banks plummeted by a higher proportion compared to local banks.

In Asia, Kassim and Majid (2010) examined the impact of financial shocks on Islamic and conventional banks in Malaysia from 1997 to 2009. Using the vector auto-regression (VAR) method, they concluded that both conventional and Islamic banks were

susceptible to financial shocks. They argued that while both banks reduced their lending activities, lending volatility in the conventional banks were higher than the Islamic financing in 2007.

Leony and Romeu (2011) analyzed the effect of global financial crisis on the lending behavior of South Korean banks. Using bank-level data of 8 state-owned banks and 10 privately-owned banks between 2000 and 2008, they concluded that lending activities by public sector banks were less affected by the financial crisis due to the support of the government.

Also, Robert et al. (2013) investigated the role of bank ownership structure on bank lending pattern in Eastern Europe and Lain America during the 2008-2009 financial crisis. They used bank level data for the period 2004 - 2009, with 8 countries from Eastern Europe and 6 countries from Latin America. They grouped the banks into 3 categories: local private banks, government-owned banks and foreign banks. They found that while local private banks in Latin America and Eastern Europe experienced a decrease in bank credit during the crisis, there were considerable variations in credit growth for government-owned and foreign banks across regions. In Eastern Europe, while government-owned banks did not act counter-cyclically during the crisis, total lending by foreign banks fell by a higher proportion than domestic private banks due to a decline in corporate loans. Moreover, government-owned banks in Latin America acted counter-cyclically to offset the decline in lending of foreign and local private banks during the crisis.

Additionally, Breia and Schclarek (2013) studied the lending behavior of private and government-owned banks during the financial crisis between 1994 and 2009 in 50 countries. Using balance sheet information of 764 major banks, they concluded that while private banks cut down on lending activities during the 2008 financial crisis, government-owned banks' loan portfolio increased during the crisis relative to normal times. Government-owned banks played an active counter-cyclical role during the crisis and counteract the lending short fall of private banks.

In 2010, Campello et. al. (2010) surveyed 1,050 Chief Financial Officers (CFOs) in the U.S., Europe, and Asia to evaluate how the 2008 global financial crisis influenced their corporate spending plans. Evidence showed that banks cut down on lending activities while businesses were forced to either restrict, post-pone or abandon viable investment opportunities. For the U.S. firms, more than 50% of credit-constrained CFOs reportedly postponed or canceled their planned investments, while 86% of them said their investment in viable projects were restricted during the financial crisis. Similar results were observed in Europe and Asia.

Africa-specific empirical studies on the effects of the 2008 global financial crisis on bank lending behavior are limited in the existing literature. Thus, this research helps expand the existing literature by exploring the impact of the financial crisis on the lending behavior of banks in Nigeria. In December 2008, the Bank of Ghana's credit conditions survey revealed that banks tightened credit / lending conditions for businesses in the face of the global financial crisis (Bank of Ghana, 2009a). Banks also cut down on households'

mortgage loans due to an increase in interest rates and preference for short-term maturities. The Ghanaian banking industry's aggregate lending growth fell by 25.2%, from 67.9% in 2007 to 42.7% in 2008 (Aryeetey et al, 2009).

In Kenya, Aryeetey et al. (2009) also observed credit tightening situation to Small and Medium Scale Enterprises (SMEs) and households. In 2008, private sector bank credit declined by 66% within a 3-month period, from 7.4% in the third quarter to 2.5% in the fourth quarter.

From the foregoing, banks across the globe showed mixed lending pattern during financial crisis depending on the circumstances such as nature, size, role and ownership structure. The literature on how the global financial crisis influenced bank lending behavior in African countries like Nigeria is much sketchier, and this study attempts to fill the gap. The next chapter examines the various stages of development in the Nigerian banking industry since its inception in 1894 through 2010.

CHAPTER 3: THE NIGERIAN BANKING SECTOR IN PERSPECTIVE

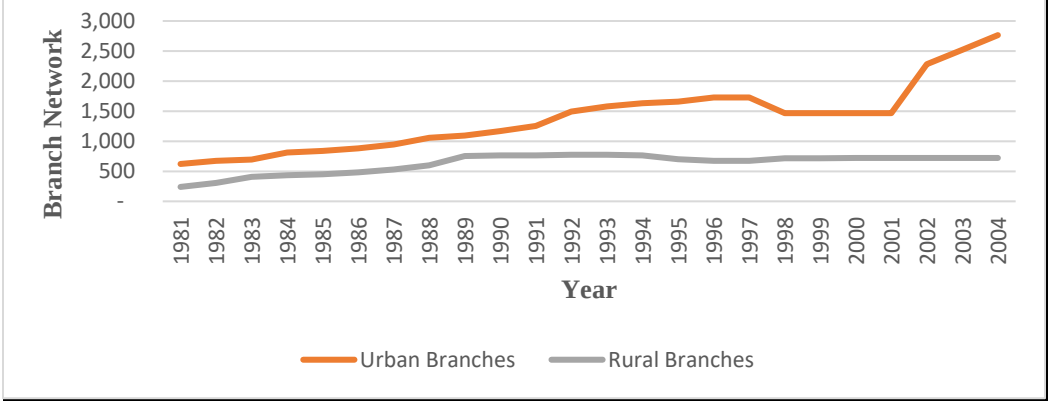
According to Soyibo and Adekanye (1992), the Nigerian banking sector has undergone a series of reforms and stages of advancement since the beginning of banking in 1894. During the 1894-1952 era, the Nigerian banking sector was dominated by foreign banks, which were: the British and French Bank (now United Bank of Africa), the African Banking Corporation (now First Bank of Nigeria) and the Colonial Bank (now Union Bank). Indigenous banks were established to foster competition considering the purported discrimination by the foreign banks against Nigerians, whose priorities were to finance British businesses. However, these indigenous banks failed partly because of mismanagement, poor asset quality, gross insider abuse on lending, and weak capitalization (Soyibo and Adekanye, 1992).

In 1952, the Nigerian Banking Ordinance was enacted, and this introduced some regulations into the Nigerian banking sector. The 1952-1958 period witnessed the creation of more indigenous banks and it was described as the era of the first banking boom. All these indigenous banks collapsed due to the monopolistic nature of the foreign banks which enjoyed substantial support from British firms (Soyibo and Adekanye, 1992).

The third phase, the era of banking regulation (1959-1986), commenced with the enactment of the Central Bank of Nigeria Act of 1959 and the establishment of the Central Bank of Nigeria (CBN). The CBN was empowered to enact effective regulations for the promotion, integration and development of the Nigerian financial systems. The act also gave tremendous incentives to the development of the Nigerian money and capital markets. The friendly business climate led to the creation of more commercial banks in Nigeria. The number of commercial banks rose from 4 in 1959 to 17 in 1962. Also, the Companies Act of 1968 made it mandatory for the incorporation of the foreign-based banks in Nigeria (Terbia, 1970).

The CBN deregulated the Nigerian banking industry to allow for an increased participation by the private sector between 1986 and 1993. For new banks, entry barriers into the banking industry were relaxed to boost competition, enhance efficient mobilization and resources' allocation for economic growth and development. Before then, government-controlled banks dominated the Nigerian banking industry due to the indigenization program of the 1970s. The number of banks grew by 129% from 28 in 1985 to 64 in 1995 while the commercial banks' branch network in the rural areas increased from 12 in 1975 to 765 in 1990 (Lewis and Stein, 1997).

FIGURE 10: RURAL & URBAN BRANCH NETWORK IN NIGERIA (1981-2004)



Source: Central Bank of Nigeria, 2019

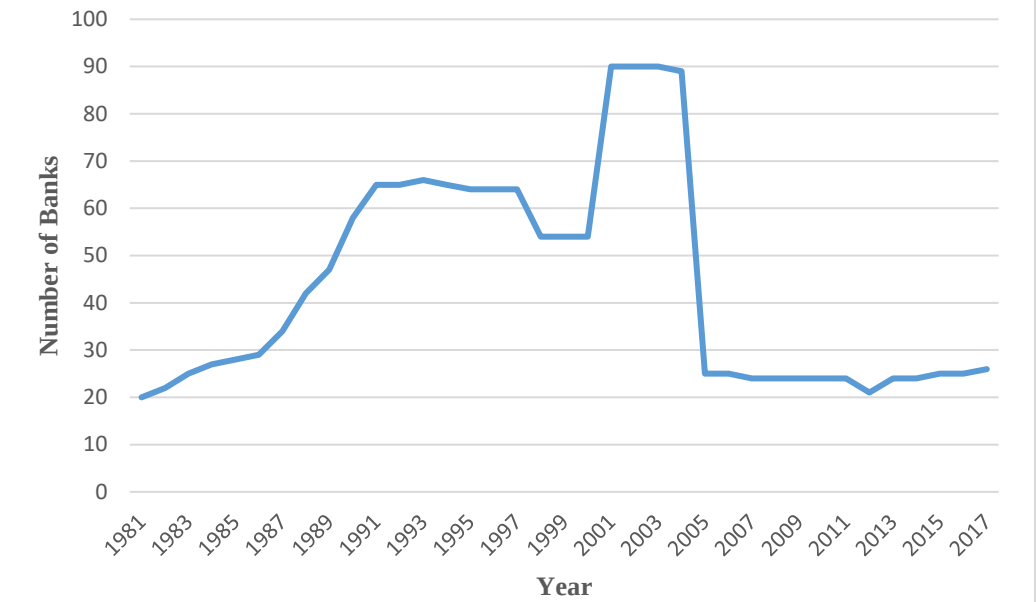
Note: Classification of Branches into Urban and Rural stopped in 2005 due to banks' consolidation reform

In 2001, the universal banking model was introduced in Nigeria. Banks began to innovate and engaged in an array of financial services to remain competitive in the industry. These include asset management, insurance, financial advisory, factoring and brokerage business (Lewis and Stein, 1997). The number of banks increased from 64 in 1995 to 89 in 2004. Notwithstanding, the Nigerian banking system was characterized by weak corporate governance, persistent illiquidity, huge non-performing insider related loans arising from gross insider abuses, unprofitable banking operations, poor asset quality and insolvency as shown by negative capital adequacy ratios and shareholders' funds and weak capital base. This necessitated the 2004 Professor Charles Soludo-led CBN banking sector consolidation reform to fix these anomalies for resilience banking system to support Nigeria's economic growth and development (Soludo, 2004).

The first phase of the banking sector consolidation reform occurred from 2004 to 2008. Some of the reform measures included: the recapitalization of bank's capital base from N2billion to N25billion and the consolidation of banking institutions through mergers and acquisitions. Also, the Banks and Other Financial Institutions Act (BOFIA) of 1991 was amended to allow for the CBN's direct supervision and control of non-bank financial institutions in Nigeria (Soludo, 2004). As of 31st December 2005, the number of banks had reduced from 89 in 2004 to 25 big banks with higher capital base and total assets which improved the confidence and stability in the Nigerian banking sector.

However, Sanusi (2012) argued that the global financial crisis of 2008 revealed what deteriorated in Nigeria culminating to the financial crisis in 2008. These were: overall weaknesses in the Nigerian business environment due to macroeconomic instability caused by the volatility in foreign capital inflows, lack of transparency and insufficient disclosure on the banks' financial positions, weak corporate governance at banks and inadequate supervision, enforcement and unstructured governance practices at the CBN.

FIGURE 11: BANKS IN NIGERIA (1981-2017)



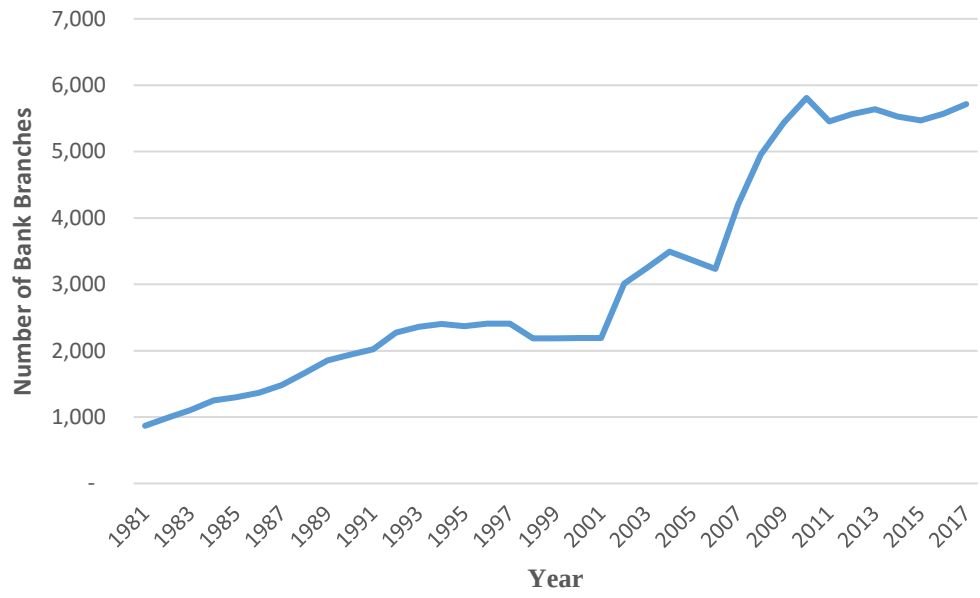
Source: Central Bank of Nigeria (2019)

This kick-started the second phase of the reforms centered on risk-based banking regulation / supervision. Measures implemented during this period were: the bail-out option, through the CBN's injection of N620 billion to fix capitalization issues in 8 distressed banks. This led to another round of merger and acquisition exercises which decreased the number of banks to 20 in 2011 (Sanusi, 2012).

Also, the Universal Banking (UB) model was repealed and the UB licenses of banks were revoked in November 2010 and the establishment of the Asset Management Corporation of Nigeria (AMCON) to relieve the banks of non-performing (toxic) assets. In 2010, AMCON was created as a special purpose vehicle to fix the challenges of non-

performing loans in the Nigerian banking industry. According to its mandate, AMCON took over N1.7 trillion in non-performing risk assets of eligible banks and this enhanced their liquidity, safety and financial soundness. AMCON's intervention resulted in a 29.5% decline in the industry's non-performing loans ratio (that is, the ratio of non-performing loans to total credit) from 34.4% in November 2010 to 4.95% as of December 2011 (Sanusi, 2012).

FIGURE 12: BANK BRANCHES IN NIGERIA (1981-2017)



Source: Central Bank of Nigeria (2019)

In summary, as of 2017, the Nigerian financial system comprises of the regulators and the market players. The regulatory and supervisory authorities include the Central Bank of Nigeria (CBN), the Nigeria Deposit Insurance Corporation (NDIC), the Asset

Management Corporation of Nigeria (AMCON), the Securities and Exchange Commission (SEC), the National Insurance Commission (NAICOM), the National Pension Commission (PENCOM) and the Federal Mortgage Bank of Nigeria (FMBN). The market players are: 26 banks, made up of 21 commercial banks, 4 merchant banks and 1 non-interest bank. Others were 7 development finance institutions (DFIs), 34 primary mortgage banks (PMBs), 1,008 microfinance banks (MFBs), 81 finance companies (FCs) and 3,740 bureau-de-change (BDCs). The banking sector, with oligopolistic structure, dominates the market activities in the financial systems (CBN Annual Report, 2017). The next chapter discusses the Minsky financial instability hypothesis, the data and the methodology that will be used to evaluate the lending behavior of Nigerian banks during financial crisis.

CHAPTER 4: METHODOLOGY & ANALYSIS

4.1.1: THEORETICAL FRAMEWORK - THE FINANCIAL INSTABILITY HYPOTHESIS

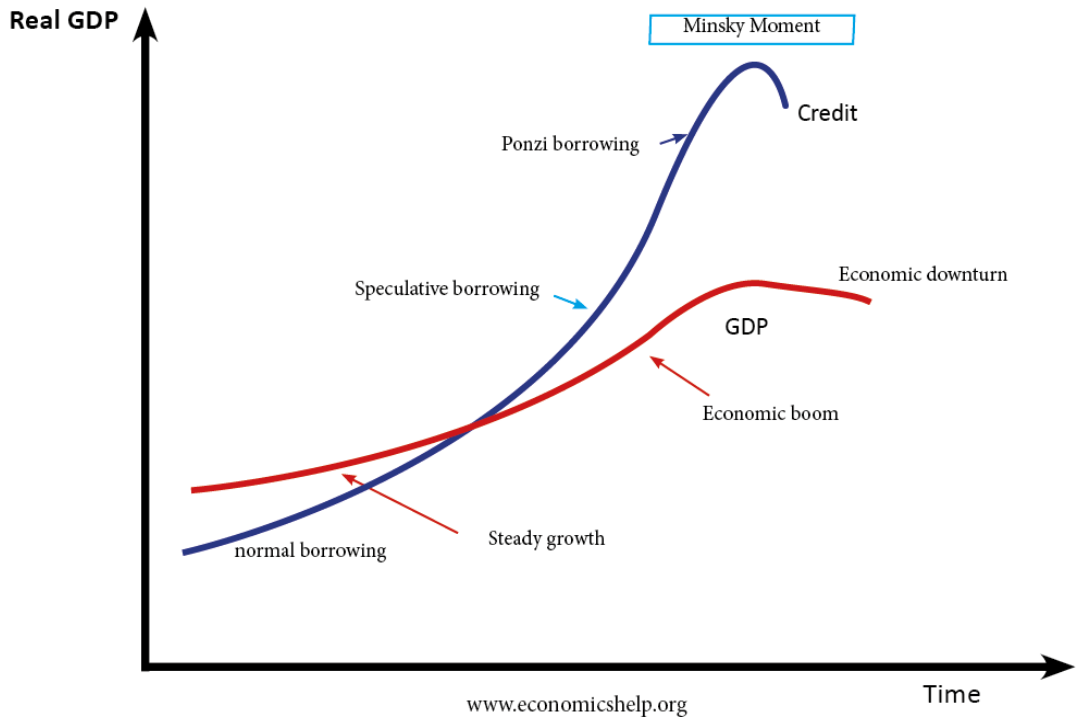
The objective of the study is to assess the impact of the 2008 global financial crisis on the lending behavior of banks in Nigeria. To achieve this purpose, the Minsky financial instability hypothesis provides a framework on what went wrong in Nigeria leading to the financial crisis in 2008. As an economic theory, the financial instability hypothesis is an extension of John Keynes' *1936 General Theory of Employment, Interest and Money*. It also draws upon Joseph Schumpeter's *1934 Credit View of Money and Finance* (Minsky, 1992).

Minsky argued that a free market economic system is susceptible to financial crisis because economic boom / prosperity encouraged both the lenders and the borrowers to be progressively financially reckless. This unnecessary optimism creates financial bubbles and then later bursts (Minsky, 1992). Nigeria's economic system is largely free market with minimal state intervention in terms of regulation (when necessary). Therefore, Nigeria is prone to transitions from periods of financial stability to instability. As Pettinger (2017) describes such financial instability, "success breeds excess which leads to crisis" and "economic stability itself breads instability."

Financial crisis is linked to a host of factors. Minsky identified three types of borrowers (i.e. income-debt relations for economic units) that contribute to the accumulation of insolvent debt that pushes an economy towards a crisis. They are hedge borrowers, speculative borrowers and Ponzi borrowers. For hedge borrowers (i.e. normal borrowers – with bank loans secured against assets / collaterals), they can meet their contractual debt payments (both principal and interest) from current cash flows from investments. Speculative borrowers' cash flow from investments can service the interest due, but not the principal. Hence, the borrowers must frequently roll over, or re-borrow, the principal - issue new debt to meet commitments on maturing debt (Minsky, 1992).

Ponzi borrowers are unable to cover both the principal and interest payments from cash flow from investments. They stay afloat by borrowing to pay interest or selling assets to pay interest provided the asset appreciate in value to generate sufficient cash flow to refinance the debt. Financial stability is expected if the economy is dominated by hedge financing, and the economy may well be an equilibrium seeking and containing system (See Figure 16). However, the likelihood of financial instability / crisis heightens with higher the proportion of speculative and Ponzi financing schemes (Minsky, 1992).

FIGURE 13: DIFFERENT PHASES LEADING TO MINSKY MOMENT



In the mid-2000, the progression through Minsky's three borrowing stages was evident in Nigeria leading to the financial crisis in 2008. After the 2004 recapitalization reform of the Nigerian bank's capital base from N2billion to N25billion, banks became bigger with increased risk appetite and financial resilience to undertake big-ticket financial transactions. Demand for loans (especially for oil and gas trading and share purchase / margin loans) skyrocketed, rapidly expanding the shadow banking system, which helped fund the shift to more speculative and Ponzi lending types, through riskier unsecured loans at higher levels of leverage. This helped to stimulate the trading activities in the capital market and drive the economic bubble in Nigeria (Sanusi, 2012).

However, the sudden decline in the global oil price in 2007 and the abrupt cessation in the international credit channel from global banks in developed economies like the United States to Nigerian banks had an adverse impact on the Nigerian economy. This led to a liquidity crisis as banks were compelled to sell down their stocks to boost their liquidity. The Nigerian banks sustained huge losses, particularly because of their exposure to the capital market, downstream oil and gas sector and huge non-performing loans (Njiforti, 2015).

As postulated by Minsky above, the financial crisis informed the series of financial intervention by the CBN and the Nigeria's federal government to restore liquidity and confidence in the banking system to stimulate the economy (Sanusi, 2012).

4.2. RESEARCH HYPOTHESIS DEVELOPMENT

Based on Minsky theoretical framework and evidences from the existing body of literature, banks across the globe would show mixed lending behavior during financial crisis depending on the circumstances and their behaviors influenced by both external and internal factors. Generally, banks' loan growth decreased during the financial crisis due to a combination of tighter lending standards by banks (decline in loan supply by banks) and perceived weaker consumer demand for loans during financial crisis (Ivashina and Scharfste, 2010; Cole, 2012; Greenstone et al, 2014; Bentolila et al, 2015; Dvorkin and Shell, 2016). In contrast, for public or state-owned banks, lending activities were less affected by the financial crisis due to the government support (Leony and Romeu, 2011; Breia and Schclarek, 2013; Robert et al, 2013). They played an active counter-cyclical role in their banking systems during crises.

The Nigerian banking system, though private sector-led, witnessed a series of CBN / federal government financial interventions during the financial crisis to sustain lending activities to the real sectors (manufacturing, aviation, power and agriculture sectors) and to stimulate the Nigerian economy. In view of the government financial intervention described above, the following research hypotheses have been developed:

H_0: There is no significant increase in Nigerian bank lending behavior during and post 2008 financial crisis

H_1: There is a significant increase in Nigerian bank lending behavior during and post 2008 financial crisis

To account for possible changes in banks' characteristics and their effects on banks' lending behavior across periods, this study also tested for significant interactions between two banks' characteristics (core deposit ratio and total assets) and total loan ratio.

According to Joh and Jeong (2017), bank lending decisions are influenced by bank-specific characteristics, net of macroeconomic conditions. For this research, total loan ratio serves as a proxy for bank lending behavior. Like Cornett et al. (2011) and Joh and Jeong (2017), fixed effects regression models will be used to assess the effects of two bank-specific characteristics—total assets and core deposit ratio—on bank lending behavior, measured as total loan ratio. Similar to Joh and Jeong (2017), macroeconomic and bank-specific effects were controlled for to minimize the effect of omitted variables bias. The study draws on 2002-2018 CBN statistical data. The pre-crisis period spans from January 2002 to May 2008, the crisis period is from June 2008 to December 2010, and the post-crisis period is from January 2011 to December 2018.

4.3 DATA SOURCE AND DESCRIPTION OF VARIABLES

The monthly data set, (January 2002 to December 2018) containing all the variables, were obtained from the Central Bank of Nigeria (CBN) statistical database. The dependent variable is total loan ratio, a proxy for bank lending behavior. The independent variables are bank-specific performance indicators, which are: total assets and core deposit

ratio. Similar to Liu (2012), two standard macroeconomic variables were included—Treasury bill rate and inflation rate. These macroeconomic variables control for variation in the business cycle.

TABLE 1. DEFINITIONS OF THE VARIABLES AND DATA SOURCES

	VARIABLES	DEFINITION	SOURCE	LEVEL
1	Total Loan Ratio	Total loan ration is the ratio of a bank's total loans to its total assets (Total Loans/Total assets)[1].	CBN Statistical Data	Bank
2	Core Deposit Ratio	The core deposit ratio is the ratio of the sum of a bank's demand and savings deposits to total liabilities (Demand Deposits + Savings Deposits / Total Liabilities).[2]	CBN Statistical Data	Bank
3	Total Assets	The sum of all the assets of all the banks	CBN Statistical Data	Bank
4	Treasury Bill	The three-month treasury bill rate	CBN Statistical Data	Macro
5	Inflation Rate	The inflation rate by month is the percentage change in prices from one month to the next or month-over-month.	CBN Statistical Data	Macro

Note: Core deposits ratio is an important indicator to assess the ability of a large bank to withstand stress related to funding. There is a statistically significant relationship between a bank's core deposit ratio and its long-term performance. Core deposits are safe, liquid source of funding for financial institutions (U.S. Federal Deposit Insurance Corporation, 2011).

[1] Joh and Jeong (2017)

[2] Berlin and Mester (1998) are the first researchers to link core deposits (e.g. savings and demand deposits) to bank lending. Core deposit is a relatively stable source of financing for banks.

4.4 DESCRIPTIVE STATISTICS AND CORRELATION ANALYSIS

The descriptive statistics (the mean, median, maximum, minimum and standard deviation) are presented in Table 2. The data showed the mean, median and maximum values of loans granted to private sector as N8,873,924.49, N10,243,149.30 and N17,518,980.13, respectively. The high standard deviation of N5,764,648.923 and the wide range of N16,678,737.33 suggest that there were substantial fluctuations in private sector loans in Nigeria. Apart from the core deposit ratio with kurtosis of 39.81, all other variables had kurtosis lower than 2.

Banks' average total assets increased from N5,186,010 pre-crisis to N16,641,655 during crisis and was N26,910,967 post crisis. Average core deposit ratio, on the other hand, declined from 0.33 pre-crisis to 0.31 during crisis and increased to 0.33 post crisis.

TABLE 2: DESCRIPTIVE STATISTICS

	Loans	Total Assets	Total Loan ratio	Core Deposit	Core Deposit Ratio	91 Day T-Bill Rate	Inflation Rate
Mean	8,873,924.49	17,150,328.18	0.49	5,502,496.38	0.33	10.36	12.05
Standard Error	403,606.15	765,197.63	0.01	240,392.86	0.00	0.31	0.31
Median	10,243,149.30	17,690,293.95	0.50	5,564,333.38	0.32	10.30	11.58
Standard Deviation	5,764,648.93	10,929,208.27	0.07	3,433,496.84	0.03	4.37	4.41
Kurtosis	-1.46	-1.21	-1.18	-1.45	39.81	0.31	1.10
Skewness	-0.12	0.13	-0.02	-0.04	-4.09	0.22	0.81
Range	16,678,737.33	35,076,584.40	0.30	11,598,979.55	0.38	23.46	25.21
Minimum	840,242.80	2,261,844.80	0.35	0.00	0.00	1.04	3.00
Maximum	17,518,980.13	37,338,429.20	0.64	11,598,979.55	0.38	24.50	28.21
Sum	1,810,280,596.74	3,498,666,949.50	99.91	1,122,509,262.40	66.34	2,092.59	2,458.57
Observation	204	204	204	204	204	202	204

The results of the correlation analyses of the variables are presented in Table 3. The cross-correlation matrix suggests that total loan ratio is moderately correlated with the total assets and weakly correlated with the other variables.

TABLE 3: CORRELATION MATRIX

	Total Loan Ratio	Core Deposit Ratio	Total Assets	Treasury Bill Rate	Inflation Rate
Total Loan Ratio	1.000				
Core Deposit Ratio	0.125	1.000			
Total Assets	0.580	-0.202	1.000		
Treasury Bill	-0.322	0.184	-0.145	1.000	
Inflation Rate	-0.004	-0.173	-0.021	0.108	1.000

4.5 MODEL SPECIFICATION

This analysis examined change in bank's lending behavior (measured as total loan ratio) over time in three fixed effects regression models. Model 1 compared total loan ratio prior to the 2008 global financial crisis to the total loan ratio during and after the crisis. Model 2 included the measures of period in Model 1, two bank-specific variables (core deposit ratio and total assets) and two macroeconomic control variables (inflation rate and treasury bill). Model 3 tested for significant changes in the effects of the two bank-specific variables across periods (pre-crisis, crisis, and post crisis).

Model 1:

$$Total\ Loan\ Ratio = Crisis + Post\ Crisis + \omega it + \mu t + \varepsilon it$$

Model 2:

Total Loan Ratio = Crisis + Post Crisis + Core Deposit Ratiot-1 + Total Assets t-1 + Inflation Rate t-1 + Treasury Bill Rate t-1 + $\omega it + \mu t + \varepsilon it$

Model 3:

*Total Loan Ratio = Crisis + Post Crisis + Core Deposit Ratiot-1 + Crisis*Core Deposit Ratio t-1 + Post Crisis*Core Deposit Ratio t-1 + Total Assets t-1 + Crisis*Total Assets t-1 + Post Crisis*Total Assets t-1 + Inflation Rate t-1 + Treasury Bill Rate t-1 + $\omega it + \mu t + \varepsilon it$*

Total loan ratio is the dependent variable and the proxy for bank lending behavior. Change in total loan over time and a positive value implies an increase in loans to private sector by the banks over time. Lagged variables of total loan ratio, total assets and core deposit ratio were included to minimize the effect of endogeneity. Also, interaction terms of these variables (core deposit ratio and total assets) with dummies for crisis and post-crisis periods were added to assess the impact of these variables over these periods.

The macroeconomic variables which are inflation rate and Treasury bill rates.

ω_{it} is the unobserved bank-fixed effect, μ_t is a time-fixed effect, and ε_{it} is error term

4.5: MULTIVARIATE RESULTS

Table 4 shows the effects of bank-specific characteristics on total loan ratio as a proxy for bank lending behavior controlling for macro-economic conditions. In support of the hypothesis, the results showed significantly higher total loan ratio during and post crisis relative to pre-crisis period (Model 1). Total loan ratio remained significantly higher during

and post crisis even after controlling for other variables in Model 2. This suggests that given the CBN / government financial intervention, Nigerian banks increased lending significantly following the financial crisis. The Minsky's model of the credit system remains relevant and the results are consistent with three prior studies (Leony and Romeu, 2011; Breia and Schclarek, 2013; and Robert et al, 2013) that showed that the lending activities of banks with government support during the financial crisis were less affected and they played an active counter-cyclical role in their banking systems during crises.

Supplementary analysis showed no significant difference in total loan ratio during and post crisis meaning that banks' lending behavior remained unchanged post-financial crisis (Model 2). Total loan ratio significantly increases with increasing total assets but there is no significant relationship between total loan ratio and core deposit ratio, net of other variables in the model (Table 4, Model 2). Changes in the effects of banks' characteristics on total loan ratio partly explained the changes in banks' lending behavior described above. As shown in Model 3 (with interaction between period and banks' characteristics), after accounting for differences in the effects of core deposit ratio and total assets pre, during, and post crisis, total loan ratio became similar pre and post crisis.

TABLE 4: RESULTS OF FIXED-EFFECTS REGRESSION ANALYSES

Total Loan Ratio	**Model 1**	**Model 2**	**Model 3**
Period (Reference = pre-crisis)			
Crisis	0.151 (0.017)***	0.216 (0.029)****	0.342 (0.135)*
Post Crisis	0.109 (0.017)***	0.215 (0.033)***	0.214 (0.133)
Main Independent Variables			
Core Deposit Ratio_t-1		0.036 (0.061)	-0.597 (0.337)†
Crisis * Core Deposit Ratio_t-1			-1.970 (0.524)***
Post Crisis * Core Deposit Ratio_t-1			0.541 (0.343)†
Total Assets_t-1		0.000 (0.000)***	0.000 . (0.000)***
Crisis*TotalAssets_t-1			0.000 (0.000)**
Post Crisis*Total Assets_t-1			-0.000 (0.000)***
Control Variables			
Inflation Rate		0.164 (0.078)*	0.299 (0.065)***
Treasury Bill Rate		0.313 (0.141)*	0.402 (0.086)***
Observations (N)	204	203	203
Intercept	0.416 (0.010)***	0.391 (0.015)***	
R-Square			
Within	0.5151	0.8413	0.9551
Between	0.7255	0.5915	0.8418
Overall	0.6987	0.6385	0.8646

Source: CBN Statistical Data; † $p<0.10$, * $p<0.05$, ** $p<0.01$, *** $p<0.001$; Robust standard errors in parentheses

The results of the interaction terms in Model 3 showed significant changes in the effects of both core deposit ratio and total assets across periods. Pre and during the financial crisis, banks' total loan ratio increased significantly with increasing total assets. Conversely, increasing total assets were associated with significantly lower total loan ratio post crisis (Model 3).

Prior to the 2008 financial crisis, core deposit ratio was negatively but only marginally significantly related to total loan ratio. This suggests that bank's lending decisions were only marginally significantly impacted by banks' deposits. During the crisis period, however, it seems as if core deposit ratio became more germane to bank's lending behavior; core deposit ratio was negatively and highly significantly associated with total loan ratio. Core deposit ratio remained negatively related to total loan ratio post crisis, but its level of significance diminished. The above findings are consistent with (Bingilar and Andabai, 2015) that showed a negative relationship between deposits and bank loan in Nigeria. The negative association between bank deposit and loan could be a result of differential bank lending to various sectors of the economy. Bingilar and Andabai, (2015) found a negative relationship between bank deposit and loans for small and medium scale informal businesses, due to information asymmetry, economic and structural constraints which posed great barriers for them to access credit facilities in the Nigerian banking industry.

Deposit mobilization has been a persistent problem in the Nigerian banking industry as the economy is predominantly cash-based. According to the CBN's Nigerian Financial Inclusion Strategy (NFIS), as of 2010, 30% of eligible Nigerian adults were banked, 24% were under-banked while 46% remain unbanked. Over the years, the growing incidence of corruption, malpractices, gross insider abuses leading to huge non-performing insider-related loans, weak corporate governance and the history of bank failures without adequate protection for depositors' funds have eroded public confidence in financial institutions. Also, the relatively under-developed financial system, low level of financial literacy and other obstacles to modern banking have worsened financial deepening in Nigeria (Soludo, 2004; Sanusi, 2012).

For macroeconomic variables, the result shows a positive relationship between bank loans to private sector and Treasury bills rate in Nigeria. This result, however, contrasts with apriori expectation and it is not consistent with Yakubu et. al. (2018) that showed a negative relationship between private sector credit and Treasury bills. Banks lend to the government through the purchase of Treasury bills – a safe and risk-free investment backed by the Nigerian government. An increase in Treasury bills rate will lead to a decline in the levels of bank credit made available to private sector in Nigeria.

On inflation, the apriori expectation suggests a negative relationship between inflation rate and total loan ratio. However, the results revealed a positive and statistically significant relationship between inflation rate and private sector loan in Nigeria. The results showed that a 1% rise in inflation rate would increase the banks' lending to the private

sector by 0.29% (Model 3). This result showed lack of adverse effect on the positive relationship between inflation rate and private sector credit in Nigeria. The finding is similar to two previous studies (Moussa and Chedia, 2016; Yakubu et. al; 2018) that showed a positive relationship between inflation and private sector loans, but in contrast to the result of Yigit (1999). Yigit (1999) concluded that inflation uncertainty resulted in an adverse effect on the credit markets by reducing credit availability to private sector and raising the cost of borrowing.

In Nigeria, the direct / positive relationship between inflation and bank loan is not a surprise considering a plethora of financial incentives and direct intervention funds initiated by the CBN and the Nigeria's federal government to stimulate the real sectors (manufacturing, aviation, power and agriculture sectors) of the economy. Over the years, the CBN identified key priority sectors and developed customized policy interventions to promote their growth for economic development. Some of the key interventions in the real sector include: the N200 Billion Refinancing / Restructuring of Small and Medium Enterprises (SME) / Manufacturing Fund, the N300 billion for long term funding of Power and Aviation, and the N200 billion Small and Medium Enterprises (SME) Credit Guarantee Scheme (SMECGS). Other programs are: the $500million Nigerian Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) and the N200 billion Commercial Agricultural Credit Scheme (CACS).

In 2010, the CBN and the Bank of Industry (BOI) approved the N200 billion Refinancing / Restructuring of SME / Manufacturing Fund to improve credit access to

manufacturers and to catalyze the development of the manufacturing sector in Nigeria. The aim is to refinance and restructure existing banks loans to the Nigerian SME / Manufacturing Sector and improve the liquidity in the banking industry. Same year, the N300 billion Power and Aviation Fund was also implemented to restructure / refinance existing credits / loans and provide long term financing for power and aviation infrastructural projects (CBN Manufacturing / Power Fund Policy Guidelines, 2010). Similarly, the CBN put in place a N200 billion Small and Medium Enterprises Credit Guarantee Scheme (SMECGS) in March 2010 to expand access to loans for small businesses in agricultural value chain, manufacturing and educational institutions (CBN SMECGS Guidelines, 2010).

In agricultural sector, the CBN launched the $US500million Nigerian Incentive-Based Risk Sharing System for Agricultural Lending (NIRSAL) in 2011 to fix both the financing and the agricultural value chains challenges and to activate agricultural industrialization in Nigeria. The agricultural sector is fundamental to the economy of Nigeria. As of 2011, the sector accounted for 42% of GDP, 60% of employment but contributed only 1% of total exports. The sector had been underperforming for more than 30 years, largely under-financed, receiving about 2% of the total banks' lending in Nigeria. This made it imperative for the $500million NIRSAL fund intervention to minimize the risk of agricultural lending and lower the cost of lending for Nigerian banks (CBN NIRSAL Guidelines, 2012).

Additionally, the CBN and the Federal Government of Nigeria, through the Federal Ministry of Agriculture and Rural Development (FMARD), established a N200 billion Commercial Agriculture Credit Scheme (CACS) in 2014. This is an integral part of the Federal Government of Nigeria Commercial Agriculture Development Program (CADP) and its key objective is to facilitate commercial agricultural businesses in Nigeria. This program complements other CBN agriculture-specific programs in providing low interest rate loans to farmers' cooperative societies and other agricultural development initiatives (CBN CACS Guidelines, 2014).

CHAPTER 5: SUMMARY AND CONCLUSION

Bank lending is an important monetary policy transmission channel with direct impact on economic growth in Nigeria. The research was conducted to test the hypothesis that given the CBN / government financial intervention, there is a significant increase in the Nigerian bank lending behavior during and post 2008 financial crisis (2002 to 2018). Total loan ratio is the proxy for bank lending behavior while the dependent variables are bank specific characteristics like total assets, core deposit ratio and macroeconomic variables like the 91-day Treasury bill rate and inflation rate.

Compared to pre-crisis period, total loan ratio was higher during and post financial crisis, net of other variables. The results support the hypothesis and it suggests that due to the CBN / government financial intervention, Nigerian banks increased lending significantly following the 2008 financial crisis and they played an active counter-cyclical role to stimulate the Nigerian economy. It also shows the relevance of the Minsky's model of the credit system. Supplementary analysis showed no significant difference in total loan ratio during and post crisis meaning banks' lending behavior remained unchanged post-financial crisis.

The policy implication of the thesis is the necessity for financial regulators and policy makers to understand the underlying driving forces of bank lending behavior in Nigeria across all periods and to proactively fix these challenges. The Nigerian banks

should be more innovative and strategic to improve financial deepening for economic development. Also, in concert with the CBN, banks are encouraged to shore up their asset base from time to time to withstand adverse macroeconomic conditions with financial resilience to perform their intermediation functions.

Another important finding is the presence of a direct / positive relationship between inflation rate and private sector bank credit in Nigeria. Generally, an increasing rate of inflation is a drag on the banks' ability to effectively and efficiently perform their financial intermediation roles. This has implications for monetary policy as the CBN strives to ensure monetary and price stability and to promote a sound financial system in Nigeria. Hence, to cut back on inflationary pressure, the CBN through moral suasion could advise the banks to curtail lending to non-essential and less critical / unproductive sectors of the economy.

Lastly, a critical limitation to this study is the inability to obtain relevant data to expand bank-specific dependent variables such as non-performing loan ratio and bank branch networks.

BIBLIOGRAPHY

Acharya, V., Eisert, T., Eufinger, C., and Hirsch, C. (2016). "Real effects of the sovereign debt crisis in Europe: Evidence from syndicated loans." https://www.bc.edu/content/dam/files/schools/csom_sites/finance/Acharya%20091115.pdf

Adekanye and Soyibo. (1992): "The Nigerian Banking System in the context of policies of financial regulation and deregulation." *African Economic Research Consortium*. December 1992

Adrian, T; Colla, P. and Shin, H. (2012): "Which Financial Frictions? Parsing the Evidence from the Financial Crisis of 2007-9." *National Bureau of Economic Research,* Working Paper No. 18335, Retrieved on July 5, 2019 via: https://www.nber.org/papers/w18335.pdf

Aiyar, S. (2011): "How Did the Crisis in International Funding Markets Affect Bank Lending? Balance Sheet Evidence from the UK." *SSRN Electronic Journal*

Alden, C. (2015): *"*Looking back on the crash." *The Guardian*. Retrieved on June 24 2019 via: https://www.theguardian.com/technology/2005/mar/10/newmedia.media

Amadeo, K. (2019): "Causes of the 2008 Global Financial Crisis. The Balance." Retrieved on June 23, 2019 via: https://www.thebalance.com/what-caused-2008-global-financial-crisis-3306176

Arestis, P., Sobreira, R. and Oreiro, J. (2011), "Introduction: The Financial Crisis, Origins and Implications." *Palgrave Macmillan,* UK, pp 1 – 11.

Aryeetey, E; Ackah, C. and Aryeetey, E. (209). "Global Financial Crisis Discussion Series Paper 5: Ghana." *Overseas Development Institute*, London, United Kingdom; Retrieved on 24 June 2019 via: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/4325.pdf

Balduzzi, P; Brancati, E; and Schiantarelli, F. (2014). "Financial Markets, Banks' Cost of Funding, and Firms' Decisions: Lessons from Two Crises." Retrieved on July 5, 2019 via:https://www.bancaditalia.it/pubblicazioni/altri-atti-seminari/2014/20140305_Schiantarelli_paper.pdf

Bank of Ghana. (2009a). “Financial Stability Report 5 (1/2009).” *Bank of Ghana*, Accra, Ghana.

Bentolila, S; Jansen, M; Jim´enez, G and Ruano, S. (2015). “When credit dries up: Job losses in the great recession.” *CEMFI Working Paper 1310*. Retrieved on July 5, 2019 via: https://www.cemfi.es/ftp/wp/1310.pdf

Berlin, M. and Mester, L. (1998). “On the profitability and cost of relationship lending.” *Journal of Banking and Finance*. Vol. 22 (6–8), pp. 873-897.

Bernhardt, D. and Eckblad, M. (2013): “Stock Market Crash of 1987.” *Federal Reserve History.* Accessed on June 23, 2019: https://www.federalreservehistory.org/essays/stock_market_crash_of_1987

Bingilar, P. and Andabai, P. (2015). “Deposit Mobilization and Lending Behavior of Banks in Nigeria (1996-2014).” *International Journal of Advanced Studies in Business Strategies and Managemen*t. Vol. 3 No. 1

Brancaccio, E. and Fontana, G. (2011), “The conventional views of the global crisis - a critical assessment: The Financial Crisis, Origins and implications.” *Palgrave Macmillan*, UK, pp 39 – 62.

Brei, M. and Schclarek, A. (2015): A theoretical model of bank lending: Does ownership matter in times of crisis? *Journal of Banking & Finance.* Volume 50, January 2015, pp 298-307.

Burietz, A. and Ureche-Rangau, L. (2017): “Home sweet home? Bank Lending and the impact of the global financial crisis." Retrieved on May 4, 2017 through: https://efmaefm.org/0EFMAMEETINGS/EFMA%20ANNUAL%20MEETINGS/2017-Athens/papers/EFMA2017_0304_fullpaper.pdf

Campello, M; Graham, J; Harvey, C. (2010). "The real effects of financial constraints: Evidence from a financial crisis." *Journal of Financial Economics.* Elsevier. Vol. 97(3), pages 470-487.

CBN CACS Guidelines. (2014). “Guidelines for Commercial Agriculture Credit Scheme.” *Central Bank of Nigeria*. Accessed on July 4, 2019 via: https://www.cbn.gov.ng/out/2014/dfd/cacs%20guidelines%20new-14th%20may%202014.pdf

CBN Manufacturing / Power Fund Policy Guidelines. (2010). “Guidelines for Manufacturing / Power Fund Policy Guidelines.” *Central Bank of Nigeria.* Accessed on July 4, 2019 via: https://www.cbn.gov.ng/Out/2010/publications/guidelines/dfd/GUIDELINES%20ON%20N200%20BILLION%20REFINANCING%20MANUFACTCTURING.pdf

CBN NIRSAL Guidelines. (2011). "Guidelines for Nigerian Incentive-Based Risk Sharing System for Agricultural Lending. Central Bank of Nigeria." Accessed on July 4, 2019 via: https://www.cbn.gov.ng/out/2012/publications/reports/dfd/brief%20on%20nigeria%20incentive-based%20risk%20sharing%20for%20agricultural%20lending.pdf

CBN SMECGS Guidelines. (2010). "Guidelines for Small and Medium Enterprises Credit Guarantee Scheme." *Central Bank of Nigeria.* Accessed on July 4, 2019 via: https://www.cbn.gov.ng/Out/2010/publications/guidelines/dfd/GUIDELINES%20ON%20N200%20BILLION%20SME%20CREDIT%20GUARANTEE.pdf

Chudik, A., & Fratzscher, M. (2011). Identifying the global transmission of the 2007–2009 financial crisis in a GVAR model. *European Economic Review*, *55*(3), 325-339.

Chodorow-Reich, Gabriel. 2014. "The Employment Effects of Credit Market Disruptions: Firm-level Evidence from the 2008-9 Financial Crisis." *The Quarterly Journal of Economics* 129(1): 1-59.

Claessens, S; Dell'Ariccia, G; Igan, D and Laeven, L (2010): "Cross-country evidences and policy implications from the global financial crisis." *Economic Policy.* Vol. 25, No. 62. Accessed on June 23 2019 via: http://www.jstor.org/stable/40603207

Cole, R. and White, L. (2012). "Déjà Vu all over again: The causes of U.S. commercial bank failures this time around." *Journal of Financial Services Research*. Vol. 42, 5-29.

Cornett, M., McNutt, J., Strahan, P. and Tehranian, H. (2011). "Liquidity risk management and credit supply in the financial crisis." *Journal of Financial Economics*. Vol. 101, 297-312.

Dvorkin, M. and Shell, H. (2016). "Bank Lending During Recessions. Economic Synopses." *Federal Reserve Bank of St. Louis*. Number 2. Accessed on July 28, 2019 via: https://files.stlouisfed.org/files/htdocs/publications/economic-synopses/2016-02-05/bank-lending-during-recessions.pdf

Eme, O. and Onyishi, T. (2014): "Global Economic Crisis and Joblessness in Nigeria's Banking Industry: Agenda for the Future." *Academic Journal of Interdisciplinary Studies.* Vol 3(4), Retrieved on July 1, 2019 via: https://www.mcser.org/journal/index.php/ajis/article/viewFile/3122/3078

Fadare, S. (2011): "Banking Sector Liquidity and Financial Crisis in Nigeria." *International Journal of Economics and Finance*. Vol. 3, No. 5.

Federal Deposit Insurance Corporation. (2019). "Bank Failure in Brief." *The U.S. Federal Deposit Insurance Corporation*. August 2019. Accessed on August 21, 2019 via: https://www.fdic.gov/bank/historical/bank/2007/index.html

Foster, B. and Magdoff, F. (2009), "The Great Financial Crisis: Causes and Consequences." *Monthly Review Press*, 2009.

Frederick, R. (2018): "Margin: How Does It Work?" Retrieved on June 30, 2019 via: https://www.schwab.com/resource-center/insights/content/margin-how-does-it-work

Gaither, C. and Chmielewski, D. (2006): "Fears of Dot-Com Crash, Version 2.0." *Los Angeles Times*. Retrieved on June 24 2019: https://www.latimes.com/archives/la-xpm-2006-jul-16-fi-overheat16-story.html

Greenstone, M; Mas, A; and Nguyen, H. (2014): "Do Credit Market Shocks Affect the Real Economy? Quasi-Experimental Evidence from the Great Recession and 'Normal' Economic Times." Working Paper 12-27; November 2014.

Ivashina, V. and Charfstein, D. (2010). "Bank Lending during the Financial Crisis of 2008." *Journal of Financial Economics*. Vol. 97, No. 3, Pp. 319–338.

Jenkins, P. (2013). "SMEs in peripheral Eurozone face far steeper borrowing rates." *Financial Times*. October 10, 2013.

Joh, S. and Jeong, S. (2017). "Lending Behavior of Prudent Banks around the 2007 Financial Crisis." Presented at the Korea Economics Association Conference. April 2017.

Kapan, T. & Minoiu, C. (2016), "Balance Sheet Strength and Bank Lending during the Global Financial Crisis." Working Paper No. 2247185.

Kassim, S. and Majid, M. (2010). "Impact of Financial Shocks on Islamic Banks: Malaysian Evidence during 1997 and 2007 Financial Crises. *International Journal of Islamic and Middle Eastern Finance and Management*. Vol. 3, No. 4, pp. 291–305.

Kleinbard, D. (2000). "The 1.7 Trillion Dot.com Lesson." *CNN Money*. Retrieved on July 13, 2019 via: https://money.cnn.com/2000/11/09/technology/overview/

Kwan, S. (2001). "Financial Modernization and Banking Theories." *Federal Reserve of San Francisco Economic Letter*. Retrieved on July 2, 2019 via: https://www.frbsf.org/economic-research/publications/economic-letter/2001/december/financial-modernization-and-banking-theories/

Leony, L. and Romeu, R. (2011). "A model of bank lending in the global financial crisis and the case of Korea." *Journal of Asian Economics*. Vol. 22 (4) (2011), pp. 322-334.

Lewis, P. and Stein, H. (1997): "Shifting Fortunes: The Political Economy of Financial Liberalization in Nigeria." *World Development*. Vol. 25, No. 1, pp 5 – 22.

Liu, C (2012): "Herding Behavior in Bank Lending: Evidence from U.S. Commercial Banks." Canada.

Lobb. A. (2007): "Looking Back at Black Monday: A Discussion with Richard Sylla." *The Wall Street Journal*. Accessed on June 23, 2019: https://www.wsj.com/articles/SB119212671947456234?mod=US-Stocks.

McCulley, P. (2009): "The Shadow Banking System and the Hyman Minsky's Economic Journey." *Global Central Bank Focus*. Pacific Investment Management Company LLC (PIMCO), May 2009

Merilainean, J. (2015). "Lending growth during the financial crisis and the sovereign debt crisis: The role of bank ownership type." *Journal of International Financial Markets, Institutions and Money.* Volume 41, March 2016, Pages 168-182.

Minsky, H. (1992). "The Financial Instability Hypothesis." *The Jerome Levy Economics Institute of Bard College.* Working paper No. 74. Retrieved on July 28, 2019 via: http://www.levyinstitute.org/pubs/wp74.pdf

Moussa, M. and Chedia, H. (2016). "Determinants of Bank Lending: Case of Tunisia." *International Journal of Finance and Accounting*. Vol. 5(1), 27-36.

Njiforti, P. (2015): "Impact of the 2007/2008 Global Financial Crisis on the Stock Market in Nigeria." *Journal of Applied Statistics*.Vol. 6 No. 1(a).

Orlowski, L. (2008). "Stages of the 2007 / 2008 Global Financial Crisis: Is there a wandering asset-price bubble?" *Economics, The Open Access, Open Assessment E-journal.* Discussion Paper Number 2008-43. Accessed on July 1, 2019 through: http://www.economics-ejournal.org/economics/discussionpapers/2008-43

Pettinger, T. (2017). "The Financial Instability Hypothesis. EconomicsHelp.Org." Retrieved on July 28, 2019 via: https://www.economicshelp.org/blog/6864/economics/financial-instability-hypothesis/

Proshare. (2013). "The Impact of the Global Financial Crisis on the Nigerian Economy." Retrieved on June 30, 2019 via: https://www.proshareng.com/news/Nigeria%20Economy/The-Impact-of-the-Global-Financial-Crisis-on-the-Nigerian-Economy/21641

Punch Newspaper. (2018). "Nigeria can't afford another bank distress." Retrieved on June 30, 2019 via: https://punchng.com/nigeria-cant-afford-another-bank-distress/

Puri, M; Rocholl, J; and Steffen, S. (2011). “Global Retail Lending in the aftermath of the US Financial Crisis: Distinguishing between Supply and Demand Effects.” *Journal of Financial Economics*. Vol. 100, No. 3, pp. 556–578.

Rauch, C. (2010), “Bank Fragility and the Financial Crisis: Evidence from the US Dual Banking System.” *International Finance Review.* Vol. 11, No. 201, Pp. 33–86.

Realfonzo, R. (1998). “Money and Banking. Theory and Debate.” Edward Elgar, Cheltenham (UK) and Northampton (USA), 1998.

Robert, C; Peria, M; and Soledad, M. (2012). “Bank ownership and lending patterns during the 2008-2009 financial crisis: Evidence from Latin America and Eastern Europe.” *World Bank Policy Research working paper*. No. WPS 6195, Washington, DC.

Robinson, K. (2013). “Savings and Loan Crisis.” *Federal Reserve History*. Accessed on June 23, 2019 through: https://www.federalreservehistory.org/essays/savings_and_loan_crisis

Roubini, N. (2008). “How the Financial Securitization Food Chain Works.” *Norton’s Economic Musings*. Accessed on June 21, 2019 via: https://economic-tracks.blogspot.com/2008/05/how-financial-securitization-food-chain.html

Schumpeter, J. (1934). “Theory of Economic Development.” Cambridge, Massachusetts. Harvard University Press.

Sanusi, L. (2012): “Banking reform and its impact on the Nigerian economy.” Lecture delivered by Mr Sanusi Lamido Sanusi, Governor of the Central Bank of Nigeria, at the University of Warwick’s Economic Summit, Warwick. United Kingdom.

Soludo, C. (2004): “Consolidating the Nigerian banking industry to meet the development challenges of the 21st century.” Address by Mr Charles Chukwuma Soludo, Governor of the Central Bank of Nigeria, at the Special Meeting of the Bankers’ Committee, Abuja.

Teriba, 0. (1970). "The development of banking habit in Nigeria." A paper presented at the Annual Seminar of the Nigerian Institute of Bankers, 12-17 October 1970.

Timothy, C. and Shibut, L. (2000): “The Cost of the Savings and Loan Crisis: Truth and Consequences.” *FDIC* Banking Review 13, No. 2.

United States Consumer Financial Protection Bureau (2017): “What is a subprime mortgage?” *United States Consumer Financial Protection Bureau*. Retrieved on July 14, 2019 via: https://www.consumerfinance.gov/ask-cfpb/what-is-a-subprime-mortgage-en-110/

United States Department of States (2012): "Nigeria" Bilateral Relations Fact Sheet." *United States Department of States*. Retrieved on August 1, 2019: https://2009-2017.state.gov/outofdate/bgn/nigeria/200317.htm

United States General Accounting Office (1996): "Financial Audit: Resolution Trust Corporation's 1995 and 1994 Financial Statements." *United States General Accounting Office.* Retrieved on June 23, 2019: https://www.gao.gov/archive/1996/ai96123.pdf

Vanguard Newspapers. (2011): "Afribank & Co: AMCON acquired Bridge Banks, injects N679 billion." *Vanguard Newspapers.* Retrieved on Retrieved on June 30, 2019: https://www.vanguardngr.com/2011/08/afribank-co-amcon-acquires-bridge-banks-injects-n679bn/

Wolff, R. (2011): "Lehman Brothers: financially and morally bankrupt." *The Guardian*. Retrieved on June 24, 2019 via:https://www.theguardian.com/commentisfree/cifamerica/2011/dec/12/lehman-brothers-bankrupt

Wook, S. and Jeong, S. (2017): "Lending Behavior of Prudent Banks around the 2007 Financial Crisis." *Korea Economics Association Conference.*

World Bank (2009): "The Impact of the Global Financial Crisis on Financial Markets in Sub-Saharan Africa." April 2009

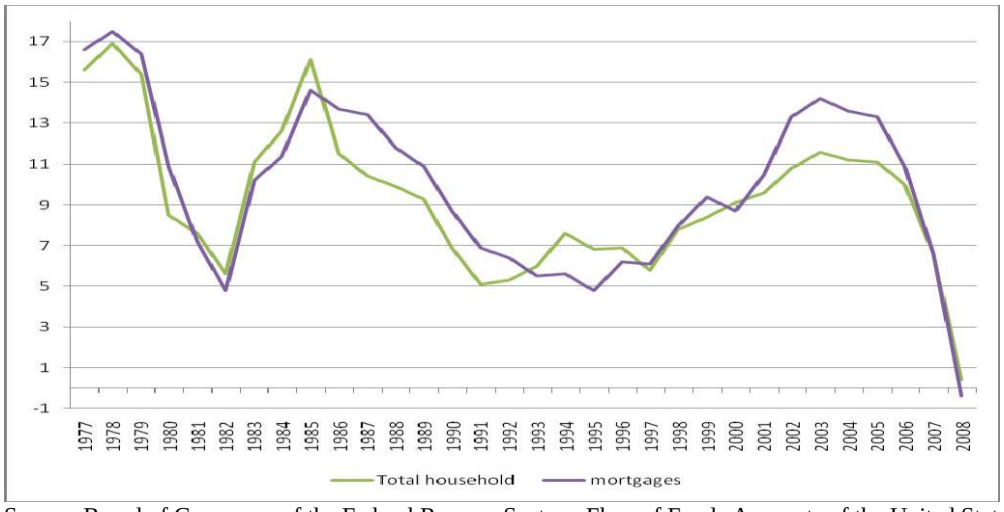
Yakubu, J., Omosola A. and Obiezue, T. (2018): "Determinants of Bank Lending Behavior in Nigeria: An Empirical Investigation." *Central Bank of Nigeria Economic and Financial Review*. Volume 56/4

Yigit, T. M. (1999). "Effects of Inflation Uncertainty on Credit Markets: A Disequilibrium Approach." Department of Economics, Bilkent University.

Zandi, M. (2008). "Financial Shock: A 360º Look at the Subprime Mortgage Implosion, and How to Avoid the Next Financial Crisis." *FT Press.* 1 edition

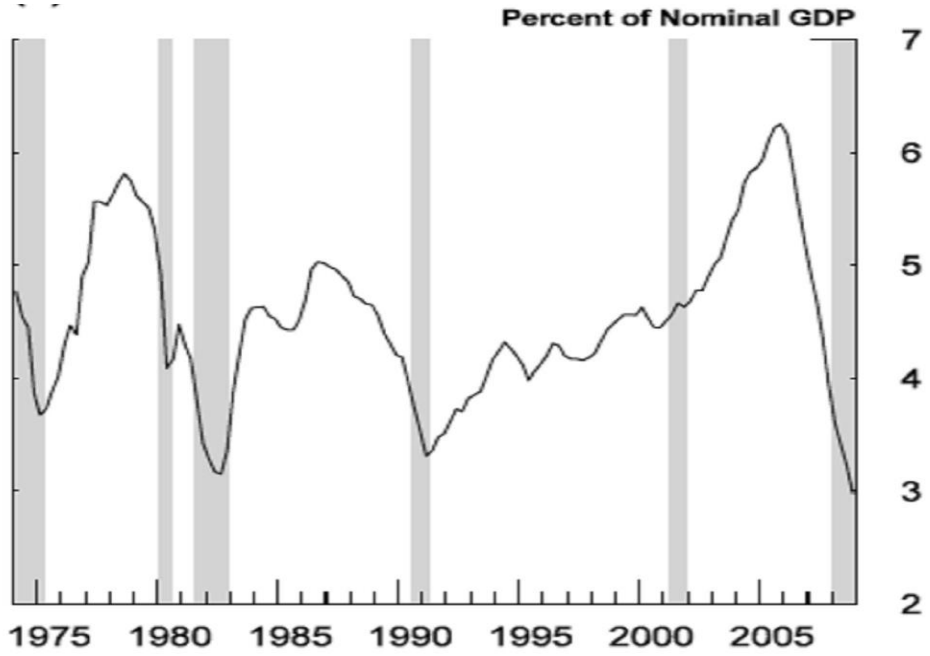
APPENDIX

i: ANNUAL GROWTH (%) OF HOUSEHOLD DEBTS AND MORTGAGES, US BETWEEN 1977 – 2008



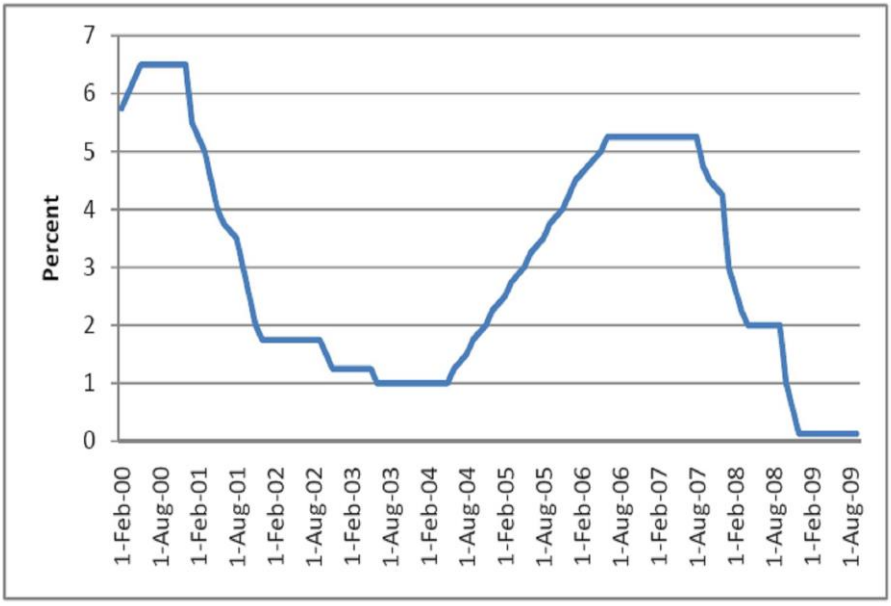
Source: Board of Governors of the Federal Reserve System, Flow of Funds Accounts of the United States, sited in Frantianni and Marchionne, 2009.

ii: RESIDENTIAL INVESTMENT AS A PROPORTION OF NOMINAL GROSS DOMESTIC PRODUCT (GDP)



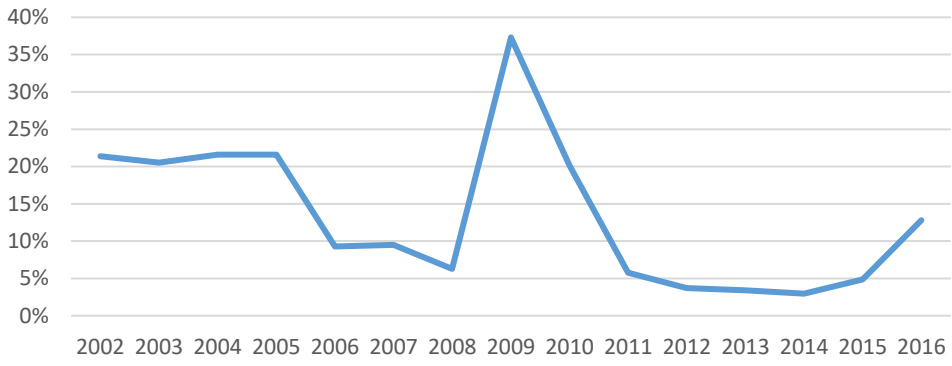
Source: Bureau of Economic Analysis, USA sited in Brancaccio and Fontana, 2011.

iii: THE TARGET NOMINAL FEDERAL FUNDS RATE – UNITED STATES



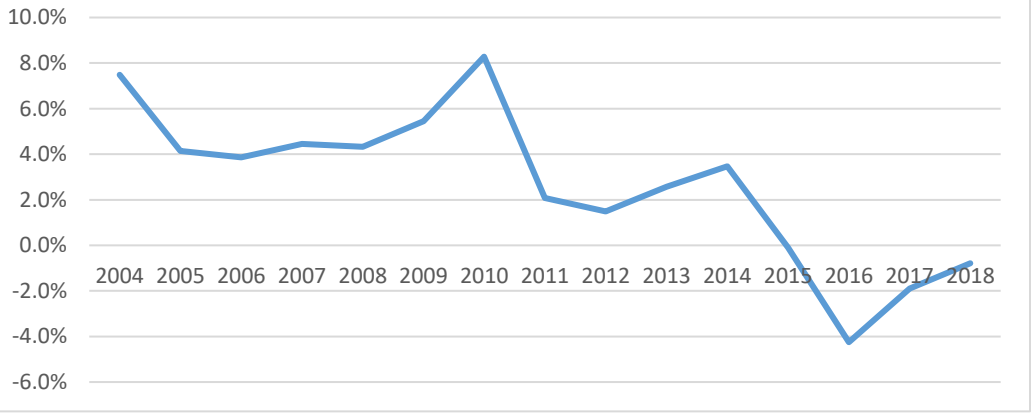
Source: Federal Reserve Board, USA sited in Brancaccio and Fontana, 2011)

iv. NIGERIAN BANKING INDUSTRY'S NON-PERFORMING LAON TO GROSS LOANS (2002-2016)

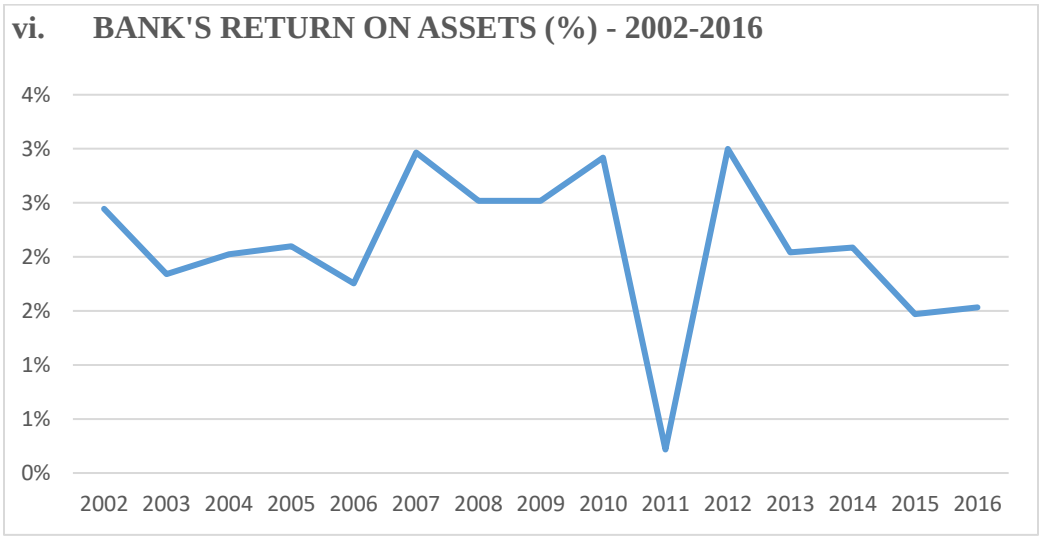


Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: The ratio of loans in default (principal and interest payments that are unpaid for 90 days or more) to total gross loans.

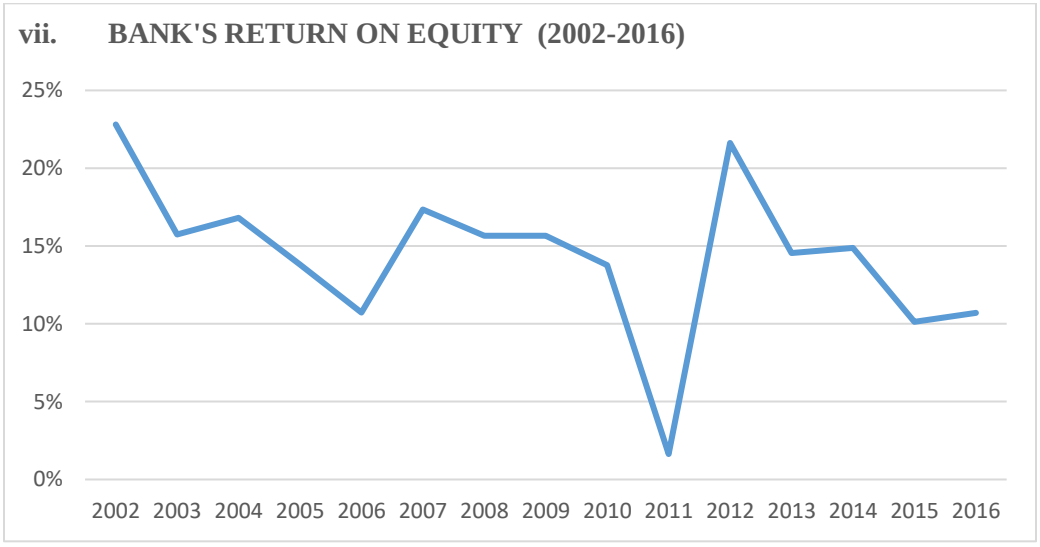
v. NIGERIA'S REAL GDP PER CAPITAL (2004-2018)



Source: International Monetary Fund, retrieved from FRED, Federal Reserve of St. Louis. (2019)

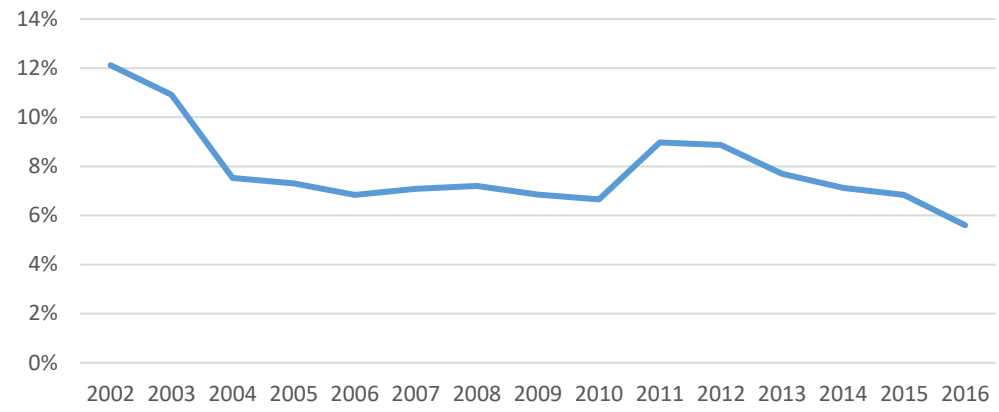


Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: Net income of commercial bank to average total assets.



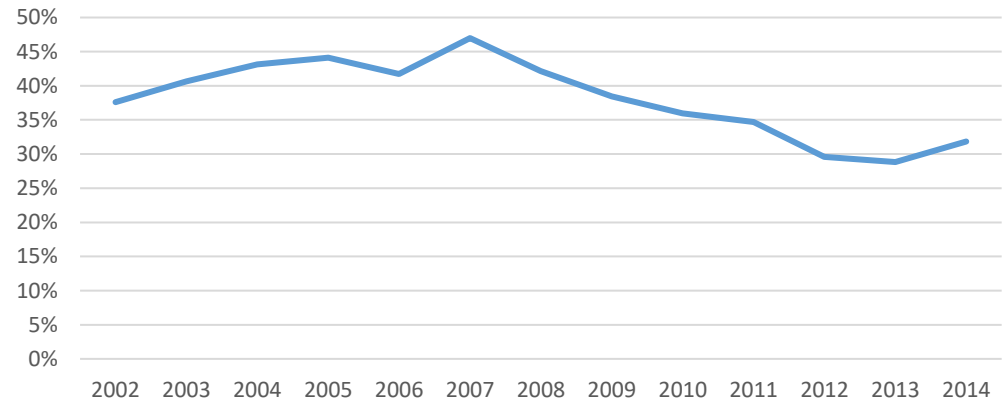
Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: Net income of commercial banks to average equity.

viii. BANK'S NET INTEREST MARGIN FOR NIGERIAN BANKS (%)
2002-2016



Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: Net interest income of commercial bank to average equity.

xi. BANK'S NON-INTEREST TO TOTAL INCOME - NIGERIAN BANKS 2002-2014



Source: World Bank, Retrieved from FRED, Federal Reserve of St. Louis. (2019)
Definition: Non-interest income of commercial bank as a percentage of total income (net-interest income plus non-interest income).