

COMPETITION AND EFFICIENCY OF COMMERCIAL BANKS IN N GERIA (1990 – 2008)

BY

RUFUS ADEBAYO AJISAFE B Sc. (Hons) Ado-Ekiti, MSc. (Ife), MPhil (Ife)

BEI NG A THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS, FACULTY OF SOCIAL SCIENCES, OBAFEMIA WOLO WOUNIVERSITY, ILE-IFE, NIGERIA.

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE A WARD OF THE DEGREE OF DOCTOR OF PHILOS OPHY (Ph. D) IN ECONOMICS

2012



AUTHORIZATI ON TO COPY

AUTHOR: AJI SAFE Rufus Adebayo

TI TLE: COMPETITION AND EFFICIENCY OF COMMERCIAL BANKS IN NI GERI A 1990 – 2008

DEGREE: Ph. D Economics

YEAR 2012

I, AJI SAFE Rufus Adebayo (SSP/05/06/H1447) hereby authorise the mangaement of Hezekiah Oluwasan mi Library to copy my thesis in whole or part, in response to the request from individual researchers and organizations for the purpose of private study or research

Si gnat ure:.....

Dat e:....



CERTIFI CATION

This is to certify that this thesis was carried out under my supervision by Mr. AJISAFE Rufus Adebayo of the Department of Economics, Obafemi Awolowo University, Ile-Ife, N geria.

Prof. A E Akinlo (Supervisor) Department of Economics Obafemi Awolowo University Ile-Ife, Ngeria

Prof. A A Adebayo (Head of Depart ment) Depart ment of Economics Obafe mi Awolowo University Ile-Ife.

•••

Dat e

.

Dat e



DEDI CATI ON

This thesis is dedicated to Al might y God for being with me throughout the period of the programme and to my kids: Tai wo Oluwaseyi, Kehinde Oluwaseun, Seyefun mi Ayomide, Ifeoluwa Oluwafunbi, Olanre waju Olement and my lovely wife Olufunke Oluke mi Ajisafe.



ACKNOWLEDGE MENTS

My special thanks goes to my supervisor, Professor A E Akinlo, for his intellectual guidance, counsel, encouragement and painstakingly taking his time going though the manuscripts of this work several times before arriving at this final copy. I a mindeed very grateful to you sir. I will forever be grateful.

I appreciate the advice and encouragement of my able Provost of the College of Post graduate studies, Professor SI. Oadeji, who will always say you can do it. Thank you sir.

My regards to my Professor, my father and my teacher right from my undergraduate, Professor J. A Fabayo who is always there when I needed him. God bless you sir.

Special thanks to the Head of Depart ment and other members of staff in the Depart ment for their useful contribution and encourage ment in the process of writing this thesis. I will like to mention, Professor A A Adebayo (Head of Depart ment), Professor P.A O onrola, Professor (Mfs.) Soetan, Professor (Mfs.) O usi, D. A G Abiola, D. T.O Akinbobola, D. MO Saibu, D. D O Yinusa, D. OT. Ajilore, D. MA O agunju, D. P.O O of in, D. T.P. Ogun, D. B A Folorunso, M. A V Adejumo, M. S.A Adedokun, D. O R O ayeni, M. A A Adegboye, M. O O Ayegbusi, Mfs. MA Orisadare, Mf. A Adedokun and Mf. A O Olayungbo I will also like to thank my brother in the Depart ment of Management and Accounting Professor T.O Asaolu for his words of encouragement at all times. I appreciate you

I will also like to acknowledge my able friend; Mr. M A Afinowi for his effort and contributions in obtaining the Eviews 7 package I used for the analysis of this thesis. God will continue to enrich your pocket. You really showed me that you are a true friend indeed. Let me equally appreciate my other friends who always called to ask for the progress of my work. I will



like to mention Akinkuotu Felix (Escape), Dr. Tunde Owolade, Olowofela Afolabi, Oke Joseph, Olatunde David, and Ogundeji Olaniyi.

My gratitude goes to all the non-acade mic staff of the Department for being there for me at all times. They are Mf. Adebisi, Mfs. Titi Qio, Mf. Amure, Mf. Bello, and the youth coppers. Finally I will like to appreciate the effort of my typist (Kemtot) who is always ready anytime I called on her. Thank you very much.

Ajisafe Rufus Adebayo



TABLE OF CONTENTS

| | Pages | |
|---|-------|--|
| Title Page | i | |
| Authorization to Copy | ii | |
| Certification | iii | |
| De di cati on | iv | |
| Acknowledge ments | v | |
| Table of Contents | vii | |
| List of Tables | xi | |
| List of Figures | xiii | |
| Abstract | xi v | |
| CHAPTER ONE: I NTRODUCTI ON | 1 | |
| 1.1 Background to the Study | 1 | |
| 1.2 Statement of the Problem | 5 | |
| 1.3 Objectives of the Study | 8 | |
| 1.4 Justification for the Study | 9 | |
| 1.5 Scope of the Study | 11 | |
| 1.6 Plan of the Study | 11 | |
| CHAPTER TWO LITERATURE REVIEW AND | | |
| THEORETI CAL FRAME WORK | 13 | |
| 2.1 Introduction | 13 | |
| 2.2 Concepts and theories of competition in banking | 13 | |



| 2.2.1 | Industrial Organisation Theory (IO) | 15 |
|------------------------|--|-----|
| 2. 2. 1. 1 SCP and ESH | | |
| 2. 2. 1. 2 Structure 1 | | 16 |
| 2. 2. 1. 3 | 3 Conduct | 17 |
| 2. 2. 1. 4 | Perfor mance | 17 |
| 2. 2. 1. 5 | 5 Frame work for Analysis | 18 |
| 2. 2. 1. 6 | 5 Non-Structural Approach or Contestability Theory | 21 |
| 2.3 | Theory of Economic Efficiency | 24 |
| 2.3.1 | Economic Efficiency | 24 |
| 2.3.2 | Al ocati ve Efficiency | 25 |
| 2.3.3 | Producti ve Efficiency | 27 |
| 2.4 | Literature Review | 30 |
| 2.4.1 | Empirical Evidence from Developed Countries | 30 |
| 2.4.2 | Empirical Evidence from Developing Countries | 57 |
| 2.4.3 | Empirical Evidence from Nigeria | 64 |
| 2.5 | Concl usi on | 67 |
| CIIAD | | (0) |
| | TER THREE RESEARCH METHODOLOGY | 69 |
| 3. 1 | Introduction | 69 |
| 3.2 | Sample Characteristics and sources of Data | 69 |
| 3.3 | Model Specification | 70 |
| 3. 3. 1 | Measurement of Competition | 70 |
| 3. 3. 2 | Measurement of Efficiency | 74 |
| 3. 3. 3 | Model Specification for competition and Efficiency | 78 |

OBAFEMI AWOLOWO UNIVERSITY

| 3.4 | Approaches to Study Objectives | 79 |
|---------|--|-----|
| 3. 5 | Estimation and Techniques of Analysis | 80 |
| 3. 5. 1 | Panel Unit Root | 80 |
| 3. 5. 2 | Techni ques of Anal ysis | 82 |
| 3.6 | Me as ure ment of Variables | 83 |
| CHAP | TER FOUR: OVER VIEW OF THE GROWTH AND STRUCTURE | Ś |
| | OF COMMERCI AL BANKS I N N GERI A | 85 |
| 4.1 | Introduction | 85 |
| 4.2 | Historical Development of Commercial Banking in Nigeria | 85 |
| 4.3 | Ownership Structure of the Ngerian Commercial Banks | 92 |
| 4.3.1 | The Federal Government Participation in Banking | 92 |
| 4.3.2 | State Ownership Participation in Banking | 93 |
| 4. 3. 3 | Private Ownership Participation in Banking | 95 |
| 4.4 | Growth and Structure of Commercial Bank Deposits in Ngeria | 98 |
| 4.4.1 | Borr o wings | 104 |
| 4.4.2 | Bank Capital and Profitability | 104 |
| 4. 5 | Bank Assets | 105 |
| 4.6 | Financial Performance of Commercial Banks in Ngeria | 107 |
| 4. 4. 1 | Asset Quality | 108 |
| 4.4.2 | Capital Adequacy | 112 |
| 4.4.3 | Earnings and Profitability | 116 |
| 4.7 | Concl usi on | 117 |



| CHAPTER FIVE EMPIRICAL ANALYSIS AND INTERPRETATION OF RESULTS 121 | | |
|---|--|-----|
| 5. 1 | Introduction | 121 |
| 5.2 | Descriptive Statistics of Data Series | 121 |
| 5.3 | Panel Unit Root Test | 124 |
| 5. 3. | Empirical Results of Competition in the Banking Industry | 127 |
| 5. 4. 1 | Generalized Least Squares Esti mation | 138 |
| 5. 4. 2 | Generalized Method of Moment Estimates (GMM) | 140 |
| 5. 4. 3 | Market Equilibrium Test for H-Statistic | 143 |
| 5.5 | Results of Bank Efficiency in Nigeria | 145 |
| 5.6 | Rel ationship bet ween competition and efficiency | 158 |
| 5.7 | Su mmar y of findings | 162 |
| CHAPTER SIX SUMMARY, CONCLUSI ON AND | | |
| | RECOMMENDATI ONS | 163 |
| 6.1 | Introduction | 163 |
| 6.2 | Summary of findings | 163 |
| 6.3 | Policy recommendation | 165 |
| 6.4 | Concl usi on | 165 |
| 6.5 | Contribution to knowledge | 166 |
| 6.6 | Li nitation of the Study | 167 |
| 6.7 | Areas of Further Research | 168 |
| REFERENCES 169 | | |



LIST OF TABLES

| | | Pages |
|--------------|---|-------------------|
| Tabl e 4. 1: | Number of Commercial Banks in Ngeria (1990 – 2008) | 88 |
| Tabl e 4.2: | Ownership Structure of Commercial Banks in Ngeria | |
| | (1992-2008) | 97 |
| Tabl e 4.3: | The Growth and Structure of Commercial Bank Deposits in | $\langle \rangle$ |
| | N geri a (1980-2008) | 99 |
| Tabl e 4.4: | Deposits as a Share of Total Liabilities | 102 |
| Table 4.5 | Capital Accounts as share of Total Liabilities | 105 |
| Table 4.6 | Analysis of Commercial Bank Assets (2007 – 2008) | 107 |
| Tabl e 4.7: | Ratio of non-performing loan to total credit of selected banks | 110 |
| Tabl e 4.8: | Ratio of non-performing loan to shareholders fund of | |
| | sel ect ed banks | 111 |
| Tabl e 4.9. | The minimum capital requirements of Commercial Banks | 113 |
| Tabl e 4.10. | Capital Adequacy Ratio of selected Banks | 114 |
| Tabl e 4.11: | Banks Sharehol ders' Fund (Abillion) | 115 |
| Table 4.12: | Earnings and Profitability of Banks | 116 |
| Table 4.13a | : interest income of selected banks | 119 |
| Table 4.13b | o interest expenses of selected banks | 120 |
| Tabl e 5. 1: | Descriptive Summary Statistics of the variables (1990-2008) | 123 |
| Tabl e 5.2a: | Panel unit root test with individual effects | 125 |
| Table 5.2b: | Panel unit root test with individual effects and individual linea | r |
| | trends | 126 |

OBAFEMI AWOLOWO UNIVERSITY xii

| Tabl e 5.3: | Pooled Least Square Estimate with fixed effects (1990 – 2008) | 131 |
|---------------|---|-----|
| Tabl e 5.4: | Pooled Least Square Estimate with fixed effects $(1990 - 2004)$ | 135 |
| Table 5.5: | Pooled Least Square Estimate with $H x ed$ Effect (2005 – 2008) | 136 |
| Table 5.6: | Pooled Generalised Least Square Estimate with cross section | |
| | wei ght | 139 |
| Tabl e 5.7: | Panel Generalised Method of Moments with fixed effects | 141 |
| Table 5.8: | Pooled Generalised Least Square Estimate with cross section | |
| | wei ght s | 144 |
| Table 5.9. | Parameter Estimate for Cost Function and Cost Share Equations | |
| | (1990 – 2008) | 148 |
| Table 5.10: | Parameter Estimate for Cost Function alone (1990 – 2008) | 149 |
| Table 5.11: | Parameter Estimate for the Cost function and cost share equations | |
| | (1990 – 2004) | 151 |
| Table 5.12: | Parameter Estimate for the Cost function and cost share equation | IS |
| | (2005 – 2008) | 152 |
| Table 5.13: | Descriptive statistic of x-inefficiency measure by periods | 154 |
| Table 5.14: | Pooled Least Square Estimate of the Result on Competition and | |
| | Efficiency (1990 – 2008) | 159 |
| Tabl e 5. 15: | Panel Generalised Method of Moment with Fixed Effect | |
| | (1990 – 2008) | 161 |



LIST OF FIGURES

Pages

| Fi gure 2.1: | Traditional Representation of Structure Conduct and | |
|---------------|---|-----|
| | Performance of a Hrm | 16 |
| Figure 2.2a: | Equilibriumin Perfect competitive market | 26 |
| Figure 2.2b. | Equilibriumin Monopoly | 26 |
| Figure 2.2c: | Productive efficiency of the firm | 29 |
| Figure 4.1a: | Component Bar Charts of Total Deposits | 103 |
| Figure 4.1b. | Trends of Demand Deposits, Time Deposits and Savings | |
| | Deposit | 103 |
| Fi gure 5. 1: | Individual graph of the residual with fixed effect | 129 |
| Figure 5.2: | Grouped graph of the residuals with fixed effect | 130 |
| Fi gure 5. 7: | Graph of the Residuals for Cost Function and Cost Share | |
| | Equation | 157 |

~



ABSTRACT

The study examined the relationship bet ween the degree of competition and the level of efficiency of commercial banks in N geria from 1990 to 2008. The study also determines the degree of competition as well as the level of efficiency of commercial banks in the country.

Our study made use of secondary data obtained from the annual reports and financial state ments of fifteen individual commercial banks in N geria, for the period 1990 – 2008. Both descriptive statistics and econometric techniques were employed in analysing our data. In the descriptive analysis, we made use of tables, charts, ratio and percentages, while in the econometric techniques; we measure competition by the Panzar –Rosse H statistic, and measure the level of efficiency with the translog cost function of the stochastic frontier approach. The relationship bet ween the degree of competition and the level of efficiency were analysed using the dynamic panel generalised method of moment with fixed effect.

The results showed that the N gerian commercial bank is characterised by monopolistic competition with the value of H statistic significantly different from zero for all the periods and sub-sample periods. The value ranges bet ween 0.0925 and 0.1168. For the level of efficiency in the banking sector, the results showed that commercial banks in N geria are efficient in the observed sample period with mean efficiency value less than 0.3%. The results of the relationship bet ween the degree of competition and the level of efficiency of commercial banks in N geria showed that competition is positive and significantly related to efficiency with a t-statistic of 2.4512 and coefficient of 0.1639 at 5% level of significance. This result was corroborated by the panel GMM which equally showed that competition influences efficiency in the N gerian banking sector with a t-statistic value of 2.1584.



The study concluded that the degree of competition in the N gerian banking sector is positively related to the level of efficiency, which corroborates the intuitive positive influence of competition on efficiency.

No of words: 320

Key words: competition, Efficiency, commercial banks, stochastic frontier, H-statistic.



CHAPTER ONE

INTRODUCTI ON

1.1 Background to the Study

The soundness of the financial institutions is an important element in the health of the nation. This is as a result of the key roles they play in the development of the real sector and in the efficient allocation of resources within the economy. The important functions performed by the commercial banks within the economy can be classified into two major categories namely, the deposit creating function, and the service-rendering function. The deposit creating function entails the lending and investing activities of the commercial banks. The service rendering functions include a mongst others, provision of facilities for domestic and foreign remittances; collection of cheques, drafts notes, and other obligations for their customers; operation of paying and receiving hand to hand currency (financial intermediation); and provision of facilities for the safekeeping of valuables. All these functions are regarded as the operations of commercial banks which are used as a measure of their efficiency when performed effectively and efficiently.

These functions have been supported by Schumpeter (1911), who argued that financial intermediation through the banking systemplayed a vital role in economic development through efficient allocation of savings, thereby improving productivity, technical change and the rate of economic growth. This was also corroborated by the endogenous growth model postulate that financial development has a positive impact on the growth of the economy. That is, well functioning financial systems are able to mobilize savings, allocate resources, efficiently, diversify risk, and enhance the flow of liquidity.

As a result of the importance of the financial systems and the fact that the ability of the banks to effectively impact on economic development depends largely on their soundness and



efficiency, government all over the world, N geria inclusive, continue to take various measures to safeguard the banking sector through reforms.

The N gerian banking system has experienced some fundamental changes since independence which occur as a result of changes in government policies. At independence, the banking markets were doninated by relativelys mall number of foreign banks. After about three and half decades, the number of banks expanded and the ownership structure diversified Initially, it was dominated by the public sector banks, and later (1992 to be specific). The private sector banks became the dominant participants. As at this period, the government intervened in the banking markets to control resource all ocation and promote the indigenization policy of the economy. The policies of financial repression pursued by the government directed at the Central Bank of N geria (CBN) during this period, was to control interest rates, volume and direction of credit in the economy.

By 1970, the federal government had acquired equity stake in all the foreign banks while a number of other banks were set up by the state governments. Also, in the late 1970s, the CBN instructed the commercial banks to establish branches in the rural areas as a result of the initiation of the rural banking scheme. The policy of financial repression and public ownership of the banks pursued by the government had significant consequences for the banking market. First, competition was stifled, it provides some degree of protection to inefficient banks, but the financial performance of the public sector banks was nevertheless poor. The policy of lending loans to the priority sectors in accordance with credit guidelines assisted in building up the non performing loans in the portfolios of the federal and state government banks.

Many of the state government banks were badly managed and served as a source of finance for their owners. However, the larger federal government banks were able to avoid



serious financial difficulties, despite their bad debts and high overheads. They retained experienced management, the cost of their deposit base was low and their size enabled the mt o be well diversified. But extensive bad debts rendered some of the smaller federal government banks and many of the state government banks insolvent.

In spite of the various regulations and close control of the banking system to enhance its stability, the financial system in N geria, can, in general, be said to be relatively inefficient with a large number of banks and a small market (*A*jayi and Q o 2006). This inefficiency is partially due to the high rates of inflation, mismanagement and fraud in the public and private sector banks which led to excessive waste of resources. The rating of licensed banks in 2003 shows that 11 banks were sound, 53 were found satisfactory, 14 were found marginal, and 9 were found unsound (Us man, 2005).

Fraud as one of the serious economic crimes being perpetrated in our banking industry today is the use of fraudulent means to obtain money, assets', or other property owned or held by financial institutions or to obtain money from the depositors. The incidences of massive fraud and forgeries pervade the N gerian banking system and it has contributed significantly to the failure of most banks. It is a plague that has continued to exist despite the increasing surveillance by the monitoring authorities that is responsible for the safety and soundness of the entire banking system In the N gerian Deposit Insurance Corporation (NDI C) report of 2009, there were 1764 reported cases of attempted frauds and forgeries involving N41.2 billion that year compared to N53.5 billion in 2007 out of which 10 banks accounted for N37. 18 billion, a figure that is higher than the 2008 figure of N34. 31 billion. Before this period, cases of fraud reported in commercial banks were about 180 in 1996, 132 in 2002, and 131 in 2003, and the amount involved was N427. 13 million, N872.3 million and N4870.90 million in 1996, 2002 and 2003



respectively (NDI C Annual Reports Statement of Accounts of several Years). The case of fraud reported above, resulted to huge financial losses to banks and their customers, the depletion of the sharehol ders' funds and banks' capital base as well as loss of confidence in the sector. It has also resulted to the fall of most banks and organizations which eventually led to their closure. So me of the fraud perpetrated was as a result of presentation of forged cheques; posting of fictitious credits, fraudulent transfers and withdrawals, loss of money to ar med robbers and lodg ment of stolen warrants. Others include; granting of unaut horized credits and perpetration of AT Mfrauds accounted for the largest proportion.

Following from the above, it could be observed that a number of features characterized the N gerian banking system This include capital deficiency and insolvency, high incidence of non-performing loans/poor asset quality, weak management and declining margins, poor corporate governance/non-compliance with regulations, gross insider abuse, over dependence on public sector deposits, government revenue collections, and over reliance on the foreign exchange market for income through "round tripping" of officially sourced foreign exchange. Based on all these, there is the need for further reforms in the banking sector.