FINANCIAL AND OPERATIONAL PERFORMANCE OF BANKS IN GHANA: 2004-2012

by

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ABSTRACT

The study examines the empirical and financial performance of the leading major banks in Ghana over the period of 2004-2012 based on their financial statements. On the basis of profitability and cost based parameters, the leading six (6) major banks were investigated. The banks were used for the study because they control about 42.5% of the share of industry total assets and 42.2% of the industry's deposits.

An empirical study was conducted on the performance of the six (6) major banks based on their profitability margins and operating cost parameters. In analyzing the banks' performance, comparisons were made with major banks from developed countries as well as banks from emerging market economies to verify the Ghanaian banking sector performance with banks from developed and emerging market economies.

The study concluded that Ghanaian banks recorded a higher profitability margins than banks from developed economies due to relatively less competition of the banking sector; 42.2% of the share of industry total assets is being controlled by few major banks.

Inter-bank performance indicated that foreign owned banks were profitable and efficient than domestic banks and this was due to profitable line of business and economies of scale. Finally, the study further establishes that the banks needed to expand their operations to embrace the large number of the people who are not saving with formal banks which will enhance performance growth and development of the banking sector.

Key words: Ghana; banking competition; bank efficiency; bank ownership.

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Abbreviations

ADB	Agricultural Development Bank
BBWA	Bank of British West Africa
BSIC	Banque Sahelo-Saharienne pour l'investissent et la commerce
DEA	Data Envelopment Analysis
DMU	Decision making unit
GDP	Gross Domestic Product
ERP	Economic Recovery Program
FINSAP	Financial Sector Adjustment program
HFC	Home Finance Company
IMF	International monetary fund
NIB	National Investment bank
PA	Product approach
PNDCL	Provisional National Defense Council Law
SG-SSB	Societe General-Social Security Bank
SSNIT	Social Security and national Insurance Trust
UT	Unique Trust

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CHAPTER I

INTRODUCTION

Ghana has made rapid strides in recent years in reducing poverty¹ and has attained lower middle-income status. However, the economy still relies on agriculture and natural resources (especially oil²), but construction and services sectors account for more than half of the country's output (IMF, 2013³). Most of the financial activities in Ghana revolved around banks.

An efficient banking system lowers transaction costs which has an important bearing on the efficiency of financial intermediation (from savers to users of savings). Ghana is one of the few countries which have implemented financial sector and monetary policy reforms on a continuous basis. Among the financial sector reforms was the introduction of new banks (especially foreign banks) to improve competition of commercial banking in Ghana as well as enhancing efficiency was a crucial component. Among the monetary policy reforms, introduction of inflation targeting⁴ was the most prominent component of reforms.

The coverage of the banking system in Ghana in terms of population coverage is very low. The banking penetration ratio, at one bank branch per 54,000 inhabitants, is not high and the formal banking system reaches only 5 percent of the population. The

¹ Ghana made rapid strides in poverty reduction- to less than 30 per cent of the population(IMF survey 2013)

² Off-shore oil production started in late 2010.(IMF Survey 2013)

³ http://www.imf.org/external/pubs/ft/survey/so/2013/car061213a.htm (Accessed on March 1, 2014).

⁴ The inflation targeting regime has been successful in reducing the headline inflation from 20 per cent levels in 2004 to 11 per cent in 2010(IMF Survey 2013)

geographical spread of banks is also uneven; 35 percent of bank branches are in the Greater Accra Region even though this region represents less than 13 percent of the country's population. About half of all bank branches in the interior belong to the dominant state owned banks which predominantly cover the less affluent rural areas. (Buchs and Mathisen, 2005). Rural and Community Banks have become a main channel for financial inclusion; a sizeable part of the population relies on the services of about 600 microfinance companies, as well as 3,000-5,000 individual susu (informal financial institutions that collects daily, weekly, bi-weekly or monthly contributions as savings on behalf of contributors for collection after a particular period) collectors that serve over half million customers. The Ghanaian banking system witnessed high level of concentration - few banks dominated the market. But in early 1980s, financial sector reforms were implemented under World-Bank-International Monetary Fund's Financial Sector Adjustment Programme (FINSAP). This reform package included measures to reduce bank concentration by increasing the number of banks especially the number of foreign-owned banks.

Presently, commercial banks account for 75 per cent of the total assets of the financial system, pension funds follow (12 per cent) and insurance sector (4 per cent). Of the 21 commercial banks operating in Ghana as at the end of 2012, 21 of them were private sector and 5 of them state-owned. The three largest commercial banks still account for 55 percent of total assets of the banking sector (Issaq and Bopin, 2012). About 25 percent of total assets and 20 percent of deposits are held by a single state owned Ghana commercial bank. By 2012, all developmental banks were given

permission to undertake commercial banking activities - in other words, universal banking system prevails in Ghana. Of the 26 commercial banks that operate in Ghana, 13 are subsidiaries of foreign banks and their share is estimated at 51 per cent of the bank assets.

The banking sector has recorded significant growth between 2010—12 (by 60 per cent), with exceptionally high returns on asset and equity in 2012. The cost of credit is very high with lending rates to corporates exceeding 28-30 per cent in 2008-10 and the cost-to-income ratio was high as 61 per cent which raises questions about its efficiency and sustainability. Prior studies on bank efficiency has found that entry of foreign banks has improved operational efficiency of banks in Ghana (Issaq and Bokpin, 2012; Adoteye *et. al.*, 2012). However, the puzzling question is why the cost of financial intermediation (proxied by real interest rate to corporate sector lending) remains high, in spite acclaimed bank (operational) efficiency gains. The present study examines this issue by examining trends in performance and efficiency of major (6) banks in Ghana during 2004-2012 and brings an international focus to the debate. These 6 major banks used for the study account for about 43 per cent of the total market share of industry's assets and industry deposits (Ghana banking Survey 2013, pg 39). The main aim of the present study is to examine

(a) Structure, conduct and performance of Ghanaian banks during 2008-2012;

(b) Relative performance of the Ghanaian banks vis-à-vis private foreign banks;

(c) Operational performance of Ghanaian banks vis-à-vis international trends (our main contribution)

(d) Suggest appropriate policy measures to improve the operational efficiency of banks in Ghana.

The research study is organised into five chapters. Chapter II reviews the existing literature and sets the hypothesis for empirical investigation. Chapter III describes the data base and methodology. Chapter IV presents the empirical results with regard to ratio analysis. Chapter V summarises the conclusions.

CHAPTER II

REVIEW OF LITERATURE AND HYPOTHESIS

DEVELOPMENT

The chapter briefly reviews the literature on bank efficiency: Section 1 provides an overview of the Ghanaian banking system. Section 2 deals with various approaches to measuring the efficiency of banks. Section 3 examines the empirical results of efficient banks from developed economies. Section 4 examines the empirical studies of banks in emerging market economies. Section 5 examines empirical studies in other parts of Africa and finally Section 6 looks at empirical studies in Ghana and sets up the hypothesis for empirical investigation.

2.1 Overview of the Ghanaian Banking system

Ghana has experienced strong per capita GDP growth over the last 20 years, consistently outperforming its peers in Africa and elsewhere. Growth has accelerated over the last 5 years with strong performance in 2011, in particular due to investment in oil extraction. Ghana's financial sector is made up of a diversity of banks, insufrance companies, discount houses, finance houses, leasing companies, savings and loans associations and credit unions (Buchs *et al*, 2005). Of all these financial institutions, the banking sector is the largest component consisting of 28 banks of which 8 are publicly listed on the Ghana stock exchange and 20 are private banks at the end of December 2012 (www.bog.gov.gh, see Table 2.1). There are a total of about 137 rural and community banks registered by the Central bank of Ghana as at December 2012 (www.bog.gov.gh).

The banking penetration ratio, at one bank branch per 54,000 inhabitants, is not high and the formal banking system reaches only 5 percent of the population. The geographical spread of banks is also uneven; 35 percent of bank branches are in the Greater Accra Region even though this region represents less than 13 percent of the country's population. About half of all bank branches in the interior belong to the dominant state owned banks which predominantly cover the less affluent rural areas. (Buchs and Mathisen, 2005). Rural and Community Banks have become a main channel for financial inclusion; a sizeable part of the population relies on the services of about 600 microfinance companies, as well as 3,000-5,000 individual susu (informal financial institutions that collects daily, weekly, bi-weekly or monthly contributions as savings on behalf of contributors for collection after a particular period) collectors that serve over half a million customers.

Name of	Year of	Majority	Number of	Total
Bank	incorporation	ownership	Branches	Assets(US\$)
Access	2008	Foreign	31	5.7 billion+('09)
Bank				
ADB	1965	Local	91	683.6 million
ARP Apex	2000	Local	11	83.25million
Bank of	1997	Foreign	20	300+ million('11
Africa				
Bank of	2007	Foreign	1	73 billion (*12)
Baroda				
Barclays	1917	Foreign	92	£1.490 trillion
BSIC Ghana	2008	Foreign	11	N/A
Cal bank	1990	Local	18	266 million
Citibank	1812	Foreign	1	684 million
Ecobank	1990	Foreign	78	20billion+
Energy	2010	Foreign	3	100 million
Bank				
Fidelity	2006	Local	31	6.318+ billion
First	1994	Local	7	387.5million
Atlantic				
First Capital	2009	Local	15	140million
Plus				
Ghana	1953	Local	157	1.27 billion
Commercial				
Guaranty	2004	Foreign	22	1.4billion
trust				
HFC Bank	1990	Local	24	234.3 million
International	1996	Foreign	17	US\$1.32 billion
Commercial				
Merchant	1971	Local	22	390million
NIB	1963	Local	27	468.5 + million
Prudential	1993	Local	32	220 million
bank				
SG-SSB	1975	Foreign	75	554+ million
Stanbic	1999	Foreign	23	360+million('07)
Standchart	1896	Foreign	35	19.071 billion
UniBank	1997	Local	19	144.3+ million
United Bank	2004	Foreign	32	12.3 billion
for Africa				
UT Bank	1995	local	24	378.4 million
Zenith	2005	Foreign	26	15.22 billion

 Table 2.1 Structure of the Ghanaian Banking Sector in 2012

Source: Ghana Banking Survey (2012), p 56

The first bank established by the British Colonial Administration in 1896 was called Bank of British West Africa (BBWA). On the onset of it operations, BBWA provided lending and borrowing services to customers (Amidu, 2007).

Through the successes that BBWA chalked, another foreign bank known as Colonial Bank commenced operations in 1918, and, in 1925, had merged with another foreign bank under the leadership of Barclay's group which became a major competitor to BBWA. In furtherance to that, the Bank of Gold Coast which later became the Bank of Ghana (that operated as the issue bank and later as a Central bank) was formed in 1950 together with the Commercial Bank. The Central bank developed faster after independence in 1957 and operated quite competitively rivaling foreign banks operating during the period (Amidu, 2007).

In 1983 when Ghana experienced severe hunger and famine, the Central Government sought the aid of the World Bank and International Monetary Fund (IMF) to implement the Economic Recovery Program (ERP) with its ideals tackling the idea of market economy (Amidu 2007).

The Financial Sector Adjustment Program (FINSAP) was introduced as part of the ERP which was to enhance the financial services through legislation and regulatory frameworks by the Government in 1988. As furtherance to this, a new Banking law PNDCL 225 was passed in 1989 to streamline and strengthen the supervisory capacity of the Bank of Ghana (Frimpong, 2010b).

According to the Ghana banking law, 1989, it also sought to appeal to suitable indigenous incorporated institutions to apply for licenses to commence banking activities in Ghana. In Amidu's (2007) opinion, due to poor development and progress in the

Ghanaian Banking system in spite of all the potential strenuous legislative and regulatory instruments, the then Bank for Housing and Construction, Co-operative Bank as well as Bank for Credit and Commerce were all liquidated in the year 2000 due to poor financial performance.

A new Banking Act of 2004 was introduced in Ghana to repeal the Banking Law of 1989. The Banking Act (673) as well as provisions under the Companies Code of 1963 (Act 179) were to strengthen the Banking services industry in Ghana. Apparently, the laws were meant to reduce Bank failures, increase efficiency and profitability as well as increase in customer satisfaction and confidence in the Ghanaian Banking system (Akoena *et al.*, 2009).

2.2 The Concept of Efficiency: Parametric approach vs Nonparametric approach

Bank efficiency is usually measured by the increase in the size of the bank in terms of its portfolio diversification. It may also be seen as the bank's ratio of weighted outputs to its inputs. Efficient banks are also characterized by reductions in administrative expenses relative to their total assets. An efficient bank has a higher intermediation efficiency which results in higher performance. The theory of efficiency has been argued through studies done by Debreu (1951).

In the study by Farrell (1957), he was of the opinion that efficiency of a bank is made up of two components, namely: allocative efficiency and technical efficiency. He continued that allocative efficiency is measured through the decision making unit (DMU) of a bank in its optimal utilization of its inputs with level of prices known. For technical efficiency, Farrell (1957) argued that it is the DMU's ability to maximize its outputs from a given level of inputs. The manner in which a bank conducts its business also needs to be addressed because the question here is what constitutes or qualifies to be an input and output? It must be emphasized that it is sometimes difficult to know what constitute a bank's inputs and outputs, but this can be seen from a banks production or intermediation operations.

In the production approach, it focuses on the use of labor, capital, interest, noninterest expense as inputs to generate loans, investments, bank saving, non-interest income as outputs. The intermediation approach on the other hand views bank's transactionary operations with its savers and investors. In this approach banks use inputs such as: borrowings, owner's equity, non-interest income to generate outputs such as non-interest income, loans, investments and deposits with Central bank.

In the study, Farrell (1957) concluded that cost efficiency is attained when there is an efficient combination of allocative and technical efficiency which is an indication that cost is minimized when a DMU is technically and allocatively efficient.

Estimating Technical Efficiency

In estimating technical efficiency, there are two approaches used by researchers. These approaches are the parametric and the nonparametric. The parametric approach take into consideration the functional forms of variables and then estimate coefficients. Two types of parametric approaches are Stochastic (econometric) frontier approach and the distribution free approach. In their research studies on measuring the efficiency of Turkish Commercial Bank, Jackson *et al.* (2000) argued that the stochastic frontier approach which is also known as econometric frontier approach, takes into account the functional form of cost, profit, or production relationships that existed among the inputs

used, outputs generated as well as the environmental factors. In their study, Jackson *et al.* (2000) continued by alluding to the fact that the stochastic approach assumes inefficiencies in business follow a distribution pattern that is asymmetrical in nature. They were however of the view that both inefficiencies and errors were taken as being intersecting to the cost's functions independent variables.

The second parametric approach that Jackson *et al.* (2000) discussed was the distribution free approach, where in their study they were of the opinion that over a particular period of time, there is stability in efficiency differences but in the case of random errors, they gradually average out within a time period. However, in the non-parametric approach, we have the DEA (Data Envelopment analysis) which was used by Debreu (1951) in his studies on resource utilization. Debreu (1951) argued that the approach takes into consideration the bank's use of various input factors to produce various outputs and takes into account the total goods produced by the best performing banks and use it as a benchmark to estimate an efficient frontier primarily through the use of nonparametric mathematic linear programming technique. Debreu (1951) was of the view that the DEA was an analysis based on the relative measuring of input/output efficiency through DMU by measuring its relative efficiency to an envelopment platform that takes into account the best DMU.

According to Frimpong (2010a), DEA does not take into account the input/output prices to measure the best possible production frontier. He argued that the best frontier is identified by using linear-composite of efficient practices where there are specifications of both inputs and outputs. In this research, the DEA will generate a within sample efficiency score that is between a maximum inefficiency (0) and a maximum efficiency (1),whereby a DEA score of 0.7 shows that the bank was 30% technically inefficient . In their research on the technical scale efficiencies of Italian banks, Favero and Papi (1995) used DEA approach and they argued that the underlying principle of the approach is the ability of the producer to produce an output with a given number of inputs and this should be replicated by another producer. In that case, the total production of goods and services of various producers should be the same and also be on the same production schedule.

According to Frimpong (2010a), when all the efficiency values of DMUs in any sample is generated, a line that fits the best practice in a DEA model can be constructed and used as a benchmark in evaluating each individual unit. Frimpong (2010a) opined that in a DEA model a bank or for that matter, a producer is inefficient if the generated line is better than that of the producer by either making more units of products with the same input variable or making the same output units as the producers with a less input variable. In using the nonparametric approach, Hauner and Pieris (2005) argued that it is usually assumed that returns to scale operation is constant.

2.3 Empirical studies (Developed economies)

The banking sectors of most developed economies (North America and Europe) are relatively efficient with varieties of banking activities. There is substantial competition in developed economies coupled with high degree of bank regulation that benefit banks to operate efficiently to strengthen the financial sectors of their economies (Isik *et al.*, 2003).

The banking sector of most developed economies is the driver of growth and development of these economies (Claessens *et al.* 2005). Due to flexible deregulatory

banking systems in developed economies, foreign banks are able to establish branches in other countries which enhance foreign direct investments (FDIs) and also create demand for services needed by international community.

However, the developed banking economies have not being able to take advantage of opportunities across borders as quickly and effectively as they should. In most developed economies like North America and Europe, foreign ownership of banks has been only 10% of total assets. (Akhavein *et al. 1997*).

In most developed economies, there have been various studies to evaluate the technical efficiencies of banks using the DEA approach. Most of the statistics generated from evaluating bank efficiency are generally compared with other bank performance in other developed economies (Akhavein *et al.* 1997).

In a study of banks efficiency in Scandinavian countries (Sweden, Norway and Finland), Berg *et al.* (1993) using the common frontier approach concluded that Swedish banks were operating at 0 .78 technical efficiency, with Norway at 0.57 and Finland 0.53 in that order. In the case of Berger and Humphrey (1998), their study on bank efficiency in US and 14 other nations, resulted in an estimated mean of 0.79 technical efficiency mean score of 0.84, which showed a technical inefficiency of 0.16.

A Study to evaluate the efficiency of commercial banks in 10 EU nations (Belgium,Spain,theNetherlands,UnitedKingdom,France,Germany,Italy,Denmark,Portugal and Luxembourg) concluded that banks from Spain, Portugal and Denmark were relatively efficient so they will operate efficiently in other sample EU nations.(Lozana-Vivas *et. al.*, 2001)

Haslem (1968) concludes that differences in management's objectives influence the bank's efficiency. Haslem and Longbrake (1971) used operating ratios in evaluating differences in the efficiency of various banks. Isik *et al.* (2003) evaluated the performance of banks in Turkey following the country's liberalization and argued that improved bank efficiency is primarily driven by efficient resource management practices rather than improved operational capacity.

In their research, Claessens *et al.* (2001) found out that foreign banks tend to operate at higher interest margins, lower overhead expenses and higher profitability than domestic banks in most developed economies, whiles the opposite is true in developing countries. Bank performance, measured through the efficiency and profitability, is normally related to the total performance of the financial sector of the economy and effective reforms that regulate it (George *et al* 2007). Efficiency is normally seen from the rate of output from bank staff and employees. Various researchers have used various approaches to measuring a bank's efficiency. For instance, Sherman and Gold (1985) as well as Ferrier and Lovell (1990) used the production approach (PA) where in their estimations, banks were the producers of deposits and loans. In their analysis, total bank efficiency, measured through production take into account deposits and loans that are efficiently processed.

According to Biekpe (2011), the intermediation approach where banks should be the mobilizers of surplus funds which they repackage into loans is the best measure of efficiency. Healthy competition among banks in the financial sector also enhances efficiency and also reduces the costs associated with operations. Besides these methods propounded by various researchers in measuring bank efficiency, other measures are: bank margins, transactionary costs as well as profits extracted from the company's financial data.

2.4 Empirical studies (emerging market economies)

After deregulation and economic reforms in most emerging economies during the recent decades, bank efficiency has become an important performance measurement to assess the impact of the reforms. Most emerging economies in Asia have undergone structural reforms in their financial sectors which has greatly enhanced their banking sector efficiency (Kumbhakar *et al.*, 2003).

After the IMF undertook some restructuring on weak banks in emerging economies like Indonesia, Phillipines and Thailand in the mid-2000s, Arif and Can (2009) undertook a study on the efficiency of banks in emerging economies using DEA approach. In the study, Arif and Can (2009) concluded that in emerging economies, efficiency of the restructured banks has not improved better than the pre-IMF intervention period. Morgono *et al.*, (2010) undertook a study on the efficiency of banks in the pre-and post-Asian economic crisis in 1997. They were of the view that cost efficiency of banks in Indonesia improved in the post crisis era, but, at a decreasing rate than the pre-crisis era.

There had been studies conducted on the effects of reforms and deregulation on the banking sector in Pakistan. In evaluating the efficiency of banks in Pakistan, Qayyam *et al.*, (2007) wanted to assess the impact that reforms have had on the banking sector in Pakistan using the Data Envelopment Analysis (DEA) approach. In their analysis, Qayyam *et al.*, (2007) were of the opinion that banks that have been privatised during the reforms were more efficient than public banks.

In a recent study by Akhor (2010), he concluded that the average level of bank efficiency in Pakistan was low and that the foreign banks operating in the country have a higher level of efficiency than domestic banks. In most emerging markets, there are many studies that have concluded that financial sector reforms enhance banking sector performance, and also privatized banks perform best than both public and foreign banks (Ahmed 2006).

Efficiency researches on public banks in the Asian banking system are limited; however, in their research on the Indian banking sector between 1986 and 1991, Bhattacharya, Lovell, and Sahay (1997) concluded that public sector banks in India were more efficient and profitable, operating efficiently in a deregulated environment; nonetheless, it should be emphasized these studies related to the pre-deregulated era. In a research undertaken by Ataullah and Le (2002) regarding the efficiency of the three groups of bank ownership in India and Pakistan, the researchers used financial ratio analysis and non-parametric operational efficiency methods.

However, Rezvanian *et al.*, (2003), concluded that public Indian banks are less efficient and profitable than both foreign and private banks. In the opinion of Kumbhakar and Sarkar (2003) as well and Saha and Ravisankar (2000), Indian public banks with high cost efficiencies are also highly profitable. According to Sathye (2003), public banks in India are more efficient than both foreign banks and private banks. From the analysis undertaken by Sarkar, Sarkar, and Bhaumik (1998), there were huge differences in the performance of public sector banks and private sector banks in India. In the case of Shanmugam and Das (2004), state-owned Indian banks and foreign-owned banks in India perform better than the privately-owned Indian banks. Other research study came to the final conclusion that greater efficiency enhances bank performance (Rezvanian et al., 2003). Yu and Luu (2003) were of the opinion that the efficiency of Taiwanese banks was due to mergers rather than expansion through the opening of new bank branches.

2.5 Empirical Studies on Bank Efficiency in Africa

During the latter parts of 1980s and the beginning of 1990s, many African countries enacted financial sector reforms to enhance Banking efficiency (Brownbridge and Harvey 1998). Various researchers have concluded that there is a positive relationship between efficient banking competition and the efficiency and profitability outcomes. According to Berger and Humphrey (1998), efficient competition through market power leads to lower cost efficiency. This result was collaborated by Casu and Girardone (2006), who found out through their extensive research that there was a positive relationship between market power and efficiency. According to Turk-Ariss (2009), an improvement in market power promotes efficiency is regarded as a vital push towards macroeconomic stability. Hartmann (2004) however was of the view that banking efficiency is a tool for economic growth and an essential factor to the effectiveness of monetary policy.

It should be emphasized that there is a paucity of research on the study of the efficiency of African banking economies. Oberholzer and Westhaizen (2004), in their research about the efficiency of ten (10) regional branches of a South African bank, used

the Data Envelopment Analysis (DEA) to investigate the bank's performances. South African banks are very competitive; hence their operations enhance the banking industry and the economy in general. Most of these banks are engaged in individual and corporate bodies (Claessens and Laeven, 2005). They also help the central government to undertake efficient monetary policies by serving as conduits to enhance the growth and development of the economy (Van Leuvensteijn *et al.*, 2008).

However, in the view of Hauner and Peiris (2005), the efficiency of Ugandan banks was due to improved banking sector reforms undertaken by the Central Bank of Uganda. The process of evaluating a bank's efficiency is of paramount interest to shareholders, policy makers, and fellow competitors in the banking industry, tax agencies, employees and potential investors. Bank's efficiency and profitability helps managers to know how well their organizations have done over a period of time and also to be able to forecast into the future.

Financial regulators are also very interested in appraising the overall performance of banks in the banking industry in order to ensure the safety and continuous growth as well as enhance the preservation of bank confidence in the banking system. Since banks are either privately or publicly owned, their main core business of providing financial services in the future anticipation of accruing returns on these services would enhance shareholders wealth.

2.6: Empirical Studies of bank efficiency in Ghana and hypothesis development

One of the prime areas of research in banking is the relationship between banks' performance and structure of the market. In markets with high concentration or

dominance of few banks (oligopoly), banks are likely to achieve higher profits. This leads to our first hypothesis:

H1: Financial Performance is positively related to market concentration.

Researchers that have used nonparametric approach in their studies were Akoena et al (2009), Frimpong (2010a) and Adoteye et al., (2012). Akoena et al., (2009) in their analysis of efficiencies of banks in Ghana using DEA concluded that smaller banks as a group were on an even scale like large banks as a group in terms of technical efficiencies (T.E.). However, they concluded that smaller banks as a unit have larger scale efficiencies than larger banks. From their studies, the technical efficiency (T.E.) of smaller banks had a DEA score 0.98 and that for larger banks were 0.97.

In the case of Frimpong (2000a), he investigated the efficiency of Ghana Banks in 2007 using DEA, and estimated the average TE in the banking sector to be 0.74. This indicated that the average inefficiency in the banking sector was 0.26. In his study, he found out that private domestic banks were more efficient, followed by foreign banks then public banks. This leads to our second hypothesis

H2: Performance of banks in Ghana will vary with ownership; private sector banks will be more efficient than public sector banks.

Adoteye *et al.*, (2012) investigated the technical efficiency of Ghanaian banking industry and the effects of foreign banks between the period 2000 - 2008 using a DEA approach. In their study, they concluded that only banks with a TE score of 1 were considered efficient and banks with TE score of less than 1 were considered as inefficient. In their analysis, no bank was efficient in 2000 as their TE scores were less than 1. In their conclusion, the average TE score for foreign banks was 0.84 and that for domestic banks was also 0.84. In the period between 2005-2008, foreign banks average TE score was 0.71 and that for domestic banks was 0.78, hence the Ghanaian banking sector within the period 2000-2008 being relatively inefficient.

CHAPTER III

DATA SOURCE AND METHODOLOGY

This chapter presents the data source and methodology used in the empirical investigation. Section 1 discusses the data sources and Section 2 explains the methodology used in empirical investigation.

3.1 Data source

Most of the banks in the Ghanaian banking sector are not listed on the Ghana Stock Exchange. The data on financial parameters for the study was taken from S&P Capital IQ. Key financials from the profit and loss account as well as the balance sheet was extracted from S&P Capital I.Q. during 2004-2012. Financial data are complex, not easy to understand and many times not very useful to the analysts and researchers. By analyzing the complex financial data (from balance sheet and profit and loss account) and deriving meaningful ratio's one can derive clarity and analytical insights into the working of banks (Fraser and Ormiston, 2013; Higgins, 2007). There were a total of six (6) major banks used in the study because they control a total of 42.2% of the total industry assets as well as 42.5% of the total industry deposits (Ghana Banking Survey, 2013, pp. 39-40).

Major banks in Ghana	% of Industry total assets	% of Industry total
		deposits
Ecobank Ghana Ltd	11.4	13.0
Ghana Commercial Bank	11.0	11.3
Standard Chartered Bank	8.7	8.2
SG-SSB Bank	3.9	4.2
CAL Bank	4.3	3.8
HFC Bank	2.2	1.7
Total Banking System	42.5	42.2

Table 3.1: Overview of Banking Concentration in Ghana-2012

Source: Ghana Banking Survey (2013), pp. 39-40.

3.2 Methodology

The financial ratio approach was used to investigate the performance of major banks in Ghana during 2004-2012. The annual audited financials for the years 2004-2012 were collected from S&P Capital IQ. The periods from 2004-2012 constitute a period where the banking sector experienced the entry of many foreign owned banks as well as the world economic crisis.

From the income statements and balance sheets of the major banks in Ghana, the relevant financial ratios were generated from the S&P Capital IQ software. Further statistical analysis were done by comparing average major Ghanaian banks' performance to major banks in emerging markets, as well as major banks in developed countries.

There were also inter-bank average comparisons between foreign owned Ghanaian banks and domestic owned Ghanaian banks. The study executes three tests and that was (i) the profitability of major banks in Ghana in comparison with international (developed and emerging market) trends, (ii) profitability of major Ghanaian banks by ownership (foreign banks and domestic banks), and (iii) profitability of major banks in Ghana.

There were two (2) performance parameter ratios used for this study on major banks in Ghana, and these are the profit and cost-based parameters.

Profit based parameters show the ability of the Bank to achieve maximum profits with a given level of outputs. The higher the Profit margin (Profitability), the more profit efficient the bank will be. In the case of profitability, numerous researchers have come to the conclusion that it depicts management's efficiency in enhancing higher growth and returns on capital. The profit-based ratios used to investigate major banks' performance in Ghana during 2004-2012 were;

In computing the pre-tax profit of major banks in Ghana during 2004-2012, we investigated how the banks were using their total assets to generate total revenue. During the period of study, the pre-tax profit of the major banks each year was computed to evaluate the trend to know whether the bank is profitable or not. Based on the financial figures extracted from S&P Capital IQ, the pre-tax profit was computed as:

Gross profit before tax (total revenue) Total assets x 100%. The gross profit before tax is the whole excess revenue the banks make in terms of income from interest loans, investments, and profit before corporate tax deductions. The total assets are both total fixed and current assets of the banks.

The next profit parameter used to investigate the performance of major banks in Ghana during 2004-2012 was the net profit to average assets. The ratio of net profit to average assets was an indication of how the major banks in Ghana use their total assets to generate their net profit. The ratios of the banks over the years give an indication of whether the banks were performing profitable relative to previous years and other banks performance or they performed badly. An increasing figure is an indication that the banks is doing profitably well. The net income to average assets was computed as:

Net Income Total assets x 100%

The net income of the firm is the total revenue or income the firm makes within the years less the total expenses. The higher the banks net income, the higher the rate of net profit to average assets, and the bank's profitability.

In the final profitability ratio used for this study, we investigated how the bank uses its total assets to generate its gross income. The gross income to total assets ratio is another indicator of the profitability of Ghanaian banking sector. This shows that the major Ghanaian banks are efficiently using their assets in income generating activities to improve their business activities. It was computed as:

$\frac{Gross \, Income}{Total \, assets} x \, 100\%$

In any banking industry profitability is an indication that the banks are operating efficiently and the additions to incomes and operating profits are positive. This gives the banks the financial capacity to expand and increase its market share. However, the efficiency of the major banks in Ghana was also investigated to know whether the banks were operating at their least cost of scale. The efficiency of any bank has a direct correlation with profitability.

The cost-based parameter used was the cost to income ratio which is an indication of how the bank generates its income and the cost associated with that. A bank that incurs higher costs in generating incomes is perceived to be relatively less efficient, and bank with a lower income generating cost ratio is seen as relatively efficient and a profitable bank; in conclusion, the lower the ratio, the more efficient the bank.

$$Cost Income Ratio = \frac{Operating expenses}{Operating income} x \ 100\%$$

The operating expenses of the major banks mostly consist of expenses the banks incur through operational and administrative activities. Most of the expenses are incurred on staff wages, employee benefits, pension schemes, etc. The ratio informs the banks on the rate at which its cost is changing in relation to the income generated by the banks.

CHAPTER IV

FINANCIAL AND OPERATIONAL PERFORMANCE OF GHANAIAN BANKS (2004-2012)

This chapter analyses the performance of Ghanaian banks in an international perspective during 2004-2012. Section 1 discusses the overall performance of Ghanaian banks as compared with major developed and major emerging market economies. Section 2 examines the operating expenses of Ghanaian banks vis-à-vis major developed and emerging market economies. Section 3 analyses the general trend of profitability among major Ghanaian banks and section 4 examines the trend of profitability and cost-incomeratio among major Ghanaian banks before and after the global financial crisis. Section 5 summarizes the findings of the chapter.

4.1. Performance of Ghanaian Banks - An International Perspective.

The average pre-tax profit of Ghanaian banks at 4 percent to 5 percent during 2008-2010 is higher than bank profitability in advanced countries (Table 4.1). Even when compared to other emerging market economies like India, China, Indonesia, Malaysia etc., profitability ratios of Ghanaian banks is considerably higher (Table 4.2). Most of the Ghanaian banks had relatively high profitability ratios (see Chart 4.1). The largest banks show highest profitability ratio reaping the benefits of economies of scale and being price makers. The ability to be price makers is related to the structure of the banking market. Few large banks (around 6) dominate the market and concentration level in terms deposits, loans and assets is very high. Thus, the large profitability of large banks can be associated with concentration levels and this validates H1. Ownership-wise, most of the

foreign banks had relatively higher profitability as compared with Ghanaian banks (Table

4.3)

Countries	Pre-tax Profits (% of total assets)						
	2010	2009	2008				
Australia(4)	1.14	0.93	1.01				
Austria (2)	0.67	0.63	0.46				
Canada (5)	1.01	0.72	0.47				
France (3)	0.45	0.18	0.04				
Germany(4)	0.17	-0.11	-0.46				
Italy (3)	0.37	0.36	0.27				
Japan (10)	0.30	0.29	-0.16				
Netherlands(2)	-0.04	-0.15	-0.61				
Spain (4)	0.95	0.88	1.07				
Sweden (4)	0.61	0.34	0.67				
Switzerland(4)	0.66	0.21	-1.75				
United Kingdom (7)	0.25	-0.04	-0.05				
United States (7)	1.02	0.42	0.28				
Ghana (6)	4.06	3.56	5.21				

Table 4.1 Profitability of Major Banks in Ghana-An International Comparison - (2008-2010)

Note: Figures in brackets are numbers of banks covered in the estimation period. Source: (1) Bank for International Settlement (2011) pg. 71 and (2) For Ghana S&P Capital IQ.



Chart 4.1 Trends in Bank Profitability in Ghanaian Banks (2004-2012)

Table 4.2: Pre-tax Profits (% of assets) of Ghanaian Banks vis-à-vis Major Emerging Countries (2003-2012)

Years	Ghana	India	China	Indonesia	Malaysia	Korea
2003	3.75*	1.00	0.49	1.66	1.10	0.02
2006	3.20	0.88	0.62	1.56	0.99	0.98
2009	2.73	1.01	0.86	2.60	1.20	0.60
2012	3.80	0.98	1.28	2.60	1.60	0.09

*relate to 2004.

Source: (1) FIBAC 2013 and (2) For Ghana S&P Capital IQ.

Table 4.3: Pre-tax Profits (% of assets) of Ghanaian Banks (2004-2012)

Ownership	2004	2005	2006	2007	2008	2009	2010	2011	2012
Foreign banks	6.20	5.56	5.29	4.77	4.95	5.31	5.49	5.07	5.60
Domestic banks	3.95	3.07	3.12	3.13	2.82	1.84	2.63	2.05	4.82

Source: S&P Capital IQ.



Chart 4.2: Pre-Tax Profits of Ghanian Banks by Ownership- 2004-2012

In general, foreign banks in Ghana have a relatively higher profitability than domestic banks, thereby validating hypothesis 2 (Table 4.3 and Chart 4.2). Does the relatively high profitability of banks in Ghana reflect higher revenue stream and better productivity?. This is discussed in the next section.

The Ghanaian banking industry as discussed in the earlier chapters has high concentration ratio. The market share of six banks in total assets of the banking industry has decline (from around 65 per cent in 2005 to 48 per cent in 2012), in part reflecting the licensing of several banks.

4.2. Operating/Cost Expenses of Commercial Banks in Ghana

In this section, we examine the operating expenses of banks in Ghana vis à-vis

banks in other emerging markets and developed countries.

Table 4.4 Ope	rating Expenses	o total	Assets	of major	Banks in	Ghana -	– An
International	comparison (200	8-201	0).				

	Operating	expenses	
	2010	2009	2008
Australia(4)	1.24	1.20	1.21
Austria (2)	1.94	2.00	2.00
Canada (5)	1.87	2.04	1.69
France (3)	0.63	1.10	0.97
Germany(4)	1.19	1.00	0.73
Italy (3)	1.70	1.79	1.86
Japan (10)	0.49	0.86	0.83
Netherlands(2)	1.39	1.01	0.90
Spain (4)	1.56	1.49	1.40
Sweden (4)	0.88	0.95	0.90
Switzerland(4)	2.13	2.10	2.57
United Kingdom (7)	0.90	1.18	0.99
United States (7)	2.94	2.79	2.45
Ghana (6)	4.35	5.48	1.03

Source: (1) Bank for International Settlement (2011) pg. 71 and (2) For Ghana S&P Capital IQ.

Notes: Same as in Table 4.1.

Years	Ghana	India	China	Indonesia	Malaysia	Korea
2003	7.31*	2.24	1.63	3.39	2.07	3.74
2006	7.11	2.13	1.43	3.97	1.91	2.07
2009	7.12	1.71	0.92	2.85	1.27	1.20
2012	6.15	1.65	0.80	3.29	1.27	1.05

Table 4.5: Ratios of Operating Expenses to Total Assets

• Relate to 2004.

Source: FIBAC 2013 ad for Ghana S&P Capital IQ.

Ghanaian banks have the highest operating expense ratio among emerging market economies (Table 4.5) and developed countries (Table 4.4). The average operating expense ratio of 6 to 7 per cent during 2003-2012 is nearly four times that of emerging market economies and developed countries.

Banks in Ghana face huge funding cost. The cost-to-income ratio of major Ghanaian banks increased from 41 per cent in 2004 to 67 per cent in 2011, and finally to 58 per cent in 2012 (Table 4.6). The increase in cost-income ratio was because of (i) the practice of benchmarking the corporate deposit rates to T-bills (inflation is high in Ghana- 8 to 12 per cent), (ii) a deposit structure that includes a large share of term deposits that lock interest rates for periods of time, (iii) high overheads and (iv) high nonperforming loans (around 15 per cent). Because of this, banks in Ghana have to maintain high interest margins.

Banks	2004	2005	2006	2007	2008	2009	2010	2011	2012
CAL Bank Ltd	55.28	62.13	57.32	68.04	65.10	72.00	70.60	62.81	42.17
Ecobank Ghana Ltd	53.25	54.31	53.52	52.25	54.71	49.81	48.47	53.98	51.34
Ghana Commercial Bank	69.69	77.50	68.64	67.97	66.43	84.83	73.32	87.67	52.97
HFC Bank Ghana Ltd	67.85	86.44	79.59	72.34	72.83	81.63	79.62	82.41	78.82
SG-SSB Bank	61.29	66.88	65.95	69.92	66.28	67.37	67.35	67.70	64.06
Standard Chartered Bank	48.73	51.40	48.92	52.96	58.99	50.38	52.76	52.30	61.96
Ave. of all banks	59.35	66.4	62.32	63.91	64.0	67.6	65.3	67.8	58.5
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Table 4.6 Cost Income Ratio of Ghanaian Banks (2004-2012)

4.3. General Trends of Profitability among Major Ghanaian Banks (2004-2012)

In this section, we examine the general trends of profitability among major Ghanaian banks during the period 2004-2012. Table 4.7 reflects the general trends of profitability among major banks in Ghana during the periods of 2004-2012. During the period, Standard Chartered Bank was the relatively higher performing bank with the pretax profit increasing from 6.92% in 2004 to 7.14% in 2012, higher than the total bank average of 5.67% in 2004 and 5.21% in 2012, respectively. The lowest performing bank was HFC Bank with a pre-tax profit falling from 2.96% in 2004 to 2.16% in 2012, respectively.

Banks	2004	2005	2006	2007	2008	2009	2010	2011	2012
CAL Bank Ltd.	5.11	4.34	4.22	2.93	3.31	2.22	2.36	2.73	5.75
Ecobank Ghana Ltd.	5.54	5.41	5.26	4.51	4.98	5.44	5.91	4.93	5.64
Ghana Commercial Bank	3.76	3.68	4.87	4.07	3.58	1.31	3.33	1.39	6.55
HFC Bank	2.96	1.18	1.46	2.4	1.57	1.98	2.19	2.03	2.16
SG-SSB Bank	6.13	4.84	4.41	3.77	5.07	4.59	4.09	4.05	4.36
Standard Chartered Bank	6.92	6.44	6.21	6.03	4.81	5.91	6.47	6.24	7.14
Ave. of Banks	5.07	4.32	4.41	3.95	3.89	3.58	4.06	3.56	5.21

Table 4.7 Trends of Profitability among Major Ghanaian Banks (2004-2012)

4.4. Performance of Ghanaian Banks during Pre and Post Global Financial Crisis

In this section, we examine the pre-tax profit of banks in Ghana before the recent global financial crisis and the impact on the Ghanaian banking sector after the Global economic crisis. Table 4.8 and 4.9 respectively reflect profitability of Ghanaian banks during pre and post financial crisis period. The pre-tax profit of Ghanaian banks should not record any significant deceleration in the post-financial crisis period (2008-2012). The average pre-tax profit fell from 4.44% in 2004-2007 to 4.06% in 2008-2012. Similarly the cost-to-income ratio also did not show much change (Table 4.10 and 4.11).

Banks	2004	2005	2006	2007	Average (2004-2007)
CAL Bank Ltd	5.11	4.34	4.22	2.93	4.15
Ecobank Ghana Ltd.	5.54	5.41	5.26	4.51	5.18
Ghana Comm- ercial Bank	3.76	3.68	4.87	4.07	4.10
HFC Bank	2.96	1.18	1.46	2.40	2.00
SG-SSB Bank	6.13	4.84	4.41	3.77	4.79
Standard Chartered Bank	6 92	6 4 4	6.21	6.03	6 40
Ave. of Banks	5.07	4.32	4.41	3.95	4.44
Ave. of Banks	5.07	4.32	4.41	3.95	4.44

Table 4.8 Pre-tax Profit (% of total assets) of Ghanaian banks before the Global Financial Crisis (2004-2007)

Table 4.9 Pre-tax Profit (% of total assets) of Ghanaian banks post Global Financial Crisis (2008-2012)

Banks	2008	2009	2010	2011	2012	Average (2008-2012)
CAL Bank Ltd	3.31	2.22	2.36	2.73	5.75	3.27
Ecobank Ghana Ltd.	4.98	5.44	5.91	4.93	5.64	5.38
Ghana Commercial Bank	3.58	1.31	3.33	1.39	6.55	3.23
HFC Bank	1.57	1.98	2.19	2.03	2.16	1.99
SG-SSB Bank	5.07	4.59	4.09	4.05	4.02	4.36
Standard Chartered Bank	4.81	5.91	6.47	6.24	7.14	6.11
Ave. of Banks	3.89	3.58	4.06	3.56	5.21	4.06

Source: S&P Capital IQ.

Banks	2004	2005	2006	2007	Average (2004-2007)
CAL Bank	55.28	62.13	57.32	68.04	60.69
Ecobank Ghana Ltd.	53.25	54.31	53.52	52.25	53.33
Ghana Comm- ercial Bank	69.69	77.50	68.64	67.97	70.95
HFC Bank	67.85	86.44	79.59	72.34	76.56
SG.SSB Bank	61.29	66.88	65.95	69.92	66.01
Standard Chartered Bank	48.73	51.40	48.92	52.96	50.50
Ave. of Banks	59.35	66.40	62.32	63.91	63.01

 Table 4.10 Cost Income Ratio of Ghanaian banks before the Global Financial Crisis

 (2004-2007)

Table 4.11	Cost Income	Ratio of G	hanaian	banks a	after G	lobal F	Financial	Crisis
(2008-2012	2)							

Banks	2008	2009	2010	2011	2012	Average (2008- 2012)
CAL Bank	65.10	72.10	70.60	62.81	42.17	62.54
Ecobank Ghana Ltd.	54.71	49.81	48.47	53.98	51.34	51.66
Ghan Comm- ercial Bank	66.43	84.83	73.32	87.63	52.97	73.04
HFC Bank	72.83	81.63	79.62	82.41	78.82	79.06
SG SSB Bank	66.28	67.37	67.35	67.70	64.06	66.55
Standard Chartered Bank	58.99	50.38	52.76	52.30	61.96	55.28
Ave. of Banks	64.00	67.60	65.30	67.80	58.50	64.68

Source: S&P Capital I.Q.

4.5. Conclusions

Ghanaian banks have recorded tremendous (double-digit) growth in the last decade. But still foreign banks dominate the market. There are six major banks which account for nearly one-half of the total assets of the banking system. The high concentration of banks has resulted in banks generating very high profits (compared to their peers in developed and emerging market economies) and can be attributed to high concentration level (hypothesis 1). Substantial part of the financial intermediation is still done by non-bank institutions including micro-finance institutions.

The performance of foreign banks was comparatively better than that of domestic banks (predominantly state-owned) thereby validating the hypothesis that ownership matters in financial performance. The operating cost and cost to income ratio of Ghanaian banks are one of the highest in the world reflecting (i) the practice of benchmarking the corporate deposit rates to T-bills (inflation is high in Ghana- 8 to 12 per cent), (ii) a deposit structure that includes a large share of term deposits that lock interest rates for periods of time, (iii) high overheads and (iv) high non-performing loans (around 15 per cent). Because of this, banks in Ghana have to maintain high interest margins.

The performance of Ghanaian banks during in the post-global financial period was not much impacted. The world experienced liquidity crises at the latter part of 2008, and banks in America, Europe and other parts of the world were seriously affected. Banks in Ghana however, appear not to have been much affected by the crises. As competition in the Ghanaian banking sector intensifies as indicated by the 2013 IMF report, eventually profitability of the banks will also reduce because new banks have entered the market with the objective of gaining market share and making profit at the expense of the market share and profitability of the incumbent banks in the industry.

CHAPTER V

CONCLUDING OBSERVATIONS

The commercial banks in Ghana are important partners to economic development of the country. They transfer temporary idle funds from surplus units to the deficit units for a fee. By this they are able to encourage the savings culture of the various economic units, and thereby accumulate funds for both investment and consumption. Thus, banks influence the aggregate demand of the country that sparks off the multiplier effects on employment and income in the economy. There had been twenty eight commercial banks in Ghana by 2012 (Table 2.1). Many of the existing banks are also opening more branches in the country. Ghana Commercial bank had the largest contribution to bank branches in Ghana during the study period. The result has been a relatively keen competition and efficiency in the financial sector. A number of studies have found a positive relationship between competition and efficiency, and between competition and the rate of productivity growth. Banks simply have to operate at high level of efficiency to ensure their survival.

The Ghanaian banking system has witnessed steady growth in assets and profitability. The structure of the banking system is still dominated by 6 major banks which account for nearly one-half of the total assets of the banking system. The Ghanaian banks are dominated by foreign-owned banks; British banks dominate the banking market. The domestic component of the banking system is still dominated by state-owned banks. The state has controlling interest in five commercial banks through shareholding by government and the state controlled pension fund – Social Security and National Insurance Trust (SSNIT).Rural and Community Banks have become a main channel for financial inclusion; a sizeable part of the population relies on the services of about 600 microfinance companies, as well as 3,000-5,000 individual susu (informal financial institutions that collects daily, weekly, bi-weekly or monthly contributions as savings on behalf of contributors for collection after a particular period) collectors that serve over a half a million customers.

The study examined the performance of major banks in Ghana during 2004-2012. The parameters of the analysis were categorized into profitability based and cost-based. The profit based parameters were pre-tax profits, net profit to average assets ratios, and gross income to average assets ratios. The cost-based parameter was the cost-to-income ratio.

The financial variables were specifically chosen to measure their impact on the performance of major banks in Ghana during 2004-2012. The six (6) major banks were chosen because they form about 42.5% of the banking industry's total assets and also receive about 42.2% of the banking industry's total deposits (Ghana Banking Survey 2013, pp. 39-40).

Although the banking sector has experienced high growth, concentration ratio is still very high in spite of allowing new players into the market. The high concentration of banks has resulted in banks generating very high profits (compared to their peers in developed and emerging market economies) and can be attributed to high concentration level (hypothesis 1). Substantial part of the financial intermediation is still done by nonbank institutions including micro-finance institutions (the so-called shadow banks)

The performance of foreign banks was comparatively better than that of domestic banks (predominantly state-owned) thereby validating the hypothesis that ownership matters in financial performance. The operating cost and cost-to-income ratio of Ghanaian banks is one of the highest in the world reflecting (i) the practice of benchmarking the corporate deposit rates to T-bills (inflation is high in Ghana- 8 to 12 per cent), (ii) a deposit structure that includes a large share of term deposits that lock interest rates for periods of time, (iii) high overheads and (iv) high non-performing loans (around 15 per cent). Because of this, banks in Ghana have to maintain high interest margins. This has substantial bearing on real interest rates in Ghana- which is one of the highest among emerging market economies. This adversely impacts private sector investment and future economic growth. A remedy to reduce high real interest rates lies in reducing inflation and bringing fiscal deficit down (which presently is about 12 per cent of GDP). Increasing competition through new bank licensing so far had only marginal impacts. A sustainable reduction in cost-to-income ratio calls for substantial improvement in productivity through the use of information technology.

The study found out that indeed the Ghanaian banks has been experiencing profitability during these years of global financial crisis in spite of many challenges facing financial institution around the world as reported by IMF country report 2013.

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