

UNIVERSITY OF EDUCATION, WINNEBA

**IMPACTS OF RECAPITALISATION ON THE PERFORMANCE OF
UNIVERSAL BANKS IN GHANA**



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DECLARATION

STUDENT'S DECLARATION

I, Isaac Mensah, declare that this thesis, except quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and it has not been submitted, either in part or whole, for another degree elsewhere.

SIGNATURE.....

DATE.....



SUPERVISOR'S DECLARATION

I hereby declare that the preparation and presentation of this work was supervised in accordance with the guidelines for supervision of thesis/dissertation/project as laid down by the University of Education, Winneba.

DR. RAMATU USSIF (SUPERVISOR)

SIGNATURE.....

DATE.....

DEDICATION

I dedicate this research work to my son, Gregory James Kofi Annan, my parents Ebenezer Mensah and Mercy Smith, my siblings Beatrice and Ruth Mensah for their love, financial support, prayers and sacrifices that have brought me this far.



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May God bless you all abundantly!

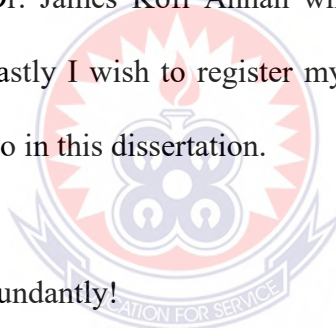


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ABBREVIATIONS

DP- Gross Domestic Product

GMM- Generalized Method of Moment

ROE- Return on Equity

ROA- Return on Asset

ROAA- Return on Average Assets

ROAE- Return on Average Equity

St. Dev- Standard Deviation

ATP- After Tax Profit

ETA- Equity to Total Asset

GDPGR- Gross Domestic Product Growth Rate

PBT- Profit Before Tax



ABSTRACT

This study examined the impact of recapitalization on the performance of Universal banks in Ghana using profitability and liquidity ratios as the performance indicators. The study is based on samples of Fourteen (14) out of the 23 licensed commercial banks which were in existence as at 2010 and were able to meet the 2018 minimum capital requirement of GHS 400 million. The study measured the impact of recapitalization by comparing three years' profitability and liquidity performance of licensed commercial banks against five years' performance of these banks after the 2013 recapitalization starting from 2010 to 2017. The study adopted the t-test of equality of means and multiple regressions to find the impact on the profitability and liquidity of banks. The first finding concludes that, there was no significant difference between the mean ROE before the recapitalization and the mean ROE after the recapitalization exercise. On the other hand the second finding concludes that, the mean liquidity status of banks before recapitalization is significantly different from that of after recapitalization. The study concludes that recapitalization exercise helps increase liquidity of banks significantly but the ROE is was insignificant. The study recommends that Bank of Ghana should not undertake recapitalization exercise with the motive of increasing banks profitability but should find other innovative ways of making banks more profitable since recapitalization only enhances liquidity status of banks, but does not have any significant effect on banks profitability, so banks can increase their capital by issuing more shares to the public to avoid liquidity challenges.



CHAPTER ONE

INTRODUCTION

1.0 Research Background

A healthy banking sector is a vital prerequisite for the economic growth and stability of any nation, with regards to recapitalization, countries have different target depending on the way they are exposed to banking sector crisis. Regulatory agencies around the world have developed rigorous measures to strengthen financial sector activities over the last decades, which have had a great deal of impact on banks as major players. The interdependence nature of the financial sector in general has made it difficult for a particular economy to operate on its own. This is because the financial market has become so efficient in a way that a smaller upset in a particular country (developed) would have a holistic effect on the entire financial sector. For this reason, the financial crisis that occurred in 2007/2008 in the United States had massive consequences on the global financial market. Due to the fact that banks constitute the largest portion of the financial sector, bank stability is imperative to the growth of the economy; in the same way, bank runs or failures are expensive for the whole country. (Ramadan et al., 2011; and Yan et al, 2012) As a result, understanding the impact of recapitalizing financial institutions specifically banks are crucial for both developed and developing economies. This study seeks to address whether or not recapitalization of banks is favorable to the banking sector using Ghana's banking industry as a case study on fourteen (14) out of the 23 licensed banks after the clean-up exercise in December 2018 in the country.

The Ghanaian Banking Industry, like many African countries, reforms have been implemented over the years to strengthen the banking sector's intermediation role and

increase customer base “ confidence in the banking sector. Towards this was the introduction of the universal banking act in 2004 (started in 2003) which require banks to have a minimum capital of GH¢7,000,000. Banks had up to the end of 2006 to conform with the directive (Bawumia, 2006). The goal of this policy initiative was to ensure that banks operate on a level playing field, including; accepting deposits and other repayable funds from the public; lending; investment in financial securities and money transfer services; the issuance and administration of means of payment (including credit cards, travelers’ cheques and bank drafts); the issuance of guarantees and commitments trading for own account or for account of customers in money market instruments, foreign exchange/transferable securities; provision of advice on capital structure, acquisitions and mergers; portfolio management and advice; safe custody of valuables; electronic banking and any new services that the Bank of Ghana may determine (Banking Act, 2004). This is geared toward setting banks at the identical opposition and performance dimension scale within side the banking industry.

In 2009, After all, the Bank of Ghana raised the minimum capital of banks from GH¢7,000,000 (done as a requirement for gaining the universal banking license implemented in 2003) to GH¢60 million while retaining the capital adequacy ratio of the universal banking act still at 10% of total assets. Attaining capitalization requirements may be achieved through consolidation (mergers and acquisition) of existing banks, increasing the debt stock (increasing deposits), and raising funds through issuing of additional shares through existing shareholders or new shareholders or both or through foreign direct investment. One essential impact as noted by Aboagye (2012) is a barrier to entry which could increase awareness with its related problems even if it results in increase in efficiency.

Irrespective of the cause, however, bank capitalization and consolidation are carried out to reinforce the banking system, embrace globalization, improve healthy competition, exploit economies of scale, adopt advanced technologies, raise efficiency, improve profitability and as such improve economic growth (which is the objective of the regulator and Government). The ultimate goal is to lead them stronger: customers will now have greater self-assurance in the banking system and they will be capable to perform their developmental role of improving economic growth (Oino & Ukaegbu, 2014). This will be achieved when their intermediation function is reinforced and feature the financial muscle to under-take big ticket deals (Narh, 2012).

Liquidity management of the banks is an important aspect that if not well managed, will give rise to financial catastrophes. Banks take deposits from customers and invest them in different portfolio like loan creations, purchasing government securities and other long and short terms financial assets, meanwhile depositors can also demand for their funds at any point in time or emergencies. The differences in the maturity of assets created by banks (loans) and the demand for funds by customers create the problem of maturity mismatch which requires prudent management (Basel Committee on Banking Supervision, 2008). The inability of banks to raise liquidity can be attributed to funding liquidity risk that is caused either by the maturity mismatch between inflows and outflows and/or the sudden and unexpected liquidity needs arising from contingency conditions (Duttweiler, 2009). Banks as financial markets' outlet are regarded as one of the important chains in the economy in performing the resources distribution function which discloses it to liquidity risk rising from distinct terms of assets and liabilities maturity (Andre et al, 2001).

Through this function, banks devise liquidity as they hold illiquid assets and provide cash and demand deposits to the rest of the economy. Therefore, liquidity creation is one of the important functions of banks, but it is also a major source of banks' vulnerability to shocks (Berger and Bouwman, 2007) Bank recapitalization is undertaken with the goal of creating a more resilient banking sector and ensuring overall financial stability (Naceur and Kandil, 2009).

The current economies in the world have developed mainly by making the exceptional use of the credit availability in their systems. An efficient banking system, therefore, ought to meet the needs of larger investors by making available higher amount of capital for large initiatives in the industrial, infrastructural and service sectors thereby improving economic growth. obviously, loans and overdrafts issued by the banks increased from relatively GH¢6.2 billion by the end of 2009 (the year the directive was issued) to GH¢7 billion by the end of 2010 (when all foreign ownership banks had met the requirement) to GH¢11.7 by the end of 2012 (when all banks, both local and foreign owned, had met the requirement). The 85% increase on loan issued by banks from 2010 to 2013 is evident of banks' support to improving economic growth by making credit available to larger investors (Ghana Banking Survey, 2018). The 2009 capital growth of 60 million cedis appears to be inadequate for banks to be players in large industries inclusive of the emergent oil and gas industry, then resulted of the directive from the BoG for new entrant first class banking to have a stated capital of 120 million cedis and advice the rest to increase the capital based on their risk. Profitability is crucial to the survival of banks. Firstly, dividends are paid from profits (cash profits) and secondly, profit is an essential source of retained earnings which is a vital component of bank capital.

Some research on the bank performance and profitability propose that capitalization has a positive impact on profitability (ROE) (e.g., Sufan & Chong, 2008; Naceur & Omran, 2011), with some (Saona, 2011; Trujillo-Ponce, 2013) seeing a negative relationship between capital and ROE, while others (e.g., Trujillo-Ponce 2013) propose a cyclical relationship between capital and profitability, i.e., becoming more positive during economic hassle periods and vice versa. While Naceur & Omran (2011) in their study found that bank regulation appears to have an impact on their performance, Denizer et al (2007) rather discovered that the wide range decline in the performance of banks in Turkey after the liberalization was due to the developing macroeconomic instability of their economic system and the financial sector in particular.

This study is prompted by a number of issues. First of all, the recapitalization of the Ghanaian banks through the Bank of Ghana is much like that of Nigeria in 2004. The central bank of Nigeria enforced banks in the country to recapitalize from ₦ 2 billion (the 2001 universal banking capital requirement) to ₦ 25 billion in 2004, which dispatched banks into consolidation through mergers and acquisitions. Adegaju & Olokoyo (2008) discovered that the pre-recapitalization mean of Return on Equity (ROE) of Nigerian banks is higher than that of the post-recapitalization. This meant that Nigerian banks made less returns on increased capital (on the average) after the recapitalization than before. This is a contradiction to what was discovered by (Ikpefan O. A, 2013) that higher equity will lower the cost of capital that will lead to a positive impact on profitability. Empirical and theoretical evidence (Sufian & Chong, 2008; Sufian, 2011; Saona, 2011; Ramadan et al., 2011; etc.) indicates a contrasting relationship between capitalization and profitability.

Yet another motivation for this study is the fickle macroeconomics condition in the Ghanaian market. Bank performance is sensitive to macroeconomic shocks. If economic conditions are favorable, banks are encouraged to lend more and improve the quality of their assets. The value of capital tends to reduce with increasing inflation rate. This will influence the mean value of the earnings. Chiuri et al (2002) observed that, imposing a higher capital requirement on banks exerts a negative effect on bank lending in emerging economies such as the Ghanaian economy. Their evidence suggests the relevance of a careful phasing in of new capital requirements in order to avoid undesirable macroeconomic side effects. This confirmed an earlier study by Thamae and Odhiambo (2021) which cautioned that raising the capital requirement for banks could have a negative long-lasting effect on economic growth opportunities for economies where bank loans represent larger share in the corporate sector's external finance.

Banks may reduce both assets and liabilities due to capital regulation which would impact the economy in terms of the slowdown of credit supply. With a binding capital requirement, additional capital is needed to expand more lending as observed by Yudistira (2003). The effect is that, banks would lend less when macroeconomic times are bad and lend more when times are good (Ladime, Sarpong, Kumankoma & Osei 2013).

1.1 Statement of the Problem

Stringent regulatory measures were imposed by central banks across the world following the financial crisis that occurred in 2007-2009 (Adrian & Shin 2010). Among the regulations was the introduction of a higher capital requirement by the Central Bank of Ghana in 2009 as a move towards having a stable and more competitive banking sector (Financial Service Authority, 2009). This is because banks

play a critical role in the allocation of society's limited savings among the most productive investments, and they facilitate the efficient allocation of the risks of those investment. Economies around the world suffered economic downturn which mainly resulted from the breakdown of the financial intermediation role played by banks. The higher risk associated with banks using customer's deposits to invest in various short- and long-term assets cannot be underestimated. Hence, the bank regulatory policy identifies bank capitalization as an important factor to eliminating or reducing the risk associated with investing with customer's deposits. Therefore, the minimum capital requirement, which constitutes the core regulatory instrument for the banking industry is based on the premise that increased capital enhances bank safety (Smaghi, 2007).

Banks play important roles in liquidity creation and fostering economic growth. This role has been analyzed by many researchers, presenting agency theories and different opinions on liquidity position of the banks. Gorton and Winton (2000) show how a higher capital ratio might reduce liquidity creation through the crowding out of deposits. They argue that deposits are more effective liquidity hedges for investors than investments in bank equity capital. Also, Deep and Schaefer (2004) opine that banks' liquidity is created by financing non-liquid assets with liquid liabilities.

The situation in the banking sector of Ghana has been branded by low capitalization which consequently affected their investments. Banks were not in a good standing to finance big projects because they lack the financial muscle to be players in industries that require higher funds to be able to invest in them such as the up-coming oil industry at that time (Narh, 2013). While re-capitalization of Ghana banks may address this concern, the effect of the workout on banks performance remains a pragmatic one.

The main problem addressed in this study, is whether recapitalization of Ghanaian banks has improved their liquidity performance. Most studies conducted by researchers focused on the relationship between recapitalization and performance (Agyei, 2013). Liquidity has so many determinants and due to this, many researchers have not really focused on the impact of capitalization on liquidity and profitability performance of banks.

Banking reforms are mainly to improve bank performance and increase economic growth. Studies on banking reforms suggest contrasting views on the impact of a banking reform on the performance of the banking industry and the contribution to economic growth. In some cases, it did not help economic growth even though it improved upon banking performance (Leightner & Lovell (1998) in Thai banking industry; Deniz et al. (2007) in Turkish banking sector). Whiles some experience both increase in performance and central bank's objective of improving economic growth (Shanmugam & Das, 2004). The Ghanaian banking sector recapitalization exercise is expected to improve economic growth.

This study adopts Hermes & Nhung^o (2010) method to find the impact of bank recapitalization exercise in Ghana on the profitability and liquidity performance of commercial banks. It also investigates whether economic factors have effect on the relationship between regulatory capital increase in profitability and liquidity performance of commercial banks in Ghana. It also used the students' t-test to test the equality of means of profitability and liquidity measures before and after the recapitalization period.

1.2 Research Objective

This study, therefore, seek to achieve the following objectives;

1. To examine the impact of recapitalization on profitability and liquidity performance of commercial banks in Ghana (Pre and post recapitalization period)
2. To examine the impact of the capital requirement/regulatory framework of commercial banks in Ghana on bank's lending behavior.

1.3 Research Hypothesis

Ho: There is no difference between the profitability of banks before and after recapitalization.

H1: there is difference between the profitability of banks before and after recapitalization.

Ho: There is no difference between liquidity of banks before and after recapitalization.

H1: there is difference between the liquidity of banks before and after recapitalization.

Ho: Banks recapitalization does not have any impact on their profitability and liquidity performance

H1: Banks recapitalization has an impact on their profitability and liquidity performance

1.4 Significance of the Study

The banking industry being the engine of growth and development of any nation needs careful study for comprehensiveness and adequate solution. Boahene (2012) sees banking sector as the life wire of any economy and the pivot on which economic growth resolves. The findings of this research work will be useful in three aspects as

follows (1) policy significance (2) practice significance (3) theory or research significance.

Evidence of a relationship between sector reforms and profitability and efficiency in the Ghanaian banking industry will direct policy makers at enhancing banking policies to improve efficiency in the industry. This study therefore will be a pioneering work on the relevance of recapitalization of banks on competition, growth and performance in the banking industry of Ghana.

Civelek and Al-alami (1991) stress further on this issue when they noted that empirical evidence and structure-conduct and performance relationship can help to enhance government regulatory policies in the banking sector which was confirmed by (Chirwa, 2003). Besides, the finding will also assist managers and other operating staffs of the financial institutions with adequate information to guide them in policy formation, planning and decision making for enhanced performance of their banks

The research will add to the body of knowledge in the areas of theory and practice. It will bring to light how recapitalization will impact investors. The results will highlight the theoretical relationship between recapitalization and performance of banks. How recapitalization impacts on consolidation through mergers and acquisition as well as enhanced capital market will also become clear. In practice, the outcome of the study will point out policy relevant issues that may require the attention of management practitioners, whether banks should raise more funds on capital market or engage in merger and acquisition. It will also inform regulators particularly the central banks on the consequences of their regulations on competition, growth and the performance of banks. Players in the industry will also become aware of the need to strategies in response to new financial regulations or capable of sustaining the banking sector and extending same to other sectors and sub-sectors of the economy.

Finally, the research will serve as a source of reference for future researchers who may want to conduct to conduct studies in related areas. It will serve as a basis and a motivation for the researcher to also engage in other works.

1.5 Scope of the Study

The data used was yearly data of the commercial banks in Ghana from 2013 to 2017. Previous studies used data from universal banks in the 2007 to 2013 because all the deadline given to the banks to meet the requirement of the universal license December 2006, so it was assumed that as at January 2007 all the banks to be studied were operating as universal banks. The main study actually focused on the 2018 recapitalization, which sent some banks into consolidation. A total of twenty-two (23) banks were chosen from the existing banks using judgmental sampling technique. The choice of this method is necessitated to include those that have complete information on re-capitalization information, on this fourteen (14) out of the 23 licensed banks were chosen.

1.6 Definition of Terms

Recapitalization means increasing the amount of long-term funding used to fund an organization. Recapitalization involves increasing the company's debt, issuing additional shares by existing or new shareholders, or a combination of both (Adegbaju & Olokoyo, 2008). It can take the form of mergers, acquisitions, or even foreign direct investment.

Profitability: banks profit by making more money than what they pay in expenses. Most of a bank's profit comes from the fees that it charges for its services and the interest that the bank earns on its assets. Its major cost is the interest paid on its liabilities. Traditional indicators of a company's profitability are return on equity (ROE) and return on assets (ROA).

Liquidation occurs when a company goes bankrupt. In other words, the company will not be able to pay its debts and obligations. Liquidation is usually done voluntarily by shareholders or as a compulsory procedure by creditors in accordance with court orders.

Return on Equity:

Return on equity is the company's annual rate of return (net income) divided by the value of shareholders' equity and is expressed as a percentage

Return on Assets:

Rate of return on investment: Return on total assets is an indicator of how much net income a company earns in terms of asset value (Harahap, 2015). A high return on assets (ROA) increases the efficiency of the company and increases the opportunities to increase the value of the company (Chabachib et al., 2020).

1.7 Organization of the Study

This study is organized in five (5) chapters.

Chapter one provided the research background, statement of the Problem, research objective, research hypothesis, significance of the study, definition of terms and the organization of the student.

Chapter two was devoted to review of literature. All relevant existing statement, theories, arguments and criticisms that are important to this study is reviewed.

Chapter three gave us the research design, Data source, sampling, test of Equality of means, econometric model and the justification of variables.

Chapter four presented the results analysis and discussion of the findings.

Chapter five focused on the summary of key findings, limitation, conclusion, recommendations and suggestions for further study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The objective of this chapter is to review the existing studies on profitability and liquidity of a bank with respect to regulatory capital changes in order to provide bases of potential contradictions and shortcomings of current literature. The chapter is organized as follows; first theoretical review on banks' capital, profitability and liquidity which includes signaling theory, bankruptcy cost hypotheses, capital buffer theory, liquidity motive theory, traditionalist theory and Modigliani & Miller theory. Secondly, this chapter reviews empirical research that will use a comprehensive model of regulatory capital increase on bank's profitability and liquidity. Lastly, conceptual review/Framework will be done to review the various concept and variables use in this study.

2.1 Theoretical literature Review

2.1.1 Signaling and Expected Bankruptcy Theory (1977)

Ross (1977) popularized signaling theory by arguing that if a company is optimistic about the future, it will increase its share of stocks in its capital structure. This theory suggests that higher capital is a positive signal of a bank's market value (Saona 2011).

As Berger (1995) and Trujillo-Ponce (2012) observed the signaling theory, bank management signals private information that the future prospects are good by increasing capital. Thus, a lower leverage indicates that banks perform better than their competitors who cannot raise their equity without further deteriorating the profitability (Saona, 2011).

On the other hand, the expected bankruptcy theory argues that in a case where bankruptcy costs are unexpectedly high, a bank holds more equity to avoid period of

distress (Berger, 1995). As the literature review have shown, the signaling hypothesis and bankruptcy cost hypothesis support a positive relationship between profitability and capital. From these theories, the study expects positive relationship between bank recapitalization and performance (profitability and liquidity). This means that when banks' capital is being increased their market value also increases as indicated by the above theories.

2.1.2 The Capital Buffer Theory (1999)

The capital buffer theory proposed by Diamond and Rajan (1999) aims to allow banks to hold more capital than recommended. A capital buffer is excess capital held by a bank in excess of the minimum required capital. The capital buffer theory means that banks with a low capital buffer try to reconstruct the appropriate capital buffer by raising capital, and banks with a high capital buffer try to maintain the capital buffer. More capital tends to absorb unfavorable shocks and thus reduces the chance of failure. As reviewed by (Marcus, 1984 & Berger 2017), banks raise capital as portfolio risk increases. This seems to refer to the determinants of the adequacy and performance of commercial banks' capital. Based on this theory, the study predicts that banks in Ghana are less likely to default because they are more liquid and tend to absorb adverse shocks.

2.1.3 Liquidity Motive Theories (1936)

Economic and financial literature analyzes possible reasons why a company holds cash. Keynes (1936) identified three motives for why people want and prefer liquidity. Motivation for transactions in which a company holds cash to meet the needs of cash inflows and outflows. We hold cash to conduct transactions and liquidity is required for trading reasons. Cash demand is affected by income level, the time lag between income receipts and available cash spending patterns. The

precautionary motivation of holding cash serves as an emergency fund for a company. If the expected cash inflow is not achieved as expected, the cash held as a precautionary measure may be used to meet short-term obligations where the cash inflow may have been benchmarked. The speculative reason for holding cash is that if you act quickly, it creates an opportunity for your company to take advantage of unique opportunities.

Almeida et al. (2014) proposed the theory of a company's liquidity demand on the assumption that its liquidity determination depends on the company's access to the capital markets and the importance of the company's future investment. This model predicts that financially constrained enterprises will save a positive percentage of incremental cash flow, while unconstrained enterprises will not. In this study, high-capitalized banks effectively carry out their day-to-day activities (motivations for cash-holding transactions) and leverage new investments and opportunities (speculative motives for holding cash) based on the theory

2.1.4 Traditionalist Theory

This theory prioritizes the capital structure of a company (bank). According to this theory, debt financing should be prioritized over debt financing over corporate equity financing, even if there is a limit to the company's valuation and unnecessary leverage. Therefore, raising the minimum capital requirement means demanding more capital, which contradicts this theory. In other words, theory prioritizes debt finance over equity finance. Based on this theory, this study predicts that increasing minimum capital will improve bank performance, but the banks will experience a better performance if debt financing is used.

2.1.5 Modigliani and Miller Theory (1958)

The theory, developed by Modigliani and Miller (1958), states that in a highly competitive market, the value of a company does not depend on its capital structure. Therefore, the component is from debt to capital. This means that the value of a company (bank) does not depend on the amount of stock or debt it holds. Therefore, higher minimum capital requirements are not a major determinant of a bank's value. Based on this theory, research predicts that an increase in minimum capital means an increase in capital relative to the capital of debt, but that bank performance will improve (the capital structure is independent of bank performance).

2.2 Overview of Commercial Banks in Ghana

Banking in Ghana can be drawn back to the early 1950s, when the Bank of England set up the Bank of Ghana in 1953. The Bank was later divided into two: The Bank of Ghana, which acts as an issue bank, to be reformed into a complete central bank; and the Ghana Commercial Bank, to become the largest commercial bank with a monopoly on public corporate accounts. On March 6, 1957, the Gold Coast gained independence from Great Britain and became known as Ghana. As expected, the Bank of Ghana took over the management/control of the currency and issued its first National Currency in July 1958; the Cedi to replace the old West African currency notes. The Ghana Commercial Bank took the role and functions of Government bankers and began to take over the finances of most Government departments and public corporations.

The Bank of Ghana (BoG) has been the central bank that oversees all operating banks in Ghana. The arrival of the new government led to the creation or formation of more banks. Banks incorporated by legislation between the periods 1957 to 1965 include: The National Investment Bank as an Investment Banking Institution; the Agricultural

Development Bank for the development or improvement of Agriculture; the Social Security Bank to boost savings and the Merchant Bank for merchant banking. All the institutions were established as state-owned banks in conformity with the economic policy of the time. In the early 1960s, Ghana experienced a serious economic hardship due to its socialist policies, including strict exchange control, trade deficits and import/export issues. These crises continued until 1983, when there was a change from economic socialism to a market economy (Banking Act, 2004)

Yet, the crisis in the sector and its timing can be related to the sharp recession in economic performance in the late 1970s. During the early years of independence, the history of the financial sector's growth was closely related to comprehensive government policy after 1983. The government interfered in all sector of the economy in an attempt to rapid industrialization. Financial policies were established as part of a comprehensive strategy for industrialization to replace imports. By the 1970s, problems like interest rate controls and credit ceilings ensured that cheap credit was accessible to government-imposed priority sectors such as manufacturing. Huge taxes of the banking sector had become a major source of revenue for the government. High reserve requirements were placed on the banks. These and other restrictive policies created major distortions in the financial sector.

In 1987, the Government of Ghana, in partnership with the World Bank, made steps to improve the banking and financial sector with a Financial Sector Adjustment Program. An economic recovery or growth program was launched in 1983, seeking to restructure the economy and reverse economic decline trends. This made it quite clear to the government that a reestablishment of the then troubled financial sector had to be pursued if economic reforms were to lead to a sustained recovery of growth in the economy. Beginning in 1983, the Economic Recovery Program (ERP) intended to

sustain the economy and then enhance growth. The economic transition included steps to promote fiscal discipline, trade and exchange system reforms, and other wide-ranging measures to commence price liberalization and other economic actions deregulation. After the disaster, the Banking Law was enacted in 1989, enabling right local bodies to file license applications for operating as banking institutions. Finally, a number of corporate bodies were licensed to operate as banks, including Meridien (BIAO) Trust Bank, CAL Merchant Bank, Allied and Metropolitan and ECOBANK (Obuobi, 2019).

Though, in 1992, the government started privatizing some of the state-owned banks, and the financial sector's liberalization led to the access of a number of foreign banks into the banking industry along with an increase in the number of domestic banks. Liberalizing of the financial sector under the Financial Sector Adjustment Program and Financial Sector Strategic Plan also brought about improved savings, enhanced deposit mobilization, financial deepening, and competition in the banking industry. However, lending rates were high with major spread between deposit and lending rates. In 2004, the new banking Act was enacted. The introduction of the new Banking Act also brought about to the elimination of secondary reserves and adjustments in the minimum capital. The minimum capital was originally increased to GHS 60 million in 2007 and then in 2012 it was increased to GHS 120 million. The new Act also saw the introduction of the Universal banking license, which allows banking to offer various forms of banking services. Mergers and acquisitions of some banks also emerged highly on account of the surge in the minimum capital requirement with current examples including Access Bank and Intercontinental Bank, Ecobank and TTB Bank, HFC Bank and Republic Bank of Trinidad and Tobago.

Recently, Ghana undertook a severe clean-up exercise in the banking sector in order to shield depositors' money and avoid bankruptcy. This emerged from mismanagement and unavailability of the said capitals of few banks. The mismanagement of funds and illegal use of the stated capitals of UT Bank and Capital bank prompted the Bank of Ghana to further look into all banks to ensure a strong financial sector. This caused the shutting down of the above-mentioned banks and granted a takeover through GCB Bank. As a result, the Bank of Ghana according with Section 28 (1) Banks and Specialized Deposit-Taking Institutions Act, 2016 (Act 930), revised upward the minimal paid-up capital for present banks and new comers from GH¢120 million to a new level of GH¢400 million (233.33% increase) from the effective date of 11th September 2017 and banks ought to conform by end of December 2018. The goal of the recapitalization in line to the Bank of Ghana is to “further develop, strengthen and modernize the financial sector to assist the Government’s economic vision and transformational agenda”. With this regulation, banks had been given these three options to raise additional capital.

- 1) Fresh capital injection.
- 2) Capitalization of income surplus.
- 3) Combining of fresh capital injection and capitalization of income surplus.

As at 31st December 2018 which happened to be the deadline for banks, there were twenty-three (23) universal banks had met the new minimal paid-up capital of GHC400 million.

According to Bank of Ghana, out of the twenty-three banks, sixteen banks met the new minimum paid-up capital requirement of GH¢400 million through capitalization of income surplus and fresh capital injection. The sixteen (16) banks are Zenith Bank, Ecobank, GCB Bank, Stanbic Bank, Standard Chartered Bank and Barclays Bank.

Access Bank, Consolidated Bank, Republic Bank, Fidelity Bank, UBA, Société Générale, GT Bank, FBN Bank, Cal Bank, and Bank of Africa are the other banks (Ghana banking Act, 2018)

Due to failure of few banks to fulfill the requirements, the Bank of Ghana endorsed three Applications for mergers, Omni Bank and Bank Sahel Sahara merged, First National Bank and GHL Bank merged, First Atlantic Bank, Merchant Bank Limited and Energy Commercial Bank merged as well. The three ensuing banks out of this merger met the new minimum capital requirement. The approach was successful because private pension funds in Ghana injected fresh equity capital into five (5) domestic banks through a special purpose holding company named Ghana Amalgamated Trust Limited (GAT). Furthermore, the state-owned banks ADB and NIB also benefitted from the GAT scheme. The other beneficiary banks (the merged Omni/Bank Sahel Sahara, Prudential Bank and Universal Merchant Bank) were selected by GAT on the basis of their solvent status and good corporate governance (Ghana Banking Annual Report, 2018).

In all, Bank of Ghana has revoked licenses of nine (9) banks in attempts to clean up the banking sector and restore stability and resilience of the financial system, Limited, Premium Bank Limited, Heritage Bank, UniBank, Sovereign bank, BEIGE bank, Royal bank, Construction bank, UT bank and Capital bank are the banks.

2.3 Empirical Review

Several studies regarding bank recapitalization and bank performance have been conducted in different contexts. These studies tend to be less concentrated in Africa than the other areas of the world. In African countries though, more information regarding bank capital and its effects is needed as stakeholders of the banking system are becoming the majority (World Bank, 2019). The studies conducted in other

jurisdictions have presented varying results that would serve as a foundation for further exploration, just like in a study such as this. Other people's works were reviewed to derive insights on how best this research could be conducted in the context of Ghana.

First, an early study by Berger (1995) on US banks, using data from 1983 to 1989, found a positive relationship between capital adequacy and return on equity. Berger inferred this relationship based on the expected cost of bankruptcy. This can be relatively high for banks that keep their capital ratio below equilibrium. Subsequent increases in the capital adequacy ratio are aimed at increasing the return on equity by reducing insurance costs for uninsured debt. Follow-up by Kosmidou et al. (2005) Consistency with Berger (1995) that capitalization has a positive and dominant impact on profitability of UK commercial banks for the period 1995-2002 using fixed-effects panel regression showed a consistent result with Berger (1995) that capitalization has a positive and dominant influence on profitability.

Athanasoglou et al. (2005) used an empirical framework that incorporates the traditional structure-behavior-performance (SCP) hypothesis to influence the impact of bank-specific, industry-specific, and macroeconomic determinants of bank profitability in Greece. I investigated. The results show that all bank-specific determinants, except size, have a significant impact on a bank's profitability in the expected way.

Sufian & Chong (2008) investigated the determinants of bank profitability in the Philippines over the period 1990-2005 and found that capitalization had a positive impact on bank profitability (ROE). They further argue that banks in developing countries need a strong capital structure to empower them to withstand the financial crisis and provide better safety nets for depositors in times of bankruptcy and difficult

macroeconomic conditions. Did. A subsequent country-based study by Naceur & Omran (2011) showed that bank capitalization and credit risk have a significant positive impact on a bank's net margin, cost-effectiveness and profitability. Their study, which covers the long term from 1988 to 2005 in MENA (Middle East and North Africa) countries using linear dynamic panel data model analysis, was conducted in one country within almost a year by Sufian & Chong (2008).) Matches the result. Equally spaced. Naceur & Omran (2011) also found that variables in regulatory reform appear to affect bank performance.

Nigeria is one country in Africa that has had extensive bank recapitalization exercises over time. Adegbaaju & Olokoyo (2008) studied the recapitalization exercise over a period of six years and their study showed that the bank recapitalization exercise of 2001 led to decreased bank performance in Nigeria and in effect, shareholders could be made worse off. Their study used various ratios which include return on equity, net interest margin, return on asset, yield on earning assets and funding cost. Interestingly, a similar study conducted by Oluitan, Ashamu, and Ogunkenu (2015) showed that bank recapitalization in Nigeria has had a positive effect on bank performance. Their study used variables such as Bank size, Bank financial characteristics, Bank deposits, and Total banking sector deposit. The discrepancies in the two studies can be explained by the periods of the study and the different metrics used in their methodologies. So, while Adegbaaju et al.'s (2008) study was for six years, Oluitan et al. conducted their study based on a period of 8 years and Adegbaaju et al also used a t-test of means while Oluitan et al., used a multiple regression analysis.

A study by Boahene, Dasah & Agyei (2012) on the profitability of banks in Ghana found support for previous empirical studies in which capital had a positive impact on

bank profitability. Boahene et al. (2012) used five-year (2005–2009) panel data from six selected commercial banks analyzed using a fixed-effects panel model.

Olalekan & Adeyinka (2013) used both primary data (78% response rate from 518 samples) and secondary data (2006-2010) in a study of the impact of capital adequacy ratios on the profitability of Nigerian banks. Using both the panel fixed effects model and the random effects model, they found a positive effect of capitalization on the profitability of banks from secondary data. However, the primary data showed an insignificant association. Obamuyi (2013) used a fixed-effects model of panel data from 20 bank financial reports from 2006 to 2012 to bank capital, bank size, cost management, interest income, and economy. We investigated the impact of the situation on the profitability of Nigerian banks. His results found a positive and significant relationship between capitalization and profitability, supporting the signal transduction and bankruptcy hypothesis.

Saona (2011) investigated the determinants of the profitability of US banks over the period 1995-2007. The empirical analysis used the GMM system estimator to combine bank-specific (intrinsic) and macroeconomic (extrinsic) variables. He found that there was a negative relationship between capital adequacy ratios and profitability under the risk and reward hypothesis, and if banks needed to comply with regulated capital, banks would act cautiously and potentially. He supported the idea of ignoring profitable trading opportunities. In their study,

According to Berger & Bouwman (2013), past research to determine the effect bank capital has on bank performance has failed to acknowledge the economic period in which the banks existed. Based on this, they conducted a study that took into consideration two significant periods for banks, normal and crisis times. They analyzed how their performance is impacted differently in those times. Also, in their

study, they split bank performance into two major categories, bank survival and market share. The impact of capital is measured against both aspects of bank performance. They found that regardless of the period banks are operating in, increased capital results in an increase in bank performance for small banks. But for medium and large banks, capital only affects performance positively during the crisis period and not during normal times. This is because according to the study, during crisis the period, medium and large banks had a good amount of support from the government, which gave them a larger market share and improved their performance. This study had both normal and crisis times considered but in most emerging economies that have less advanced banking systems, it may not be applicable. Nonetheless, it is important to note when discussing bank performance, it should reflect in both the bank's survival and the market share of the banks.

Maaka (2013) investigated the relationship between liquidity risk and performance of Kenyan commercial banks. The purpose of this study was to investigate the liquidity risk faced by commercial banks in Kenya and to establish a relationship between liquidity risk and the performance of banks in Kenya. The survey found that the profitability of Kenyan commercial banks was adversely affected by the liquidity gap and increased leverage.

Oleka and Mgbodile (2014) studied 17 of the 25 banks that emerged from the 89 banks in operation in 2004 before the reform covering a ten year-period (2002 to 2012) to see the significance of the reform. The study found that there was a significant difference in bank performance before and after the reform, as evidenced by the improved earnings of the indicators used as key performance indicators. The metric used as a performance indicator in this work showed a high return after recapitalization compared to a low return before the change. They conclude that it has

transformed the bank's market structure by increasing operational efficiency and increasing potential profits.

The study conducted by Oboubi et al (2017) using the random effect instead of fixed effect result due to Hausman test suggestion revealed that, recapitalization does not improve the performance of banks measured by ROA. This was however in line with the findings of Badreldin & Kalhoefer (2009) and Straub (2007) which indicates have fail or has negative effect on bank's profitability performance.

In Ghana research was conducted by Yalley et al. (2018) on how bank recapitalization affects bank performance in Ghana and it showed that there is a positive relationship between bank recapitalization and bank performance. Even though the study admits that this may not be the case in other places due to transactional cost differences, Ghanaian banks generally tend to perform better with increased capital. This was attributed to the relatively low cost of capital that banks in Ghana enjoy compared to other countries. Because banks in Ghana pay very little or no interest on savings and on the deposits of their customers, their cost of funding is also greatly reduced. So, after banks raise capital, the cost of the capital, being so low, does not erode the benefit they receive afterward. The research conducted used three different financial metrics to measure bank performance in Ghana: ROA, ROE, and Profit Before Tax (PBT). And all three measures show a positive relationship between bank performance and bank recapitalization.

In a study of capital structure and how it affects bank performance, Samadji (2018) argued that increasing bank leverage leads to improved bank performance. Therefore, if a bank has a policy of increasing capital, it will probably improve its performance if it spends more debt than stocks.

Trujillo-Ponce (2013) and Martins et al. (2019) empirically investigated the main determinants of bank profitability in Spain over the period 1999-2009. The conclusion of the study states that the higher capitalization of the analyzed banks had a positive impact on return on assets (ROAA), but had a negative impact on return on average equities (ROAE). This is in contrast to other findings from some studies in the European economy on the effects of capital and ROE. The study also shows that deposit growth, size, and income diversification do not affect a bank's profitability. External factors such as market concentration, business cycle, inflation rate and interest rates affect a bank's profitability. A study by Trujillo-Ponce (2013) found that recapitalization can increase liquidity in the short term, but does not guarantee the favorable macroeconomic environment needed to ensure high asset quality and good profitability. Trujillo-Ponce (2013) affirm the assertion by (2004).

Therefore, based on this review, the study expects a positive relationship between capitalization and the average rate of return on capital increase. Therefore, capitalization improves the performance (profitability) of banks.

2.4 Conceptual Review/Framework

2.4.1 Bank Regulatory Capital and Performance

Hutchison & Cox (2006), observed whether the FDIC Improvement Act, which requires banks to have stronger capitalization through injection of equity introduced in the early 1990s, showed empirically that, for US banks, there is a positive relationship between financial leverage and the return on equity for the period 1983 to 1989 (marking a less regulated period for banks to increase capital which also hold for the period 1996 to 2002 (marking a highly regulated period), but the relationship diminished. The study further identified the relationship between return on asset and equity. Their results support the hypothesis that there is a positive correlation between

equity and the rate of return on capital. However, according to the general idea of reducing lending supply when banks have to raise regulated capital (Yudistira, 2003), banks have observed a decline in the relationship between financial leverage and return on equity. Naceur & Omran (2011) found in their study that banking regulations seemed to affect their performance,

Subsequent studies on the recapitalization of Nigeria's banking sector have shown more interesting results. Adegbaju & Olokoyo (2008) determined whether the 2001 regulatory capital increase in Nigeria's banking industry affected the banking industry's profitability indicators. They used Student's t-test to be significant to the mean of various measures of return on profitability (return on assets; ROA, ROE) 3 years before the capital increase measurement and 3 years after the capital increase measurement. I tested the hypothesis if there was a difference. They found that recapitalization had a negative impact on the profitability of the banking sector. A subsequent study by Ibrahim, Mohammed & Gani (2012) on Nigerian recapitalization measures in 2004 concluded that recapitalization measures for Nigerian banks put banks (especially small banks) in a serious liquidity crisis.

Ibrahim et al. (2012) uses time series data from the period 2000 – 2009 and analyzed them using independent t-test, discovered that the net interest margin and funding cost significantly increases during the post-recapitalization period 2005 to 2009, while the return on asset significantly decreases after the recapitalization. The ROA results are consistent with those of Adegbaju & Olokoyo (2008). Another study by Sani & Alani (2013) on recapitalization for the period 2002-2008 used the Wilcoxon ranked test to test the generated hypotheses and found that the recapitalization exercise did not have significant impact on the pre-tax profit, earning per share, dividend per share and ROA, but had a significant impact on the ROE. Alajekwu & Obialor (2014) analyzed

Nigerian banking data from 2000 to 2011 using normal least squares regression and found that Nigerian banks' efforts to maximize profits were counterproductive to bank capitalization. Banks' efforts to maintain quality assets and keep their businesses running also usually erode capital.

2.4.2 Bank Capitalization and Credit

Some theories explain how bank capital affects the spread of economic shocks to lending. These theories suggest an incomplete market that is a modification of the standard result of Modigliani & Miller's (1958) theorem. In a broader sense, in a perfect capital market, banks can always borrow money (debts or stocks) to fund lending opportunities, and their capitalization is not important.

Chiuri et al. (2002), It was hypothesized that imposing an increase in regulated capital on emerging market banks may constrain the supply of credit. He said capital control can have different macroeconomic implications, depending on the different institutional and developmental characteristics of each economy. However, their study did not include African banks with relatively low economic growth rates.

Yudistira (2003) found that fixed minimum capital requirements change bank behavior, shrink balance sheets to meet regulatory capital requirements, and actually slow economic growth. His study investigated Indonesian banks and their behavior from 1997 to 1999, and in line with the findings of other emerging markets, found that the decline in credit demand was more pronounced for large banks. Discovered (Chiuri et al, 2002). They expect banks to behave differently in capital and credit supply after the deposit insurance program, which was scheduled to be introduced in Indonesia in 2004.

According to a study by Okpala (2013) on the lending behavior of 22 banks that emerged after the bank's recapitalization in Nigeria, the bank's recapitalization is

affecting the bank's response to lending, and well-capitalized banks It has been shown to be cyclical to the borrower, as it suffers less. From bad debts. The study concluded that the recapitalization improved lending to the production sector of the Nigerian economy. The

Loan to Deposit (LTD) ratio is a measure of a bank's efficiency with respect to the extent to which a bank can convert deposits into loans. The higher this ratio, the more efficient the financial intermediary process provided by the bank. This is a substitute for the bank's lending behavior related to the amount of deposit the bank received. It is used in several references to describe a bank's credit risk management. Higher credit risk should improve banks' returns, as loans are the riskiest asset and therefore the highest-yielding asset according to the risk-return hypothesis (Keeton, 1995; Berlin & Mester, 1999). However, most studies point out that there is a negative link between credit risk and profitability. This is because a higher ratio of loans to assets increases the bank's exposure to non-performing loans and lowers the rate of return.

Naceur & Omran (2011) found that there is a negative relationship between credit risk and ROA in four of the seven ROA models. However, they have observed a positive and very important relationship between credit risk and profitability in just one of the models. Amidu & Hinson (2006) found that less than 1% of Ghanaian banks are exposed to credit risk and 86% of their assets are covered by debt. They also found that credit risk has a positive link to bank equity and total assets.

2.4.3 Economic conditions and Profitability

The economic situation of a country can be considered along with other macroeconomic variables such as interest rates and the money supply. Focus on the first two variables above. According to the literature, the impact of a country's inflation rate on a bank's profitability is not clear. Kosmidou et al. (2005) and Naceur

& Omran (2011) found a positive correlation between the customer price index and bank profitability in a survey of banks in the UK and MENA countries. Meanwhile, Sufian & Chong (2008), their study inflated the Philippines.

Gross domestic product is another important indicator of the economic situation in one or more countries. GDPGR is used by banks to represent a business cycle that controls fluctuations in profitability due to differences in business conditions that affect the supply and demand of credit and deposits. A study by Obamuyi (2013) in Nigeria used dummy variables to show GDP. 1 represents a favorable business cycle and 0 represents a disadvantageous business cycle. Obamuyi's findings show that higher GDP improves business opportunities and ultimately profitability. This is consistent with other results such as Sufian & Chong (2008). Dietrich & Wanzenreed (2011); Naceur & Omran (2011); among other studies.

2.5 Chapter Conclusion

From the literature reviewed, an increase in the regulatory capital should have a positive impact on bank profitability and liquidity (signaling and expected bankruptcy cost hypothesis). Even though, Modigliani and Miller's theory on capital structure holds that capital structure is not a determinant of a firm's value which opposes the signaling and expected bankruptcy cost hypothesis, borrowing gives tax advantage as against equity, because the interest would be deducted from the profit before tax is paid which result in tax shield and intend reduces the cost of debt and then maximizes the firm's performance (which is in support of the traditionalist theory). The study therefore is expected to have a positive relationship between capital and profitability. Also, a bank with more equity would be able to avoid period of liquidity distress (capital buffer theory).

Furthermore, banks with more capital will be able to carry out their daily activities effectively (transactional motive of holding cash) and would also be able to take advantage of any new investments (speculative motive of holding cash)

In terms of external factors like inflation rate and the GDP growth, they are expected to have an influence on banks profitability and liquidity.



CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter the methods and models employed to achieve the stated objectives of the research are described. It's describing the research design, data source, sampling, statistical test of equality of means (to analysis the pre and post impact), regression models on profitability and liquidity to determine the impact of recapitalization on profitability and liquidity.

3.1 Research Design

This research adopted and relied on collection of quantitative data (these are numerical in nature). The correlational design was employed as this study seeks to establish the nature of relationships between variables. According to Kothari (2004), correlational research attempts to discover or establish the existence of a relationship or interdependence between two or more aspects of circumstances.

3.2 Data Source

The annual bank data from 2010 to 2017 for 14 banks out of the 23 licensed banks as at 2018. The annual accounting data of individual banks were gotten from the Bank of Ghana and the Ghana banking survey. Macroeconomic variables such as yearly inflation was gotten from the Ghana Statistical service official website, while the Gross Domestic Product annual growth rate was extracted from the index mundi website and Ghana banking survey.

3.3 Sampling

The fourteen (14) banks were chosen because they had data for the two periods (pre- and post-recapitalization) under review, and have also met the 2018 minimum capital requirement.

We separated the data into two segments: pre-recapitalization and post-recapitalization. The pre-recapitalization era includes the three-year period of 2010 to 2012, while the post recapitalization includes the year 2013 to 2017. This was done in order to examine the effect of the recapitalization exercise on the profitability and liquidity of banks between post recapitalization and pre recapitalization.

The entire data (2010-2017) was used for the regression technique to determine the impact of recapitalization on performance of the banks.

The time frame chosen was based on the fact that it offers recent time series observations of the recapitalization exercise for the existing banks and it constitutes a period of major changes for the banking industry such as the introduction of the minimum capitalization in 2013

3.4 Test of Equality of Means

The t-test of equality of means has been employed to test the impact of the bank recapitalization on the profitability of banks as done by Adegaju & Olokoyo (2008). It was again used by Sani & Alani (2013) in finding out the impact of the recapitalization exercise of banks in Nigeria on the performance of the banking sector in Nigeria and whether the exercise was of any benefit to stakeholders and the economy.

The year 2013 was used as the base year, testing the profitability and liquidity of banks three years before the recapitalization exercise and three years after the recapitalization. The pre-recapitalization return on equity (ROE) and post-recapitalization ROE means were compared using the student t-test analytic technique and same was done to Liquid Funds/Total assets

3.5 Econometric Model

Multiple regression analysis was applied to the data to examine the effect of bank recapitalization on the profitability and liquidity of banks. The regression model ran from the financial reports of the banks that had been in operation since 2010 and whose annual report were available for the periods. The statement of financial performance as well as the statement of financial performance and their notes was studied to obtain the data for the variables described in the model.

$$\text{profitability} = \alpha + \beta_1 \text{liquidity} + \beta_2 \text{ETA} + \beta_3 \text{Dum}_{it}^d + \beta_4 \text{GDPGR} + \beta_5 \text{INF} + \varepsilon$$

$$\text{Liquidity} = \alpha + \beta_1 \text{profitability} + \beta_2 \text{ETA} + \beta_3 \text{Dum}_{it}^d + \beta_4 \text{GDPGR} + \beta_5 \text{INF} + \varepsilon$$

Where;

Liquidity—liquid funds/total asset

profitability — Return on Equity (ROE)

α — constant value

ETA — equity to total assets which measures capital

ε —error term

Dum_{it} —denotes the dummy variable for the period for which the recapitalization was implemented. 1 denoting post- recapitalization period and 0, for pre-recapitalization era

3.6 Justification of Variables

CAPITALIZATION (ETA) has been demonstrated to be an important factor in explaining the performance of financial institutions. It is an important component of reforms in the banking industry. This variable's impact on banks profitability, according to the literature, is quite ambiguous. A low capital ratio indicates a relatively high-risk position. A negative coefficient is expected for this variable. (Berger, 1995). Alternatively, higher capital would decrease the cost of capital leading

to a positive impact on profitability (Berger, 1995; Kosmidou et al., 2005; Sufian & Chong, 2008). There are five reasons to believe that higher capitalization should foster the profitability.

First, banks with high capital adequacy ratios are cautious in lending. Second, high capital ratios are an important signal of creditworthiness, so high-capital banks should be able to lower funding costs (Molyneux, 1993). Third, well-capitalized banks need less to borrow to maintain a given property. This can be important in emerging markets where borrowing is more constrained. Fourth, capital can be seen as a cushion to increase the proportion of risky assets such as loans. If a market condition allows banks to make additional loans with a beneficial return, this should mean higher profitability. Finally, an increase in capital may raise expected earnings by reducing the expected cost of financial distress including bankruptcy (Berger, 1995).

Increase in regulatory capital, however, would force banks to reduce some of their assets, especially the risky ones, thereby reducing the positive impact of capital on their profitability (Hutchison & Cox, 2006), or having a rather negative impact on their ROE (Saona, 2011). The expected relationship is therefore mixed.

PERIOD (dummy) denotes a dummy variable defining the time (2010-2012) period for which banks were operating without the enforcement of the statutory regulatory capital requirement and the time (2013 – 2017) upon the enforcement of the statutory regulatory capital requirement. Zero (0) denotes the period 2010 – 2012 and one (1) denotes the period 2013 – 2017.

GDPGR denote the Gross Domestic Product growth rate as a proxy for macroeconomic environment –GDP per capita. The GDPGR is used as a proxy of business cycles in which banks operate, and controls for variances in profitability and liquidity due to differences in business conditions which impact the demand and

supply of loans and deposits (Obamuyi, 2013). GDPGR is expected to have a positive impact on bank's performance according to the well-documented literature on the association between economic growth and financial sector performance.

INFLATION is the annual average increase in the Ghanaian consumer price index. Previous studies have reported a positive association between inflation and bank profitability. A rise in inflation causes banks to increase lending rate to offset any cost associated with it in order to maintain or have higher income. In such situations inflation is expected to exert a positive effect on profitability (Kosmidou, et al., 2005 and Ben Naceur & Omran, 2011). However, if inflation is not anticipated and banks are sluggish in adjusting their interest rates, there is a possibility that bank costs may increase faster than bank revenues or the costs associated with inflation is more than bank's income. In this case, a negative coefficient is expected (Sufian & Chong, 2008).

For the measure of PROFITABILITY, we used a bank's return on equity (ROE) i.e., pre-tax income divided by stockholder's equity, for this purpose. Return on Equity is a comprehensive profitability measure, because banks must allocate capital against every off-balance sheet activity in which they engage. We use this measure of profitability because it shows how effective a bank management is utilizing its shareholder's fund. Furthermore, it can be observed from extant literature in finance that ROE is a preferred measure of profitability. The researcher, therefore want to make a general inference on the impact of the recapitalization exercise on profitability of banks in Ghana.

LIQUIDITY is measured using a bank's liquid funds/total assets, that is the asset of banks that can be easily and conveniently converted into cash at less or no cost divided by the total assets of the bank, for this purpose liquid funds/total assets is a

comprehensive liquidity measure, because banks must maintain a certain level of cash to enable them carry out their core mandate like meeting the demands of customers. We use this measure of liquidity because it shows how effective banks manage their assets and liabilities. Furthermore, it can be observed from existing literature in finance that liquid/total assets are a preferred measure of liquidity.



CHAPTER FOUR

RESULTS ANALYSIS AND DISCUSSION

4.0 Introduction

The chapter is outlined as follows; it begins with descriptive analysis of the study variables in order to know the profile analysis of the data, followed by a pre and post analysis of financial performance related banks and finally provide a summary of the effect of bank recapitalization on profitability and liquidity.

4.1 Descriptive Analysis

In order to identify the distribution of the study variables a descriptive analysis was performed on the selected variable for the 14 banks over the 8 year period (2010 – 2017). The main descriptive tools selected under the study are mean, standard deviation, skewness, minimum and maximum values.

Table 1 Descriptive Statistics of Variables Used in Empirical Model

	Minimum	Maximum	Mean	Standard deviation	Skewness
Profitability	-0.274	0.511	0.221	0.142	-0.868
Liquidity	0.290	1.100	0.672	0.174	0.103
Equity to Total Asset	0.540	0.440	0.149	0.051	2.181
Dummy	0.000	1.000	0.630	0.486	0.328
GDP Growth	3.700	13.600	7.238	3.203	0.585
Inflation Rate	7.100	17.500	12.588	3.597	0.010

Source: Results obtained from Author's computation using Stata

As observed the maximum profitability (ROE) is 0.511, indicating 51.10% profit on the total equity employed and a minimum of 27.400% showing a loss on equity was observed by Republic Bank Ghana limited as shown on table 4.1. Averagely, the

banks generated 22.094% returns on their equities for the entire period. However, with a standard deviation of 14.226%, which connotes the gap between the profitability of the best performing bank and the worst performing bank over the period. The coefficient of variation is 64.3% indicates that the profitability of the banks was widely spread from the average profit of the banks.

Under liquidity (liquid funds/ total asset) it was observed that, the maximum value is 1.100 which shows that 110% of the total asset of the bank can easily be converted to cash, meaning the bank was highly liquid for that period and a minimum of 29.00%. On the average, 67.19% of the total assets of the banks for the entire was liquid funds whilst the standard deviation for the period is 17.387% showing the gap between the liquidity of the best performing bank and worst performing bank for the entire period. The coefficient of variation is 25.90% which indicates that the liquidity of the banks was close to the average liquidity of the banks.

4.2 Pre and Post Analysis Conducted on Profitability and Liquidity of Banks

As part of the objective of this study, pre and post analysis was conducted to determine whether there is a difference between performance (profitability and liquidity) of banks before and after recapitalization. To perform this, a test for equality of two means was employed using three years before and five years after, following the approach in Adegbaju & Olokoyo (2008) and the results are shown on table 4.2

Table 2 Test of Equality of Mean

Variables	Pre-recap. Mean	Post- recap. Mean
Return on Equity	0.206	0.230
Liquid funds to Total asset	0.597	0.717

Source: Results obtained from Author's computation using Stata

The mean profitability and liquidity measures after the recapitalization exercise were higher than those before the exercise as shown on table 4.2. The profitability ratio and the liquidity ratio showed an increase (11.650% and 20.101% respectively) from their mean values before the recapitalization.

In testing hypotheses one and two, we use the T – Test paired sample test from SPSS.

The result is shown in table 4.3.

Table 3 T –test Paired Sample Test

	Mean difference	Standard Error	T- statistic	P-Value
ROEpre – ROEpost	-0.024	0.028	-0.267	0.791
LIQpre – LIQpost	-0.120	0.028	-3.189	0.003

Source: Results obtained from Author's computation using Stata

4.2.1 Hypothesis 1

The test for hypothesis, profitability before recapitalization equal to profitability after recapitalization as against profitability before recapitalization not equal to profitability after recapitalization ($H_0: ROE_{pre} = ROE_{post}$ Against $H_1: ROE_{pre} \neq ROE_{post}$) as indicated on table 4.3 was not significant. We therefore fail to reject the null hypothesis and conclude that there is no significant difference between what shareholders earn before recapitalization and what they are earning after the recapitalization exercise ($p\text{-value} > 0.05$).

However, the post-recapitalization profitability (Return on Equity) mean was just about 0.024 better than the pre-recapitalization profitability (Return on Equity) mean shown on table 4.3. This is consistent with the findings of Sani & Alani (2013) that bank recapitalization does not have significant effect on the profitability (ROE).

4.2.2 Hypothesis 2

On the liquidity (liquid funds to Total asset), the hypothesis, liquidity before recapitalization equal to liquidity after recapitalization as against liquidity before recapitalization not equal to liquidity after recapitalization (H_0 : Liquid Funds/Total Assets_{pre} = Liquid Funds/Total Assets_{post} Against H_1 : Liquid Funds/ Total Assets_{pre} \neq Liquid Funds/Total Assets_{post}) was significant. Therefore, the null hypothesis was rejected and we conclude that there was a significant difference between liquidity status of banks before recapitalization and after recapitalization (p-value < 0.05)

The difference between post recapitalization liquidity mean and the pre recapitalization liquidity mean was significant (0.0924) shown on table 4.3.

4.2.3 Discussion of Results

Table 4 Correlation Matrix of Independent Variables Used in the Model

	Profitability	Liquidity	Equity to Total Asset	Dummy variable	GDP Growth rate	Inflation rate
Profitability						
Liquidity	0.327	1.271				
Equity to total asset	0.023	0.230	1.089			
Dummy	0.079	0.334	(0.073)	3.426		
GDP growth rate	(0.230)	(0.154)	(0.040)	(0.420)	4.156	
Inflation rate	(0.080)	0.155	(0.081)	0.348	(0.472)	6.035

Source: Results obtained from Author's computation using Stata

The correlation between the independent variables is very low as shown on table 4.4.

This means that there is no evidence of multicollinearity between the independent variables.

4.3.1 Profitability and recapitalization

Profitability (Return on Equity) measures the income earned on each unit of shareholder's capital. Shareholder's capital is a major constituent of bank's working

capital. The profitability (ROE) model comprised of five independent variables, (liquidity, ETA, dummy, inflation, and GDPGR) with the dependent variable profitability (ROE). Inflation and GDP growth rate describe the macroeconomic environment of the country over the period under investigation. A dummy variable was employed to describe the period before and after the regulatory capital were to be met by banks.

Table 5 Model Summary for Profitability

Model	R	R Square	Adjusted R square	Standard Error of the Estimate
1	0.418	0.175	0.136	0.132

Source: Results obtained from Author's computation using Stata

The R square measures the proportion of variation in the dependent variable (profitability) explained by the independent variables (liquidity, equity to total assets, dummy, inflation and GDP growth rate) for regression model. The R square value as shown on the table 4.5 is 0.175 signifying 17.5% of variations in the dependent variable (profitability) are been explained by the independent variables.

Table 6 ANOVA for Profitability

Model	Sum of squares	Df	Mean Square	F	P-value
Regression	0.393	5	0.079	4.496	0.001
Residual	1.854	106	0.017		
Total	2.247	111			

Source: Results obtained from Author's computation using Stata

As indicated in Table 4.6 profitability of banks (dependent variable) and as such is predicted by the independent variables (liquidity, equity to total assets, dummy,

GDP growth rate and inflation), $F(5, 106) = 0.001$. This implies that the model has explanatory power. Which is to say, that the independent variables (liquidity, equity to total assets, dummy, GDP growth rate and inflation) assist in the prediction of profitability of banks (the dependent variable). Thus, the model is significant.

Table 7 Regression Result: ROE Dependent Variable

$$\text{profitability} = \alpha + \beta_1 \text{liquidity} + \beta_2 \text{ETA} + \beta_3 \text{Dum}_{it}^d + \beta_4 \text{GDPGR} + \beta_5 \text{INF} + \varepsilon$$

Return on Equity	Coefficient	Standard Error	t- value	P- value
Constant	0.459	0.162	2.842	0.005
Liquidity	0.255	0.081	0.312	0.002
Equity to Total Asset	0.034	0.259	-0.745	0.458
Dummy	0.063	0.048	1.328	0.187
GDP Growth Rate	-0.016	0.008	-0.962	0.520
Inflation	-0.024	0.009	-0.847	0.049

Source: Results obtained from Author's computation using Stata

Equity to Total Asset which represents the capitalization of banks (Shareholders' equity to total asset) has a positive and statistically insignificant (at the 5% significant level) relationship with bank performance (ROE). This positive but insignificant relationship implies that profitability of banks is not dependent on bank recapitalization.

This result is inconsistent with the findings of Berger (1995) in the U.S., Kosmidou et al. (2005) in the U.K., Sufian & Chong (2008) in the Philippines, Naceur & Omran (2011) in the Middle East and North African countries and that of Boahene et al. (2012), which also support the signaling and bankruptcy hypothesis, specifically in Ghana.

Liquidity which is liquid funds to total asset of banks, has a positive and statistically significant ($p\text{-value} < 5\%$) relationship with profitability (ROE). The positive signifies that the higher the liquidity, the higher the profitability of banks. This study is consistent with the finding of Bordeleau, Crawford and Graham (2009). reviewed the impact of liquidity on bank profitability Results from the study suggested that a nonlinear relationship exists, whereby profitability is improved for banks that hold some liquid assets, however, there is a point beyond which holding further liquid assets diminishes a banks' profitability, all else equal. The positive relationship exists because financially unstable (illiquid) banks would attract additional cost in borrowing from the central bank, other banks, selling off loans etc. to meet their liquidity challenges meanwhile they would have avoided all these costs if they were liquid. The avoidance of these costs will increase their profitability.

The result again depicted that the, yearly average increase in the Ghanaian consumer price index (Inflation) has a negative and statistically significant (at the 5% significant level) relationship with the profitability (ROE). This means that, the higher the inflation the less profitable banks become.

The GDP Growth Rate is negatively related to the profitability, but insignificant. The result, however, is inconsistent with the findings of Naceur & Omran (2011) for banks in MENA countries; Obamuyi, (2013) on the Nigerian banking sector. In theory, banks generally would experience increase in profit as the level of economic activities increase in a country. This level of increase in economic activities is indicated by GDP Growth Rate. However, banks are the wheels of private sector development which is an essential part of a country's economic growth. A mandatory increase in banks' capitalization will reduce their lending behavior, thereby causing a decline in economic growth.

The dummy variable in the regression is positively related to the profitability (ROE) but insignificant. The dummy variable which was used to substitute the time period for which banks were to have met regulatory capital is insignificant at the 5% significant level. The positive but insignificant relationship indicates that the profitability before recapitalization and after recapitalization are virtually.

4.3.2 Liquidity and recapitalization

Liquidity measures the amount of total assets of banks held as cash. Liquidity is vital to the sustainability of banks. The liquidity model comprised of five independent variables (ROE, ETA, Dummy, INF and GDPGR) with liquidity being the dependent variable. Inflation and GDP growth rate describe the macroeconomic environment of the country over the period under investigation. A dummy variable was employed to describe the period before and after the regulatory capital were to be met by banks.

Table 8 Mode Summary for Liquidity

Mode	R	R square	Adjusted R square	Standard Error of Estimate
1	0.529	0.280	0.246	0.151

Source: Results obtained from Author's computation using Stata

The R square measures the proportion of variation in the dependent variable (Liquidity) explained by the independent variables (Profitability, equity to total assets, dummy, inflation and GDP growth rate) for regression model. The R square value as shown on the table 4.7 is 0.280 signifying 28% of variations in the dependent variable (Liquidity) are been explained by the independent variables.

Table 9 ANOVA for Liquidity

Mode	Sum of square	Df	Mean square	F	P – value
Regression	0.940	5	0.188	8.245	0.000
Residual	2.416	105	0.023		
Total	3.356	111			

Source: Results obtained from Author's computation using Stata

As indicated on Table 4.9 liquidity of banks (dependent variable) and as such is predicted by the independent variables (profitability, equity to total assets, dummy, GDP growth rate and inflation rate), $F(5, 105) = 0.000$. This implies that the model has explanatory power. Which is to say, that the independent variables (profitability, equity to total assets, dummy, GDP growth rate and inflation) assist in the prediction of liquidity of banks (the dependent variable). Thus, the model is significant.

Table 10 Regression Result on Liquidity Dependent Variable

$$\text{Liquidity} = \alpha + \beta_1 \text{Profitability} + \beta_2 \text{ETA} + \beta_3 \text{Dum}_{it}^d + \beta_4 \text{GDPGR} + \beta_5 \text{INF} + \varepsilon$$

Liquidity	Coefficient	Standard Error	T – value	P-value
Constant	0.414	0.187	2.213	0.029
Return on Equity	0.333	0.106	3.138	0.002
Equity to Total Asset	0.845	0.285	2.968	0.004
Dummy	0.181	0.052	3.466	0.001
GDP Growth Rate	0.004	0.009	0.479	0.633
Inflation	-0.007	0.010	-0.678	0.043

Source: Results obtained from Author's computation using Stata

Equity to Total Asset has a positive and statistically significant (at the 5% significant level) relationship with Liquidity. This positive relationship implies that the higher the

capitalization of banks, the more the banks become liquid. Generally, a regulatory increase in capital enables banks to have more funds for their operations which make them more liquid.

Dummy the dummy variable has a positive and significant relationship with liquidity of banks in Ghana at (5% significant level). The positive relationship shows that the time period for which banks were to meet the regulatory capital increase has a positive impact on their liquidity. This implies that there is a positive relationship between the periods when regulatory capital was not imposed on banks and banks' liquidity.

Here, the GDP Growth Rate is positively related to liquidity, but insignificant. In theory, banks generally would experience increase in liquidity as the level of economic activities increase in a country. This is because a higher level of economic activities is an indication that institutions (banks) and individuals have increased their level of economic activities. This implies that institutions and individuals will earn more on their investments and would therefore save or invest with the banks which increase the liquidity of the banks.

Inflation on the other hand, has a negative and significant relationship with liquidity. Generally, higher inflation implies higher cost of operation in the form of increase in expenses of banks. This indicates a higher out flow of cash from the banks which intend decreases their liquidity status.

4.4 Discussions of Findings

The major objective of this study is to find the impact of the recapitalization exercise on the performance (profitability and liquidity) of Ghanaian banking industry. The result of our analyses provides estimates of the impact of the imposed regulatory minimum capital of the Ghanaian banks on their profitability and liquidity. The

hypothesis test of profitability ratio follows the work of other researchers (Adegbaju & Olokoyo, 2008; Mohammed & Gani, 2012; Ibrahim et al., 2012 and Sani & Alani, 2013) on similar studies conducted in Nigeria on recapitalization exercise of Nigerian banks. Performance (profitability and liquidity) ratios were tested using the student's t-test of equality of means. Two hypotheses were, therefore, formulated each for a particular performance ratio. This was used to answer the first research question. It was found out that there was no significant difference between the mean profitability (ROE) before the recapitalization and the mean profitability (ROE) after the recapitalization exercise. This is consistent with the findings of Sani & Alani (2013) that bank recapitalization does not have significant effect on the profitability (ROE).

On the other hand, the mean liquidity status of banks before recapitalization is significantly different from that of after recapitalization.

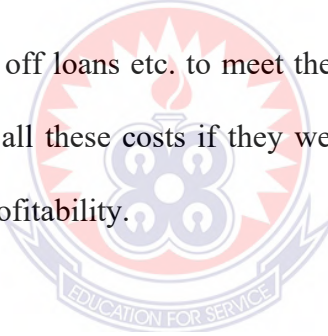
Furthermore, regression analysis was conducted to verify the findings from the student's t-test of equality of profitability and liquidity means. The results showed a positive but insignificant relationship between recapitalization and profitability. The positive but insignificant relationship implies that profitability of banks is not dependent on bank recapitalization.

This result is inconsistent with the findings of Berger (1995) in the U.S., Kosmidou et al. (2005) in the U.K., Sufian & Chong (2008) in the Philippines, Naceur & Omran (2011) in the Middle East and North African countries and that of Boahene et al. (2012), which also support the signaling and bankruptcy hypothesis, specifically in Ghana.

On the other hand, liquidity of banks against shareholders' capital (ETA) depicted a positive and statistically significant (at the 5% significant level) relationship with Liquidity. This positive relationship implies that the higher the capitalization of

banks, the more the banks become liquid. Generally, a regulatory increase in capital enables banks to have more funds for their operations which make them more liquid.

Addressing the issue of whether profitability (ROE) has a relationship with liquidity (liquid funds to total assets), the results depicted, that the higher the liquidity, the higher the profitability of banks. This study is consistent with the finding of Bordeleau, Crawford and Graham (2009). reviewed the impact of liquidity on bank profitability Results from the study suggested that a nonlinear relationship exists, whereby profitability is improved for banks that hold some liquid assets, however, there is a point beyond which holding further liquid assets diminishes a banks' profitability, all else equal. The positive relationship exists because financially unstable (illiquid) banks would attract additional cost in borrowing from the central bank, other banks, selling off loans etc. to meet their liquidity challenges meanwhile they would have avoided all these costs if they were liquid. The avoidance of these costs will increase their profitability.



CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.0 Introduction

This chapter summarizes findings, conclusions and recommendations based on the results. The summary gives highlights of the study, reporting the various highlights of the study. The interpretations based on the empirical study are captured in the conclusion while the recommendations are proposed based on the conclusions. The recommendations are relevant for future research as well as recommendations for the regulatory body, practitioners and managers to adopt and apply to their banks.

5.1 Summary of Key Findings

The banking industry is critical to economic development and growth of a country. For a proper financial intermediation and sustainable private investment, a healthy financial system is required, because the competitive landscape and operational environment have become dynamic. The pressure has become keen on banks to compete as banks have become more integrated into the global financial system. For banks in Ghana to be well positioned to invest in big ticket deals, to withstand economic shocks and to maintain financial stability, it is imperative for their capital base to be increased, hence the recapitalization of the Ghanaian banking industry in 2018. It is significant to find the impact of this recapitalization exercise on the performance of banks (profitability and liquidity).

This study examined two issues concerning the regulatory increase in capital of banks in Ghana. First of all, it looked at the impact the regulatory increase in capital has on the performance of the banking industry. The test of equality of profitability means before and after the recapitalization exercise showed the pre and post profitability means tests were insignificant.

The test of equality of means of liquidity before and after recapitalization of banks, however, showed a significant difference.

5.2 Limitation

The study used three years retrospective and five years' prospective yearly data of the universal banks in Ghana from 2010 to 2017. This was because we needed to know the impact of recapitalization and for comparison's sake; it became necessary to consider the performance of these banks before they were recapitalized. This will help us to predict the likely impact of the recent recapitalization of GHS 400 million on bank performance (profitability and liquidity). The study mainly focused on the impact of the 2018 recapitalization, which sent some banks into mergers (as in Omini bank and Sahel Sahara). Fourteen licensed commercial banks were chosen from the banks that existed as at 2010 and were able to meet the 2018 minimum capital requirement using judgmental sampling technique. The choice of this method is necessitated to include those that have complete information on re-capitalization. It was by 31st December, 2018 that all banks in Ghana (foreign and local) met the GHS 400 million recapitalization requirement. All the banks had started operation with the new capital required as at January 2019. Therefore, the research lacked information on the aftermath performance of the December 2018 recapitalization. In order to make comparison, the researcher considered the period of the recapitalization as pre and post recapitalization. That is, three years before and five years after recapitalization data starting from 2010 to 2017.

5.3 Conclusion

Based on the result of the test of equality of means, the recapitalization exercise has helped increase the liquidity of banks significantly, but that of the ROE was insignificant. This means that, though the recapitalization will enable banks to be

more liquid, the shareholders may not see a significant improvement on their profit as a result of the exercise. Overall, the recapitalization had a positive impact on profitability although the relationship was insignificant.

5.4 Recommendations

1. Based on the study, it is apparent that recapitalization increases the overall profitability of the banks, but not significantly. We therefore recommend that Bank of Ghana should enhance the supervisory role; because a good regulation and supervision will enhance corporate governance practices, reduce unnecessary cost and expenses and this will help banks to be more profitable in the long run.
2. Also, the study showed that recapitalization increases the liquidity of banks significantly. We therefore recommend that Bank of Ghana should regularly increase the minimum capital of banks, since recapitalization makes banks more liquid. Banks can also increase their capital by issuing more shares to the public to avoid liquidity challenges.
3. The study indicated a positive but insignificant impact of bank recapitalization on profitability. That is, an increase in the minimum capital is not expected to generate significant profit for banks. We therefore recommend that; banks should put in place good corporate governance that will allow for transparency and minimize fraud in the bank. We again recommend that, shareholders have the responsibility to choose their directors, which will in turn choose members of management that will run the affairs of the banks. They should put in place good management that will protect their investment and increase the profitability of the banks. To generate more profit, the banks need a good

regulatory environment that will enable them to expand their scope of business but strictly within the financial industry.

4. Furthermore, the study showed that recapitalization improves the liquidity of banks significantly. We again recommend that the Bank of Ghana increase the minimum capital requirement to enable the banks become more liquid whilst the banks can issue more shares to generate more capital in order to be more liquid.

5.4.1 Suggestion for further study

Future research should consider the period from 2019 to 2022 as post recapitalization period when all the banks have data between that period and had started with the new capital requirement to see whether a similar result would be obtained.



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APPENDIX 1:

LIST OF SELECTED UNIVERSAL BANKS

1. GCB Bank
2. Barclays Bank Ghana Limited
3. Standard Chartered Bank Ghana Limited
4. Ecobank Ghana Limited
5. Guarantee Trust Bank Ghana Limited
6. United Bank of Africa Ghana Limited
7. Cal Bank Ghana Limited
8. Access Bank Ghana Limited
9. Zenith Bank Ghana Limited
10. Republic Bank Ghana Limited
11. Société Générale Bank Ghana Limited
12. Fidelity Bank Ghana Limited
13. Agricultural Development Bank Ghana Limited
14. Prudential Bank Ghana Limited

Source: Ghana Banking Survey