KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HUMANITIES AND SOCIAL SCIENCES

SCHOOL OF BUSINESS

DEPARTMENT OF ACCOUNTING AND FINANCE

FACTORS THAT AFFECT THE PROFITABILITY OF THE LISTED COMMERCIAL BANKS IN GHANA.

A DISSERTATION PRESENTED TO THE DEPARTMENT OF ACCOUNTING AND FINANCE IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTERS IN BUSINESS ADMINISTRATION

BY

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DECLARATION

I hereby declare that this research is part of the requirements towards the attainment of a Masters' in Business Administration and that, to the best of my knowledge, it contains no material previously published by another person nor materials which have been accepted for the award of any other degree of the university, except where due acknowledgement has been made in the text.

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SUPERVISOR'S DECLARATION

I declare that I have supervised the student in undertaking the study submitted herein and I confirm that she has my permission to submit it for assessment.

…… ……

Mr. P. K. Oppong-Boakye (SUPERVISOR) DATE

…… ……

Dr. K. O. Appiah (Head of Department) DATE

DEDICATION

I dedicate this research to God Almighty for His strength, wisdom, knowledge and favour. I also dedicate this project to my parents, siblings and husband for their support and prayers.

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ABSTRACT

In order to resist shocks and maintain financial stability, it is vital to identify the determinants that mostly influence the profitability of commercial banks. This study examines the impact of bank-specific as well as macroeconomic factors on the profitability of the listed commercial banks on the Ghana Stock Exchange from the year 2004 to 2013. It uses a panel regression with the help of STATA to analyse the impact of loans, capital ratio, liquidity, expenses, deposits, inflation rate, taxation and gross domestic product (GDP) on profitability using return on equity (ROE) and return on asset (ROA) as the measures. The empirical results found that capital ratio, expenses and liquidity had strong influence on both measures of profitability. Loans, and taxation influenced ROA with deposits affecting ROE. However, the results showed that liquidity and taxation had a positive relationship with profitability which could be due to the bank's ability to transfer taxes to customers or the holding of adequate liquidity helps minimize liquidity risk and financial crises leading to an increase in profit. GDP also surprisingly had a negative impact on profitability. With regards to the macroeconomic variables, none of them showed a significant relationship with the banks' profitability. These results imply that in order to increase profitability, management should be concerned with improving its bank-specific factors.

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CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF THE STUDY.

The Banking sector serves as the engine of modern trade and commerce. It provides the needed finance to undertake them. It helps in the mobilization of resources and facilitation of investment for development in the country. The increasing idea of globalization has made the efficiency concept more vital both for the non-financial and financial institutions and the banks are no exception. Banks rely largely on competitive marketing strategies which determine their achievement and progress. Compared to the years bygone, the banking business has changed a lot in this new millennium. (Hussain and Bhatti, 2010)

Bank performance, for a while now, has been of enormous interest for both academic and business purposes. The operation of a bank has become so sophisticated, with its survival and growth now depending to a large extent on its level of innovativeness and pro-activity, which can possibly be achieved through a critical analysis of the banking business environment in an economy. (Donkor and Tweneboah-Kodua, 2013) Due to the global shift in knowledge and upsurge in competitive pressures in the market place, there has been a shift in focus from tangible to intangible factors. These factors are now considered as the most precarious factors in having a competitive edge (Quaicoo, 2001). Due to this, factors such as knowledge management, developing attractive products and services, attracting the required labour as well as developing and retaining talent in the banking sector are extremely important to the success of any bank.

The major role of a financial system is to loosen the mechanisms that facilitates the economic operations. In its efficient state, the financial system improves profitability, increases the size of funds flowing from the savers to the borrowers and provides improved quality services for customers. The banking system transfers funds from the saving units to the investing units which would have otherwise been idle. This role of financial intermediation, provided by the banking sector enhances economic acceleration. It does so by converting deposits into productive investments (Levine et al., 2000). Technological advances in the last few decades, has improved the level of profitability of banks universally. This has not been limited solely to the countries that are bank-oriented like the Eastern and Central Europe (Athanasoglou et al., 2006), but also in the market-oriented ones like the United States (Zhang et al., 2006).

Stable macroeconomic environment tends to stabilize the banking system. This guarantees efficient and effective advancement of savings and investment decision. The banking system performance, particularly regarding monetary policy, transparent fiscal policy and financial stabilization must be buttressed by macroeconomic measures. Monetary policies such as changes in interest rate influences the cost of capital. This tends to affect investment decision, level of consumption and savings at large.

Banks play a vital role in the efficient and effective growth of the economy. It provides guidelines to the financial institutions. Hence, it facilitates the mobilization investment and resources in the economy for developmental activities in the country. For the bank to be successful, they must have the ability to predict and evade the risk associated with losses. The cheapest source of funding for competitive banking is profit and it is a major requirement for every banking institution. The growing competition in the financial market makes profitability essential for the success of the banking industry. (Balachandha et. al., 2002) These crucial

facts sway the efficiency and effectiveness of the banks to handle portfolios like assets and liabilities to attain profitability and also, their ability to discover the areas where it might have probable room for increasing profitability.

The determinants of the profitability of banks can be categorized under two main headings; the internal factors and the external factors. Both the intrinsic and exogenous factors tend to affect the profitability and earnings in the banks. (Sufian and Habibullah, 2009). The internal factors focus on bank specific features of the bank. They are affected by management decisions and goals to be achieved by the bank. This includes the bank size, capital structure, loan, liquidity, the level of provisioning, innovation and deposits. External factors are the factors that are outside the control of the bank. It is linked with macroeconomic and environmental conditions that affect the bank's operations and performance. These include the Gross Domestic Product (GDP), inflation, competition, ownership, lack of capital, money supply and Interest rate.

According to Guru, Staunton and Shanmugan in their work, determinants of Commercial bank profitability in Malaysia (2002), the internal factors basically reflect the variations in bank management policies and decisions regarding sources and how funds are managed, expenses management as well as capital and liquidity management. They identified the internal factors to include capital ratios, assets and liability portfolio mix, liquidity ratios and overhead expenses. The external factors on the other hand could be related to the environment or specific to the firm or industry.

Profitability as an accounting theory shows surplus of revenue over expense for a specified period of time. It represents the earnings that banks get for the various activities they perform. (Waqas et. al., 2014). Profitability is a silent feature and a major pillar of discussion by a

business unit. It serves as the rudimentary aim of any business and economic bank. As in a study conducted by Amandeep (1991) on commercial banks profitability, he discovered that, the reliability of the organization for shareholders, long term creditors and management is crucial. In that, it helps to know the financial soundness of the bank. Profitability shows the association between the absolute amount of revenue that specify the ability of a bank to increase its loans to customers and boost their profit. (Waqas et al., 2014).

Ghana being a Sub- Saharan African country has had its fair share of the Africa's economic downturn in 2008 and 2009 in relation to global financial crises. According to the IMF Country Report in 2011, Ghana's real GDP growth rate decreased by 4% in 2009 and the growth rate of Ghanaian banks in terms of profitability with regards to return on assets in this same year decreased by 0.4%, whiles the return on equity also decreased by 7.5%. The growing competitive nature of the Ghanaian banking industry coupled with the rippling effect of the global financial crisis poses a lot of threats to the survival of most financial institutions. Thus, the impact of the various factors on the commercial bank's profitability must be determined not only to gain an edge but to ensure the very survival of the banks.

1.1 PROBLEM STATEMENT

It is believed that the western nations have the most reliable and stabilized financial institutions globally. However, the financial institutions in the less developed countries such as Ghana also tend to manage their resources in such a way that, it has of recent years become one of the most profitable sectors in the economy. Even the June 2011 IMF country report claimed that, the Banking sector in the country is much more vulnerable and prone to several risks that are associated with the operations of the banking institutions. Nonetheless, it still experiences profitability and steadiness.

This study seeks to research into the core factors that influence the profitability of the banks in Ghana.

Profitability is a key factor to consider for the smooth running of any business and banks are no exception. The recent competitive setting has a substantial bearing on the performance of the institutions as the financial ability of banks can also impact the economic development. Identification of profit determinants offer an opportunity to know which variables influence a bank's profit thereby redirecting the attention of management in times of decision making. According to the 2014 International Journal of Accounting and Financial Reporting, an economic sector that has a well-established banking setup can also subsidize the sturdiness of the financial system within boundaries of the economy. Over the years researchers have devoted considerable time and money to research into the importance of the commercial variables. Various studies have linked variables. All these point to the importance of this research and the variables that will be considered in this study.

1.2. RESEARCH OBJECTIVE

The objective of this research is to evaluate the main drivers of commercial banks profitability in Ghana.

- To identify the main drivers of commercial banks profitability in Ghana.
- To examine the contribution of the bank-specific factors and the macro-economic factors on the variations in the profitability of the listed Ghanaian commercial banks.
- To determine the level of correlation between the internal and external factors and profitability of the listed banks in Ghana.

Specifically, the study intends to establish the impact of key internal and external factors on the profitability of banks in Ghana so that remedial action can be taken for the increase it.

1.3 RESEARCH QUESTIONS

In order to bring to light the purpose of this research, these guiding research questions will be addressed.

- What are the main factors driving profitability of commercial banks in Ghana?
- What are the management controllable determinants influencing the profitability of the listed banks in Ghana?
- What are the core industry-specific factors, impacting banks profitability in Ghana?
- How do macroeconomic variables (GDP growth rate, inflation and interest rate) affect banks' profitability?

1.4 JUSTIFICATION OF THE STUDY

The increasingly growing competition in the financial sector makes it very crucial for individual and corporate investors, financial and non-financial institutions and all other stakeholders to continue to research into this field. (Waqas. et. al., 2014). There has been a lot of studies concerning bank profitability to date, including that of Goddard, Molyneux, and Wilson (2004), where they employ different linear models to evaluate the impact of various factors that could be significant in terms of explaining profits. However, according to Athanasoglou et al. (2008), these studies failed to consider the robust and dynamic nature of the economic environment and also ignored the internal factors in the choice of variables.

In a world of global financial systems, the involvement of foreign bank in domestic banking markets has changed the ball game. It has caused competition to intensify and profit margins

to reduce. (Waqas. et. al., 2014). This makes the study of a bank's profitability a particularly thrilling phenomenon and thus, has aroused my interest to research on this topic.

The purpose of this study in particular is to help the financial institutions in Ghana to identify the key factors that directly and indirectly affect their profit and the quantum of their effect. It will help banks prioritize and know exactly where to invest and innovate in order to make profit.

My fellow researchers will also be beneficiaries to this study as it will point other areas that need to be researched into as well as serve as a guide to others who wish to undergo similar researches in other sectors.

The study of bank's profitability variables is imperative for institutions directors, financiers and government to aid in evaluating the bank's effectiveness and as such maintain government policies. Profitability influences depositors' choices and enables individuals assess the bank manager's strategies to achieve the planned goals. (E. Mamatzakis & Remoundos, 2003).

1.5 SCOPE OF THE STUDY.

The study will consist of all the listed banks on the Ghana Stock Exchange except the Trust Bank and cover a 10-year period from 2004 - 2013. It includes both the internal and external factors that affect the profitability of banks in Ghana. The factors to be considered include the Gross domestic product, inflation rate, loans, expenses, deposits, liquidity ratio, capital ratio and taxation. The financial reports to be used for assessment of these banks are available at the Ghana Stock exchange website and the macroeconomic data available at the World Bank site and the Ghana statistical services.

1.6 LIMITATIONS

This research like every other is faced with certain challenges. It's major challenge is its inability to capture every variable that influences a bank's profitability. It may as such not answer all questions bothering the minds of businessmen, scholars, researchers and many others concerning this issue.

It also faces the problem of time constraint. The amount of time available to undertake this research is not enough to give a very detailed research. It does not also cover the entire time period of the existence of the commercial banks. Lastly, the data used in the study may not reflect the true nature of how things are on the ground. This is explained by the IMF country report in 2011 which claims that, there is a variety of unethical practices engaged in by Ghanaian banks, resulting in an overstatement of capital, profitability, and liquidity in the banking sector. These practices include: the misclassification of non-performing loans (NPLs) particularly those linked to government arrears; under-provisioning for NPLs; the treatment of restructured loans as current and accrual of interest on NPLs. Data on the macroeconomic variables from the Bank of Ghana and Ghana statistical services also exhibited differences which makes it unreliable.

1.7 ORGANIZATION OF THE STUDY.

This study encompasses a five-chapter format to realize the above-stated research goals. The first chapter provides a background to the study. This section explains the problem under study, the scope, the objective, guiding questions, significance and the justification for this research. The second chapter of the study presents empirical literature on similar works of other scholars and researchers. The third chapter more fully describes and explains the econometric methodology used to analyze the profitability of banks in Ghana. Chapter four

presents the findings, analysis and discussions of the data. Lastly, chapter five provides a summary of the research, salient conclusions, recommendations and suggested future studies.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter provides the overview of previous studies reviewed in relation to the determinants of the profitability of commercial banks. It discusses the meaning of commercial banks profitability as well as the factors that determine this profitability and their meaning, which are either internal or external factors. The chapter also discusses the theories on profitability. Some of the studies were country specific and just a handful of them considered panel of countries for reviewing the determinants of profitability.

2.1 DEFINITION OF CONCEPTUAL TERMS

To better appreciate the research, concise definitions of the key terms have been provided.

2.1.1 CONCEPT OF PROFITABILITY

Profitability refers to the ability to make profit from all the business activities of an organization, company, firm, or an enterprise. It depicts how efficiently the management can make profit by using all the resources available in the market. According to Harward and Upton, "profitability is 'the ability of a given investment to earn a return from its use."

Profitability analysis can be conducted from the view point of the management which includes ratios such as: Gross Profit to Net Revenue Ratio, Net Operating Profit to Net Revenue Ratio and the Return on Capital Employed Ratio. It could also be seen from the point of view of shareholders which could also be Net Profit to Net Revenue Ratio and Return on Owners' Equity Ratio.

The profitability of banks can be measured in several ways. One measure of a bank's profitability is Return on Equity (ROE). ROE measures the rate of return on the ownership interest (shareholders' equity) of the common stock owners and is calculated by dividing the bank's net income after taxes by total equity capital which includes common and preferred stock, surplus, undivided profits, and capital reserves; Bourke (1989), and Molyneux and Thornton (1992). It measures a firm's efficiency at generating profits from every unit of shareholders' equity. ROE is the ratio of net income to total equity. (Fraker, 2006). ROE directly reflects corporate competitiveness, strength and sustainable growth. It is an indicator of the attractiveness of the equity in the eyes of investors. (Qin and Pastory, 2012).

Another measure of profitability is Return on Asset (ROA). ROA is the ratio of net income after taxes divided by Total Assets or the average value of total assets over the same period. (Qin and Pastory, 2012). ROA effectively reflects corporate profitability which can be used to evaluate the performance of management in the utilization of the assets. It signifies the managerial efficiency of the firm or in this case, the bank. ROA measures the profit earned per dollar of assets and reflects how well the management of the bank uses the bank's real investments resources to generate profits. (Alkassim, 2005). The higher the ratio, the higher the performance level and vice versa, all things being equal. It is a good measure of profitability over time and a useful tool for comparing profitability of one bank with other or the whole commercial banking system. According to Karkrah and Ameyaw (2010), many researchers have presented ROA as an appropriate measure of bank profitability and among these researchers are Rivard and Thomas (1997) who argued that bank profitability is best measured by ROA in the sense that, ROA cannot be distorted by high equity multiplier.

The final measure to be discussed is the return on capital employed (ROCE). ROCE compares earnings with capital invested in the company. It is similar to Return on Assets (ROA), but takes into consideration the sources of financing. ROCE is the ratio of non-markup income to capital employed (Fogelberg and Griffith, 2000).

2.1.2 DETERMINANTS OF BANKS PROFITABILITY

Some studies classify the determinants of banks profitability into two categories namely the financial statement variables and non-financial variables. The financial statement variables include the factors that are directly related to the bank's balance sheet and income statement whereas, the non- financial statement variables include factors not found in the balance sheet and income statement like the number of branches of a particular bank, location and size of the bank. (Haron Sudin, 2004). Other researchers also classify the determinants into internal factors and external factors such as the works of Khrawish Husni (2011).

In this study, the determinants of the profitability of commercial banks will adopt that of Husni.

2.1.2.1 INTERNAL FACTORS

According to Husni (2011) the internal determinants of banks profitability normally consist of factors that are within the control of the commercial banks. The internal factors include:

LOAN

Bank loans are the principal source of income for banks. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits. However, if a bank needs to increase risk to have a higher loan-to-asset ratio, then profits may decrease. (Gul, Irshad and Zaman, 2011).

DEPOSITS

Banks depend heavily on the funds they receive from the public in the form of deposits to finance the loans being offered to customers. (Rasaiah, 2010). Deposits are divided into the following three groups (Bagheri, 2005): Current loan deposits (demand), Saving interest-free loan deposit and Time investment deposits.

EXPENSES

Expenses indicate the operational cost of banks. They show the allotment of banks earnings that are used to keep the business running. (P. I. Vong et al (2009). Rasiah (2010) captures expenses as an indicator of the bank's administration proficiency in its dealings during operations and falls within the control of the banks' management. Expenses, which is measured by the cost to income ratio, is a significant determinant because it focuses on the management's efficiency in minimizing cost.

LIQUIDITY

Liquidity of a bank is a measure of its ability to meet financial obligations as and when they fall due. (Amengor, 2010). In other words, it's the bank's ability to finance the increase in assets and meet liabilities as and when they fall due without any unexpected losses. The obligations can be in the form of lending, investment and withdrawal of deposits as well as the maturity of liabilities, which take place in the normal course of the banking operation. (Amengor, 2010). Liquidity can come from direct cash holdings in currency or on account at the Federal Reserve or central bank. More commonly, it comes from holding securities that can be sold quickly with minimal loss. It is mostly in the form of deposit accounts, borrowed funds, and long term funds.

CAPITAL STRUCTURE

Capital structure is the combination of a firm's long-term debt, specific short-term debt, common equity, preferred equity and retained earnings which are used to finance its overall operations and growth. Capital structure is a very important financial decision as it is directly related to the risk and return of a firm. (Hasan et. al., 2014). Due to this, three approaches are highly recommended when considering the determinants of leverage at the firm level: the agency cost theory, pecking order hypothesis and trade-off theory.

2.1.2.2 EXTERNAL FACTORS

External factors are said to be the factors that are beyond the control of the management of the commercial banks. They identify the outcome of the macroeconomic environment on the bank's profitability. The external factors are irrepressible but have an immense impact on its profitability. (Sudin, 2004). Management can however take steps to explore the expected variation in the external environment and adjust the organization to get the expected advantages of economic advancement.

GROSS DOMESTIC PRODUCT (GDP)

Tim Callen (2008), defines GDP as the market value of goods and services produced within a selected geographic area (usually a country) in a selected interval of time, usually a year. GDP measures the monetary value of final goods and services produced in a country in a given period of time. It counts all the output generated within the borders of a country.

ECONOMIC GROWTH

A growing economy tends to promote consumer and social investment, thereby increasing the demand for bank credit, and banks generate more interest income, thereby increasing profits. Economic growth also stimulates an increase in trading activities leading to an increase in the intermediate business income of banks, and also leads to a rise in profits.

INFLATION

Inflation can be defined as a sustained or continuous rise in the general price level or a continuous fall in the value of money. The rise in the price level must be somewhat substantial and continue over a period longer than a day, week, or month. This could be as a result of change in the money supply of economy. (Labonte, 2011).

Inflation reduces the real income of consumers, making consumers more willing to invest in other financial products that have higher rate of return which may not necessarily be provided by the banks. Inflation affects the fiscal policy and monetary policy of the economy. Prudent fiscal policy and tight monetary policy will slow down economic growth, thereby reducing profits. However this may not be the case as inflation could be anticipated. (Labonte, 2011).

2.3 ECONOMIC THEORIES ON PROFITABILITY

The profitability of banks can be measured using these two industrial organizations models: the Market Power (MP) and Efficiency Structure (ES) theories. (Athanasoglou et al, 2006). The balanced portfolio theory also adds greater insight in to the study of bank profitability (Nzongang and Atemnkeng, 2006).

2.3.1 MARKET POWER (MP) THEORY

Applied in banking, the MP hypothesis posits that the performance of a bank is influenced by the market structure of the industry. The MP theory applies two distinct approaches; the Structure-Conduct- Performance (SCP) and the Relative Market Power hypothesis (RMP).

The Structured Conduct Performance

According to the SCP approach, the level of concentration in the banking market gives rise to potential market power by banks, which may raise their profitability. Banks in more concentrated markets are more probable to make abnormal profits by their ability to lower deposit rates and to charge higher loan rates as a result of collusive (explicit or tacit) or monopolistic reasons, than firms operating in less concentrated markets, irrespective of their efficiency (Tregenna, 2009).

The Relative Market Power Hypothesis

The RMP hypothesis unlike the SCP approach, posits that bank profitability is influenced by market share. It assumes that only large banks with differentiated products can influence prices and increase profits. They are able to exercise market power and earn non-competitive profits. (Tregenna, 2009).

2.3.2 THE EFFICIENCY STRUCTURE (ES) THEORY

The ES hypothesis suggests that banks earn high profits because they are more efficient than others. There are also two distinct approaches within the ES; the X-efficiency and Scale–efficiency hypothesis.

X-EFFICIENCY APPROACH

According to the X-efficiency approach, more efficient firms are more profitable because of their lower costs. Such firms tend to gain larger market shares, which may manifest in higher levels on market concentration, but without any causal relationship from concentration to profitability (Athanasoglou et al, 2006).

THE SCALE APPROACH

The scale approach emphasizes economies of scale rather than differences in management or production technology. Larger firms can obtain lower unit cost and higher profits through economies of scale. This enables large firms to acquire market shares, which may manifest in higher concentration and then profitability.

2.3.3 THE BALANCED PORTFOLIO (BP) THEORY

The BP theory approach is the most relevant. (Nzongang and Atemnkeng, 2006). According to the Balanced Portfolio model of asset diversification, the optimum holding of each asset in a wealth holder's portfolio is a function of policy decisions determined by a number of factors such as the vector of rates of return on all assets held in the portfolio, a vector of risks associated with the ownership of each financial assets and the size of the portfolio. It implies portfolio diversification and the desired portfolio composition of commercial banks are results of decisions taken by the bank management. Further, the ability to obtain maximum profits depends on the feasibility of assets and liabilities determined by the management and the unit costs incurred by the bank for producing each component of assets (Nzongang and Atemnkeng, 2006).

The above theoretical analysis shows that MP theory assumes bank profitability is a function of external market factors, whiles the ES and Portfolio theory largely assume that it is based on the internal efficiencies and managerial decisions. Several models of the banking firm have been developed to deal with specific aspects of bank behavior but none is acceptable as descriptive of all bank behavior. Some of these approaches are: multiple discriminant analysis, multiple regression analysis, canonical correlations analysis and neural network method. Olugbenga and Olankunle (1998) noted that a major limitation of the canonical correlations method precludes the explicit calculation of marginal value of independent variables on the dependent variable. Nor can the significance of individual explanatory factors be ascertained. They however assert that, the multiple regression approaches correct these limitations and produce comparable results to the discriminant analysis method.

2.4 EMPIRICAL EVIDENCE

2.4.1 THE EFFECTS OF BANKS INTERNAL FACTORS ON ITS PROFITABILITY

Javaid et al. (2011) analyzed the determinants of top 10 banks' profitability in Pakistan over the period 2004 to 2008 focusing on the internal factors only. The empirical results found showed evidence that these variables had a strong influence on profitability. Gull et al. (2011) examined the relationship between bank-specific and macro-economic characteristics over bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005 to 2009. The empirical results showed strong evidence that both internal and external factors had a strong influence on the profitability.

Abuzar (2013) studied the determinants of profitability of Islamic banks operating in Sudan. This study found that only the internal factors had the substantial impact on the profitability of the commercial banks. Cost, liquidity and the size of the banks have the positive relationship

with the bank profitability. Macroeconomic or external factors had no substantial impact on profitability. Syeda Anum Javed Bukhari (2012) analyzed the internal and external factors that affect the profitability of 11 commercial banks operating in Pakistan for the period of 2005-2009.The study uses the regression analysis to implicate the result with the hypothesis. The findings from this research paper are that internal factors impact the profitability of the commercial banks whereas external factors do not impact. Dr. Srinivas Madishetti et.al (2013) analyzed the profitability determinants of Tanzania commercial banks for the period of 2006-2012. The study found that internal variables determine the bank's profitability whereas external factors do not influence the profitability of commercial banks.

BANK LOAN AND ITS IMPACT ON THE PROFITABILITY OF COMMERCIAL BANKS.

The quality of loans that a bank gives out tends to affect the level of profit it makes. Offering loans to borrowers is a major source of earnings for commercial banks. The loans represent one of the highest yielding assets on the banks' balance sheet. It is obvious that the more banks offer loans the more it generates revenue and profit. (Abreu and Mendes, 2000). However as banks offer more loans, their exposure to liquidity and default risk is increased. This impacts negatively on banks' profits and survival. (Rasiah, 2010). The continuous increase in non-performing loans in Ghana led to an increase in stability risk as indicated by the IMF Country report in 2011 although these banks were experiencing profits irrespective of the financial crisis.

The stress test conducted by the IMF team claim that, as the non-performing loans (NPLs) continue to increase, any shock resulting from the moderate deterioration of banks assets can course many banks to be insolvent and hence collapse. It is therefore prudent for commercial

banks to monitor their level of loans and the quality of it to avoid defaults and ensure consistency in profitability.

Besides, empirical evidence from Suffian et al (2008) on the profit determinants of banks in Philippi reveals that Philippines banks with higher credit risk tend to exhibit lower profitability levels. Vong et al (2009) also discovered that the asset quality, as measured by the loan-loss provisions, negatively impacts on the performance of banks in Macao. Their findings was also in line with the observation of Bashir and Hassan (2003), which reveals that a higher loan ratio actually impacts negatively on profits because banks that depend more on non-loan earning assets are more profitable than those that rely heavily on loans. Vong and Chan (2006) found that loan-losses provisions affect banks profitability unfavorably. Bashir and Hassan (2003) and Staikouras and Wood (2003) show that a higher loan ratio actually impacts profits negatively.

On the other hand, the investigation of Husni (2011) revealed that interest margin on loans provided by the banks in Jordan was a significant driver of profitability and possessed a positive relationship with profitability. Just like the research by Abreu and Mends (2001), which exhibited a positive relationship between the loan ratio and profitability. Naceur (2003) noticed that loans had a positive impact on profitability.

To measure the quality of loans on the banks' balance sheet, Rasiah (2010) suggested the use of non-performing loans as an indicator of the loans quality.

DEPOSITS AND PROFITABILITY OF COMMERCIAL BANKS.

Banks depend heavily on the funds they receive from the public in the form of deposits to finance the loans being offered to customers. There is this general notion that deposits are the

cheapest source of funds for banks and as such has a positive impact on the profitability of banks if the demand for bank loans is very high. This implies that, the more deposits commercial banks accumulate, the greater is their capacity to offer more loans and make profits. (Devinaga Rasiah, 2010). On the other hand, if loans are not in high demand, having more deposits could decrease earnings and may result in low profit for the banks. This is due to the fact that, deposits like Fixed, Time or Term deposits attract high interest from the banks to the depositors. (Devinaga Rasiah, 2010).

According to the research conducted by Husni (2011) on the determinants of commercial banks performance in Jordan, there was a significant positive relationship between ROA and Total liability to total Assets.

EXPENSES AND PROFITABILITY OF COMMERCIAL BANKS.

Expenses indicate the operational cost of banks. They show the allotment of banks earnings that are used to keep the business running. Studies undertaken by researchers such as P. I. Vong et al (2009) and Rasiah (2010) capture expenses as a variable in the profit determinants model of commercial banks. Expenses serve as an indicator of the bank's administration proficiency in its dealings during operations. According to Rasiah (2010) the commercial banks expenses reflects on the expenditures that fall within the control of banks management. These expenses can be classified into two categories; interest and non-interest expenses. One major expense incurred in the banking process is the interest paid out to depositors which is termed as interest expenses and the non-interest expenses include overhead expenses, operating expenses, salaries and wages paid to employees and miscellaneous expenses. It can therefore be deduced that an increase in these expenses will be deducted from the profit made thereby decreasing it.

The indirect association between expense and profit can be traced all the way back to the study by Bourke in 1989. Some recent studies also confirm this assertion. In a study by Abreu and Mendes (2001) of European banks, the operational expenses of the banks had an indirect correlation with bank profit, even though they have a direct association with net interest margins of the banks. The Study by Grigorian and Manole (2006) in Ukraine also found that bank expenses had a negative relationship with profitability. This implies that banks with low operation costs make high profits. This is in line with the observations of Karkrah and Ameyaw (2010) which revealed that non-interest expense represent a significant driver of profitability of commercial banks in Ghana and impacts negatively on profitability.

However, according to P. I. Vong et al (2009), the effect of expenses as a variable on banking performance and profitability is mixed based on the investigation of Jiang et al. (2003). In relatively uncompetitive markets where banks enjoy market power, costs are passed on to customers; hence there would be a positive correlation between overheads costs and profitability (Flamini et al, 2009). The findings of Molyneux and Thornton (1992) depict that, the expense variable impacts positively on European banks profitability. This is because the payment of high wages and salaries to employees reflects on the higher level of productivity of the employees which is in line with the efficiency theory. Ben Naceur (2003) and Guru et al. (2002) also observed a positive relationship between profitability and expenses. Both researchers argued that this relationship exist because banks are able to pass on their overheads cost to depositors and borrowers in terms of lower deposit rates and higher lending rate.

TAXATION AND ITS IMPACT ON PROFITABILITY

Taxation although an expense can be treated separately from the banks expense. This is because, taxation unlike the other expenses are not determined by the banks and as such cannot be controlled. Although the tax rate on corporate profits is not a choice for banks, yet the bank management can allocate its portfolio to minimise its tax. A tax is also imposed on the bank's profit through business tax and other taxes. Devinaga Rasiah (2010) added it to the expense variable but P. I. Vong et al (2009) treated it as a separate variable from expense. However, no matter the way it is treated, its impact on profitability cannot be ignored.

Bashir and Hassan (2004), indicate that if a bank can easily transfer its tax cost to its clients by increasing the fees and enhancing its interest rate spread, then there will be a positive correlation between taxes and profit. The bank administration must therefore be capable of distributing its portfolio to lessen its tax transferring some of their tax load to the clients.

It indicates that if a positive association lies between bank tax and profit it can easily transfer its tax cost to its clients by enhancing its interest rate spread. (Caminal, 2004)

CAPITAL RATIO AND PROFITABILITY OF COMMERCIAL BANKS.

Capital adequacy refers to the sufficiency of the amount of equity to absorb any shocks that the bank may experience (Kosmidou, 2008). Assets composition ratio is an internal factor or indicator of banks profitability and efficiency. As deposit and assets are considered the most significant indicators of the balance sheet because these two represent overall ability and financial strength of the bank that banks loan is the major source of banks earning and it has a positive relationship with the bank profitability.

Rasiah (2010) and Vong et al (2009) included capital ratio as a variable in their study of determinants of banks profitability and performance. This is because capital serves as a source of funds along with deposits and borrowings. Their argument was that, the banks' capital structure which includes shareholders' funds, reserves and retained profit affect the profitability of commercial banks because of its effect on leverage and risk. The bank's asset can be financed using either equity or debt. However, capital financing is cheaper and less risky to use as compared to debt financing.

Sufian F. et al (2008) argues that, banks in developing countries need a strong capital structure to withstand financial crises and provide assurance to depositors against bankruptcy and macroeconomic distress. Molyneux (1992) also argues that banks with high level of equity can reduce their cost of capital and that could impact positively on profitability. Empirical evidence presented by Karkrah and Ameyaw (2010) on profitability determinants of commercial banks in Ghana revealed that, the equity ratio which is the measure of the capital strength of the banks posted a positive relation with the banks ROA. Bandt et. al (2014) in their work, "Does capital structure affect banks' profitability? Pre and Post-Financial crisis evidence from significant banks in France", also argue that ROE tends to increase on average after an increase in capitalization. These results are in line with Berger and Bouwman (2013). They found that banks with higher capital ratio in pre-crisis times experienced an increase in profitability compared to less capitalized banks. In his study of the determinants of the Tunisian banking industry profitability for 10 banks in Tunisia for the period 1980-2000, Naceur (2003) notices that high net interest margin and profitability are likely to be associated with banks with high amount of capital and large overheads. Athanasoglou et al. (2006, b) have done an empirical study to investigate the effect of bank-specific, Industry-specific and

macroeconomic determinants on the profitability of Greek banks. It revealed that capital (ratio of equity to assets) is very important in explaining bank profitability and that increased exposure to credit risk lowers profits. Vong and Chan (2006) investigate the impact of internal and external factors of banks on the Macao Banking industry for a 15-year period. Their results showed that greater capitalization was associated with low risk and high profitability for the bank. Moreover, the large banking network attains higher profitability than the smaller banking network. In the study of Bourke (1989), he found an important positive relation between the capital adequacy and profitability. The study by Abreu and Mendes (2002) on commercial bank interest margins and profitability, also tails the same line.

LIQUIDITY RATIO AND ITS IMPACT ON PROFITABILITY OF COMMERCIAL BANKS

According to Devinaga Rasiah (2010) commercial banks are required by regulators to hold a certain level of liquidity assets. This is to ensure that banks possess enough liquidity to avoid a run on the bank. Banks may sell off certain liquid assets to meet its obligations during a run on the bank. It is argued that when banks hold high liquidity, they do so at the opportunity cost of some investment, which could generate high returns (Kamau, 2009). The trade-offs that generally exist between return and liquidity risk are demonstrated by observing that a shift from short term securities to long term securities or loans raises a bank's return but also increases its liquidity risks and the inverse is true.

The findings of Bourke (1989) on concentration and other determinants of bank profitability in Europe, North America and Australia indicated a positive relationship between banks level of liquidity and profitability. Lartey et al. (2013) sought to find out the relationship between

the liquidity and the profitability of banks listed on the Ghana Stock Exchange. During the period of 2005-2010, both the liquidity and the profitability of the listed banks were declining. There was also found a very weak positive relationship between the liquidity and the profitability of the listed banks in Ghana.

Devinaga Rasiah (2010) on the other hand asserted that the lower returns on liquid assets and excessive fund not invested may also negatively affect the profitability of banks. Due to this, liquidity management serves as an important determinant of commercial bank profitability. It may however not be prudent for commercial banks to hold huge amount of idle funds because it deprives the banks of income and profitability. This is because the more the banks turn funds into loans or invest them the more it accumulates income and profit. This has been confirmed by the study conducted by Eichengreen & Gibson (2001), which documented that the fewer the amount of funds tied up in liquid investment and the liquid assets, the higher the profitability.

NON-INTEREST INCOME AND PROFITABILITY OF COMMERCIAL BANKS.

Non-interest income refers to the other sources of income outside the earnings from loans given out by the commercial banks. These sources may include fees earned from offering unit trust services, service charge on deposit account, standard fees and charges for other bank services. Rasiah (2010) identified the change of the banking traditional activities to other financial services due to the on-going financial globalization and liberalization, leading to an increase in banks income and profit. This seems to be supported by the empirical findings of Karkrah and Ameyaw (2010) which revealed that non-interest income is an important driver of commercial banks profitability in Ghana and there is a positive relationship existing between non-interest income and profitability in the Ghanaian banking sector. Alper and

Anbar (2011) analyzed the internal and external factors of the commercial banks of Turkey for the period of 2002-2010.The study showed that non-interest income had the positive impact on the bank profitability.

P. I. Vong et al (2009) on the other hand cited in their study that the findings of Gischer and Juttner (2001) prove that non-interest income generating services impact negatively on commercial banks' profitability. This negative relationship was however as a result of the intense competition that these non-traditional banking activities were prone to from other banks. Meanwhile, the study of P. I. Vong et al (2009) emphasized on the importance of generating other income from diversifying into non-interest income services.

2.4.2 THE EFFECTS OF BANKS EXTERNAL FACTORS ON ITS PROFITABILITY

An IMF working paper on the Determinants of Commercial Bank Profitability in Sub-Saharan Africa by Flamini et al. (2009) used 389 banks as sample from 41 countries and it showed that bank's returns are affected by the macroeconomic determinants. Saunders and Schumacher (2000) applied the model of Ho and Saunders (1981) to analyze the determinants of interest margins in six countries of the European Union and the US during the period 1988–95. They founnd that macroeconomic volatility and regulations had a significant impact on bank interest rate margins. Gull et al. (2011) examined the relationship between bank-specific and macro-economic characteristics over bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005 to 2009. The empirical results showed strong evidence that both internal and external factors had a strong influence on the profitability.

The external factors that are mostly used in researches include; competition, market share, firm size, inflation, GDP growth and interest rate (Sudin, 2004).

GROSS DOMESTIC PRODUCT (GDP) AND ITS IMPACT ON PROFITABILITY

Vong et al (2009) argues that the GDP affects the profitability of commercial banks positively. He argued that, it is perceived that there is a negative relationship between loan defaults and the economic growth and that creats the impression that borrowers tend to default less when the economy is booming. On the contrary, higher economic growth may lead to a greater demand for loans which will result in both interest and non-interest incomes hence increase in the profits of commercial banks. However, empirical studies reveals a mixed effect on the relationship between economic growth rate and banks profitability. Some studies support this general perception whereas others do not.

Karkrah and Ameyaw (2010) cited that a study conducted by Sufian et al. (2008) on the relationship between macroeconomic and return on assets (ROA) regarding Philippian banks revealed a positive relationship between GDP and banks profitability. The research by Fotios Pasiouras and Kyriaki Kosmidou (2007) on factors influencing the profitability of domestic and foreign commercial banks in the European Union also indicated a positive correlation between GDP growth rate and banks profitability and this was consistent with the results of Kosmidou (2008) and Hassan and Bashir (2003) among others. Goddard, Molyneux, and Wilson (2004) also estimated the profitability of 583 European Union domestic banks where cross sectional regression showed a significant positive effect of GDP on profits. Davydenko (2011) used fixed effects estimation technique and proved that both GDP and Inflation have a positive relationship with ROA of Ukrainian banks. Zeitun (2012) investigated macroeconomic influential factors for banks of Gulf Cooperation Council countries. Cross

sectional time series panel data gave proof that GDP is positively related with ROA and ROE ratios.

On the other hand, Husni's study on the Jordanian banking (2011), showed a significant and negative relationship between ROA and Annual Growth Rate for Gross domestic product (GDPGR) of the commercial banks in Jordan. The findings of P. I. Vong et al (2009) though negative, was insignificant but consistent with the findings of Bennacaur & M. Goaied (2008). Staikouras and Wood (2004) reviewed the performance of European Banking industry for years 1994-1998. Using ordinary least square method and fixed effects model they concluded that growth of GDP exerts significant negative impact on ROA. Khrawish (2011) determined the macroeconomic indicators affecting the listed Jordanian banks. Result demonstrated negative impact of GDP and inflation with ROA and ROE.

Scott and Arias (2011) studied performance of five largest banks in United States that showed GDP did not directly affect the profit level of U.S banking sector. Hoffmann (2011) used GMM and pooled OLS estimation approach to study US banks. The final result of both regression models indicates no considerable relationship. Sharma and Mani (2012) measured the impact on Indian commercial banks for time period 2006-2011. Their report was that the effect of GDP on ROA was negligible.

INTEREST RATE AND PROFITABILITY OF COMMERCIAL BANKS.

Interest rate changes is caused by government economic policies as well as supply and demand and market conditions. Rasaiah (2010), held that the impact of interest rate changes on the commercial banks profitability depended on the extent and speed of the changes and the relative impact on short and long term of the bank's portfolio. In addition to this, the speed

and flexibility with which the bank could amend its revenue sources and cost of funds to match up to the change was also relevant. He further advocated that interest rate was captured in most studies as profitability determinant of commercial banks because the net interest income which resulted from the deference between interest income and interest expenses had an enormous impact on banks profitability.

Just like other nations, interest rate has been the main determinant of base lending rates of the banks in Ghana. The stress test performed by IMF team in 2010 indicates that commercial banks in Ghana have the capacity to withstand interest rates changes because most of their lending is based on variable rates. However, the report also claimed that increase in interest rates can decrease the income and debt service capacity of borrowers in Ghana which may indirectly affect the balance sheet of the banks hence profitability (IMF Country Report 2011).

It is accepted that an increase in interest rate leads to high commercial banks profit by increasing the gap between the deposits and borrowing rates. Staikouras and Wood (2003) found a direct and constructive association between interest rate and bank profit. Toni Uhomoibhi's investigation on the impact of macroeconomic variables on commercial banks profitability in Nigeria (2008) over the period of 1980-2006 revealed that real interest rate had a positive and significant impact on the bank's profitability in Nigeria. The findings of Husni (2011), Sufian et al. (2008), Karkrah and Ameyaw (2010), all portrayed a positive relationship between interest rate and profitability of banks. Moreover, a research done by Pasiouras and Kosmidou (2007) on factors influencing the profitability of domestic and foreign commercial banks in the European Union also revealed a positive relation between interest rate and banks' profits with regards to domestics banks. They reported that domestic banks had the

opportunity to adjust the interest rates accordingly to meet anticipated inflation rate changes and consequently earned higher profits.

Haron and Azmi (2004) statistically proved direct relationship of inflation rate and indirect relationship of real interest rate on ROA of 5 major Islamic banks over a period of 1984-2002. Staikouras and Wood (2004) reviewed the performance of European Banking industry for years 1994-1998. Using ordinary least square method and fixed effects model they concluded that interest rate had a significant positive relationship on ROA. Among the studies that reported a positive relationship between real interest rates and bank profitability was García-Herrero et al., (2009) and Alper and Anbar (2011).

Focusing on Indonesian banking industry Anwar and Herwany (2006) found a significant relation of inflation rate and real interest rate with ROA at 1% level but not with ROE. Consistent relationship was estimated by Sufian and Habibullah (2010).

INFLATION AND PROFITABILITY OF COMMERCIAL BANKS.

Devinaga Rasiah (2010) in his study asserted that central banks in their capacity to control inflation increase the cost of borrowing and reduce the credit creating capacity thus the funds being given to the commercial banks as loans. This increases the cost of borrowing and cause banks to be stringent in their lending policies which subsequently leads to lower demand for funds and a fall in the volume of spending. This tends to affect the profitability of banks as interest and other charges on the processing of loans is a major source of revenue. He further indicated that inflation impacted negatively on commercial banks profitability by reducing the real value of bank's assets as compared to their liabilities. A banks nominal assets might be more than their nominal liability as a result of the banks being net monetary creditors.

However, during periods where there is a high level of inflation in the economy, the nominal assets value decline whereas that of the nominal liability increases.

Abreu and Mendes (2001) discovered an inverse relationship between the inflation factors and profitability of European banks. Empirical evidence from the works of Husni (2011) revealed a significant and negative relationship between the ROA of Jordanian commercial banks and inflation rate. This finding is in line with the result of Sufian et al. (2008) investigation on profits determinants of commercial banks in Philippi. Khrawish (2011) determined the macroeconomic indicators affecting the listed Jordanian banks. The results demonstrated a negative impact of inflation on ROA and ROE. The study of Zeitun (2012) showed that inflation was also negatively related with ROA and ROE ratios.

Rasiah (2010) in his study however argues that the impact of inflation on banks profitability to a large extent depended on the banks' ability to anticipate the occurrence of the inflation as they could adjust their interest rate to offset the imbalance and prevent the real value of the bank's assets and liabilities to stay unchanged and vice versa.

The findings of Pasiouras and Kosmidou (2007) on the contrary reported that inflation was positively related to profitability of domestic banks in Europe. This they explained was because the domestic banks were able to anticipate the levels of inflation. Thereby giving them the opportunity to adjust the interest rates accordingly and consequently earning higher profits. Their results was similar to that of Haron Sudin (2004), Demerguç-Kunt and Huizingha (1999), Toni Uhomoibhi (2008), and Benaceur and Goaied (2010) as observed by Husni(2011). Inflation is a significant factor that impacts on profitability of banks positively. High inflation is strongly related with the high interest rate on credit and this leads to a high return on investment as the effect of inflation depends on whether the inflation is predicted or

unpredicted as investigated by Perry in 1992. Increase in inflation has a positive association with performance of bank in a study conducted by Guru et al. (2002). Haron and Azmi (2004) statistically proved a direct relationship of inflation rate and indirect relationship of real interest rate on ROA of 5 major Islamic banks over a period of 1984-2002. Athanasoglou, Delis, and Staikouras (2006) using a linear regression, ran an unbalanced panel of 71-132 South-Eastern European banks from the year 1998 to 2002. The result showed high earnings during peak inflation periods and no noticeable effect of GDP. Later on, Havrylchyk and Jurzyk (2006) proved similar result for Eastern and Central European banks. Davydenko (2011) used fixed effects estimation technique and showed that Inflation had a positive relationship with ROA of Ukrainian banks.

Sharma and Mani (2012) measured the impact on Indian commercial banks from 2006-2011 which showed that the impact of inflation on ROA was negligible.

2.5 BANK PROFITABILITY

The banks have extra ability in a concentrated market to charge more interest margin from their customers to whom they borrow and pay less amount of return to their depositors. This gap between the lending and borrowing rate is the profit of banks. (Weber, 2005)

2.5.1 BANK PROFITABILITY IN GHANA

To better understand the underlying mechanisms of bank performance in Ghana for research purposes, some background information has been laid out to give an outline of the banking system over the years.

OVERVIEW OF BANKING IN GHANA

Recent innovations in technology and the inevitable forces driving globalization creates both challenges and opportunities for growth in the banking industry, making the environment more competitive. In order to remain profitable, banks have undergone some profound changes.

Traditionally, the banking sector in Ghana was segmented into merchant, commercial (retail) and development banks. There was however the adoption of the universal banking, which removed the boundaries set by this segmentation and to enable banks compete without restrictions. Banks are thus challenged to find unique ways of differentiating themselves from each other in order to compete on products and customers.

The banking system in Ghana operates under the banking laws of Ghana with the Bank of Ghana as the central bank, regulating all their activities and also serving as the lender of last resort. Reforms like the Financial Sector Adjustment Programme (FINSAP II and I), Non-Performing Assets Recovery Trust (NPART) and the Foreign Exchange Bureau legislation were introduced by the government to improve bank performance and they have proven productive. (Banks and Bank Systems, Vol.1, 2006)

Current developments in the structure of the financial sector creats significant growth opportunities for investment and further economic growth in Ghana. In 2012, the financial sector changes were in relation to the competitive environment as a result of mergers and acquisitions. Access Bank Ghana with Ecobank Ghana acquired The Trust Bank Limited.

The banking industry also remained profitable with increases in some profitability indicators, and decreases in others. These changes were attributed to the reduction in interest earnings

due to the downward trend in lending rates. The most important factors driving changes in the industry include advances in information technology (IT), the deregulation of financial services at the national and regional level, and the effects of the globalization process.

A combination of macroeconomic pressures, IT developments, global markets, and banking crises forced the industry regulators to deregulate the Ghanaian markets making way for foreign competitors and additional local entrants making the industry more competitive causing banks to maximize efficiency, profitability, and market share. Also, the greater demand for shareholder value has increased competitive pressure to maximize returns on assets. Many banks have attempted to achieve this by cutting operational costs. However in the long-term, the best approach must be to ensure that a company's products and services are best aligned with the needs of consumers which will lead to higher revenue, consumer loyalty, and long-term profitability.

2013 was described as one of Ghana's banking industry's toughest years over the past decade. Despite, the growth in the industry's total assets by 33% in 2013 compared to the five year historic (2008 – 2012) average growth rate of only 26%. This is because there was a slowdown in deposit mobilisation by the industry.

Due to the fast depreciation of the Ghana cedi, the Bank of Ghana (BOG) has tightened its enforcement of currency exchange regulations creating some challenges and probably some opportunities for the banks. The central bank has also introduced some new directives on reserve requirements and foreign currency net open positions further constraining banks' ability to lend or acquire interest- earning liquid assets. Additionally, an amendment to VAT legislation requiring banks to charge their customers VAT at 17.5% on some of their financial

services could lead to some erosion of banks' margins. In spite of the seemingly challenging time, the banking industry continues to be a conservatory for positive developments.

Despite the increased minimum capital requirement for new entrants into the industry, it is clear that financial service providers in other countries are still interested in entering the Ghana banking industry. This is an indication that there is a general belief that returns to investments in the industry have not peaked as yet or, at least, might be better than that available elsewhere. (Ghana Banking Survey, PWC, 2014).

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION.

In explaining the methodology of this research, the various tools and estimation techniques applied to attain the set aims and objectives are clearly identified in this chapter. It outlines the scope as well as the sources of data employed. It identifies the population of the study, the factors that affect commercial bank profitability and how these factors are measured. The chapter further stipulates and substantiates the econometric model adopted by the study and finally the conclusion.

3.1 RESEARCH DESIGN

The main objective of this study is to determine and assess the factors that impact on the profitability of the listed commercial banks in Ghana. The study adopted the panel research design to accomplish its set objectives. The panel data has the advantage of providing more revealing facts as it entails both the cross sectional and time series material. It as such prevents individual heterogeneity. Fixed Effects also minimizes collinearity variables and spots trends in the data. This is not provided by neither the simple time-series nor the cross-sectional data. (Baltagi, 2005). In short, the panel modeling identifies a mutual group of features and at the same time, takes into account any inherent heterogeneity present within the specific units.

3.2 SOURCES OF DATA

3.2.1 SECONDARY DATA

This study adopts the use of secondary data as it focusses on all the listed commercial banks on the Ghana Stock Exchange. Such banks publish annual reports of their financial statements which contains the information to determine the internal factors needed for this research. It covers a 10-year period from 2004 to 2013. The external factors such as GDP and Inflation were also obtained from the World Bank website and the Ghana statistical services, who publish major economic and financial indicators in the economy. This data was used to run a multiple regression analysis on the factors affecting bank profitability with the use of STATA. The essence of this measurement cannot be over emphasized as it reveals the very factors that commercial banks must consider to ensure their very survival.

3.2.2 PANEL DATA

The study adopts the panel data. Panel data has the advantage of giving more informative data as it is a cross-sectional time series. The cross sectional information captures the individual variability or differences between subjects whereas the time series information captures dynamic adjustment or changes within the subject over time. In short, panel modeling helps to identify a common group of characteristics and at the same time, take into the account the heterogeneity that is present among individual units. Also, this technique allows for the study of the impact of macroeconomic developments on profitability after controlling for bank-specific characteristics, with less collinearity among variables, more degrees of freedom and greater efficiency.

3.2.3 OTHER LITERATURE SOURCES

Other sources of data used in this research include textbooks, journals and magazines that publish on the financial sector, the financial stand of the banks and their level of growth.

3.3 POPULATION AND SAMPLE OF THE STUDY

The population of the study consists of all the listed commercial banks on the Ghana Stock Exchange from 2004 to 2013. There are 8 listed banks on the Ghana stock but seven will be considered for this study. The Trust bank was not considered because its financial statements were reported in the Gambian Dalasi and using current exchange rate will not reflect the true value. The banks used include: Ghana Commercial Bank, Ecobank Ghana Limited, Standard Chartered Bank, Societe General-SSB Bank, Cal Bank Limited, HFC Bank Limited and UT Bank Limited.

3.4 METHOD OF DATA ANALYSIS

Financial ratios such as Return on Equity, Return on assets, liquidity, deposits to total assets and capital ratio were calculated using Ms. Excel, a financial analytical tool, to analyze and evaluate the data collected.

3.5 ECONOMETRIC MODEL

3.5.0 SPECIFICATION OF MODEL

To analyse the factors affecting the profitability of the listed commercial banks in Ghana, the basic estimation strategy is to pool the observations across banks and apply the regression analysis on the pooled sample. A panel data multiple regression will therefore be used.

The advantage of pooling is that more reliable estimates of the parameters in the model can be obtained especially where the relationship between the variables is stable across cross-section units. It also allows the control of variables that cannot be observed or measured like differences in business practices across the various banks.

Two techniques of using the panel data by running it with STATA is: fixed effects and random effects.

3.5.1 FIXED EFFECTS (FE)

FE is used when analyzing the impact of variables that vary over time. It explores the relationship between predictor and outcome variables within an entity. The individual characteristics of the various entities may or may not influence the predictor variables. FE thus assumes a correlation between entity's error term and predictor variables to control this effect. Another important assumption of the FE model is that, the time-invariant characteristics are unique to the individual and should not be correlated with other individual characteristics. It as such controls for all time-invariant differences between the individuals, so the estimated coefficients of the fixed-effects models cannot be biased because of omitted time-invariant characteristics. Thus, if the error terms of the entity and the constant are correlated with others, then FE is no suitable.

3.5.2 RANDOM EFFECTS (RE)

The rationale behind random effects model is that, unlike the fixed effects model, the variation across entities is assumed to be random and uncorrelated with the predictor or independent variables included in the model. Hence, if there are differences across entities which influences the dependent variable, then the random effects must be used. RE assumes that the entity's error term is not correlated with the predictors which allows for time-invariant

variables to play a role as explanatory variables. It allows for generalization beyond the sample used in the model.

The appropriateness of using a model with fixed rather than random effects was tested by applying the Hausman test. This test basically determines whether the unique errors are correlated with the regressors. To do decide, both the fixed and random effects are run to get the estimates for Prob>chi². If the result is less than 0.05, the fixed effects is used and the random if otherwise.

After running the Hausman test, the Prob>chi² for ROA was 0.0012, as such the fixed effect was used and that of the ROE was 0.1258 so the random effects was adopted.

The regression equation used was as follows:

$Y_{it} = \beta_O + \beta_1 CR_{it} + \beta_2 LN_{it} + \beta_3 DT_{it} + \beta_4 TX_{it} + \beta_5 EX_{it} + \beta_6 INF_{it} + \beta_7 LIQ_{it} + \beta_8 GDP +$ €

Where;

Y_{it} = ROA or ROE for bank i at time t, CR = Capital Ratio, LN = Loan, DT = Deposits, EX = Expenses, TX = Taxation, INF = Inflation, LIQ = liquidity and GDP = Gross Domestic Product.

ß$_0$ = Constant, ß$_1$, ß$_2$, ß$_3$, ß$_4$, ß$_5$, β_6, β_7, and β_8= Co-efficient of the associated independent variable to measure the proportionate change in the dependent variables. € = Error Term, i = Banks and t = 2004 – 2013.

This study does not include all the internal and external factors that affect bank profitability but limited to the following variables:

Return on Asset (ROA): The ROA is a functional indicator of bank's profitability. It is calculated by dividing net income by total assets. ROA shows the profit earned per dollar of assets which reflects the bank's management ability to utilize the bank's financial and real investment resources to generate profits. (Naceur, 2003). For any bank, ROA depends on the banks as well as the uncontrollable decisions related to economic conditions and government policies. (Sufian, 2011).

Return on Equity (ROE): It is the ratio of net income to total equity. The ROE indicates the return on shareholder funds and lets them know how much they are earning on their investment.

Capital Ratio (CR): The capital ratio was measured by dividing the total equity by the total asset. It captures the general safety and soundness of the financial institution (Gull, 2011). It indicates the ability of a bank to absorb losses and handle risk exposure for shareholders.

Loans: Asset composition of loans are the main source of income. It's calculated by the total loans to total assets. It provides a measure of income source and measures the liquidity of bank assets tied to loans. Loans is a means of earnings for commercial banks, in that, as more is offered, more revenue and profits are generated. (Abreu and Mendes, 2000). It is included in the study as an independent variable to determine the impact of loans on banks' profitability.

Deposits: The ratio of deposits to total assets is another liquidity indicator but is considered as a liability. It captures the effect of fund source on profitability and is believed to be the major and the cheapest source of funding for banks. (Husni, 2011) Deposits to total assets ratio is included as an independent variable in this study.

Taxation: it is calculated by dividing taxes by operating profit taxes. It shows the bank's ability minimize their taxes through effective and efficient allocation of their portfolio. P. I. Vong et al (2009) argues that if a positive relationship exists between the tax variable and profitability, it's an indication that the banks are able to pass the tax cost on to their Customers by increasing the fees and the interest spread.

Expense: it is calculated by dividing the operational expense to operational income. As conventional knowledge suggests, the higher the expense of a bank, the lesser the bank's profitability will be though the efficiency wage theory proposes otherwise.

Inflation: it's measured by the average increase in the Ghanaian consumer price index. Inflation tends to inform the lending rate of banks. Bank's increase lending rate to offset the associated cost of inflation in order to earn higher profit. Its ability to accurately predict the level of inflation determines whether it will be negative or positive.

Liquidity: it is calculated by the ratio of loans to deposit. This ratio is to help determine the liquidity position of the commercial banks and how banks' balance the amount of liquid assets to hold and the how much to invest in other interest bearing and illiquid assets. This is as a result of the correlation between profitability and the cost of funds.

Gross Domestic Product: There is a general expectation that higher economic growth may lead to a greater demand for both interest and non-interest activities, hence improving the profitability of banks. GDP is thus expected to have a direct relationship with profitability. It is measured using the GDP growth rate.

3.5.1 EXPECTED SIGNS

Table 1: EXPECTED SIGNS

VARIABLE	EXPECTED SIGN	RESEARCHERS
DEPENDENT VARIABLE		
ROA	N/A	
INDEPENDENT VARIABLE		
INTERNAL FACTORS		
Loan	+	Abreu and Mendes, 2000
Deposits	+	Husni, 2011
Expenses	-	Grigorian and Manole, 2006
Capital Ratio	+	Karkrah and Ameyaw, 2010
Liquidity	-	Devinaga Rasiah (2010)
EXTERNAL FACTORS		
Inflation	+/-	Sehrish et al., 2011/ Kharwish, 2011
Taxation	-	P. I. Vong et al. (2009)
Gross Domestic Product	+	Sufian and Habibullah, 2010

3.5.2 CORRELATION METHOD

A correlation is a number within the range -1 and +1 that measures the degree of association between two variables. The association between these two variables could be positive or negative. If the correlation is positive; it implies that there is a direct relationship between

them. Thus, if the value of one variable increases, the value of the second variable will also increase and vice versa. Contrary to this, if the correlation is negative, inferring an inverse relationship, an increase in the value of the variable will lead to a decrease in the value of the other.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND FINDINGS

4.0 INTRODUCTION

This section presents the results of the study on the factors that affect the profitability of the listed commercial banks in Ghana. It includes the descriptive statistics of the econometric results, the level of correlation among the variables, its analysis as well as the conclusions drawn from the results.

4.1 DISCUSSION OF DESCRIPTIVE STATISTICS

TABLE 2: DESCRIPTIVE STATISTICS OF VARIABLES (ROA)

Variable	No. of Obs.	Mean	Std. Dev.	Min	Max
ROA	70	3.314714	1.492298	0	7
Capital Ratio	70	0.1267955	0.0360658	0	0.21667
Loans	70	0.4647869	0.1537766	0	0.839685
Deposits	70	0.6374884	0.1600782	0	0.89
Taxation	70	0.2355762	0.1101511	0	0.7087
Expenses	70	0.866284	1.24896	0	8.387217
Inflation	70	12.478	3.267193	8.73	19.3
Liquidity	70	0.4457286	0.1522176	0	0.75
GDP	70	6.65	1.251752	4.1	8.4

4.1.0 ROA AS THE DEPENDENT VARIABLE

Table 2 shows the number of observations, the mean, standard deviation as well as the minimum and maximum values of the various factors considered in this study from the period of 2004 to 2013. The dependent variable in this table is ROA whereas the others are independent.

ROA, which shows the ability of management to utilize the bank's financial and real investment resources to generate profits, had a mean of 3.314714 and a standard deviation of 1.492298 showing how much the banks varied between the minimum value of 0 and a maximum of 7. This implies that commercial banks on the average tripled their ROA within this period.

Capital Ratio (CR), uncovers the capital adequacy of the banks and capture the general average safety and soundness. It averaged at 0.1267955 with a standard deviation of 0.0360658. It recorded a minimum of 0 and a maximum 7. This implies that the listed commercial banks on the average hold 12.7% of their assets in the form of equity.

Loans to total assets, reveals the asset composition of the banks. It had an average of 0.4647869 and a standard deviation of 0.1537766 showing the spread of the various individual bank loans (LN). It had a minimum and maximum of 0 and 0.839685 respectively.

Deposits to total assets (DT) had a mean of 0.6374884, a standard deviation of 0.1600782, a minimum of 0 and a maximum of 0.89. This means that deposits formed about 63.7% of the bank's fund source.

Taxation to profit before tax (TX), had an average of 0.2355762 and a standard deviation of 0.1101511. It had a minimum and a maximum of 0 and 0.7087 correspondingly.

Operational expense to operational income (EX), recorded an average of 0.866284. The banks on the average spent about 86.6% of its operational income on operational expenses. It had a standard deviation of 1.24896 which varied between a minimum of 0 and a maximum of 8.387217.

The inflation rate during this period could be as low as 8.73 and peak at 19.3. It averaged at 12.478 with a standard deviation of 3.267193.

The Loans to deposit ratio, liquidity (LQ), showed an average of 0.4457286 and a standard deviation of 0.1522176 varying from 0 to 0.75.

GDP within the 10-year period averaged 6.65 with a standard deviation of 1.251752 varying between 4.1 and 8.4.

TABLE 3: DESCRIPTIVE STATISTICS OF VARIABLES (ROE)

Variable	Number of Observation	Mean	Std. Dev.	Min	Max
ROE	70	27.18	13.07825	0	61.4
Capital Ratio	70	0.1267955	0.0360658	0	0.21667
Loans	70	0.4647869	0.1537766	0	0.839685
Deposits	70	0.6374884	0.1600782	0	0.89
Taxation	70	0.2355762	0.1101511	0	0.7087
Expenses	70	0.866284	1.24896	0	8.387217
Inflation	70	12.478	3.267193	8.73	19.3
Liquidity	70	0.4457286	0.1522176	0	0.75
GDP	70	6.65	1.251752	4.1	8.4

4.1.1 ROE AS THE DEPENDENT VARIABLE

Although table 2 shows the number of observations, mean, standard deviation, minimum and maximum values of the same independent variables, the measure of profitability, which is the dependent variable is different. In table 3, the dependent variable is ROE.

With a mean of 27.18, the ROE shows on average how much shareholders made on their investments. It had a standard deviation of 13.07825, varying from 0 to 61.4 showing a wide spread.

The values of all the independent variables however registered the same values.

4.2 CORRELATION MATRIX

The level of correlation between variables is measured by the correlation coefficient. The negative sign depicts an inverse relationship whereas a positive sign shows a direct relationship and the magnitude of the relationship is based on the absolute value of the co-efficient. Based on the magnitude, one can determine whether there is multicollinearity or not. According to Schindler and Cooper (2009), a correlation above 0.8 between explanatory variables should be corrected for multicollinearity. When a variable has a co-efficient equal to or greater than 0.8, it is near perfect or highly correlated. From the correlation matrix, none of the variables is highly correlated with another.

TABLE 4: RESULTS OF CORRELATION ANALYSIS FOR ROA

	ROA	C R	L N	D T	T X	E X	INF	LIQ	GDP
ROA	1.0000								
C R	0.1362	1.0000							
L N	0.0656	0.1292	1.0000						
D T	0.3877	0.0372	0.2741	1.0000					
T X	0.2862	0.0711	-0.0514	0.2759	1.0000				
E X	-0.3779	-0.2304	0.0435	0.2350	-0.0582	1.0000			
INF	-0.1279	-0.0491	-0.0539	-0.1788	-0.1648	-0.1847	1.0000		
LIQ	0.3039	0.1657	-0.5597	0.1289	0.2937	0.0129	-0.0668	1.0000	
GDP	0.0471	0.0208	0.2120	0.1595	0.1658	0.1306	-0.4973	-0.0958	1.0000

There is a positive correlation between ROA and all the determinants with the exception of expenses and inflation. In relation to ROA, the factors have a magnitude hovering between 0.047 and 0.39. The level of correlation among the independent variables has the lowest magnitude of 0.0129 and the highest as 0.5597. It can thus be asserted that there is no multicollinearity. Inflation had a negative correlation with all the factors. There was also a negative correlation between taxation and loan, expenses with taxation and capital ratio, and liquidity with loan and GDP. All other variables related positively.

TABLE 5: RESULTS OF CORRELATION ANALYSIS FOR ROE

	ROE	CR	LN	DT	TX	EX	INF	LIQ	GDP
ROE	1.0000								
CR	-0.2763	1.0000							
LN	-0.0524	0.1292	1.0000						
DT	0.4532	0.0372	0.2741	1.0000					
TX	0.2876	0.0711	-0.0514	0.2759	1.0000				
EX	-0.2872	-0.2304	0.0435	0.2350	-0.0582	1.0000			
INF	0.0023	-0.0491	-0.0539	-0.1788	-0.1648	-0.1847	1.0000		
LIQ	0.2953	0.1657	-0.5597	0.1289	0.2937	0.0129	-0.0668	1.0000	
GDP	-0.0104	0.0208	0.2120	0.1595	0.1658	0.1306	-0.4973	-0.0958	1.0000

The level of correlation among the dependent and independent variables exhibits no sign of multicollinearity as the highest correlation co-efficient is 0.4532 and the variables exhibit the same signs as in table 4.

The correlation matrix proves that none of the explanatory variables were highly correlated both in the ROE and ROA. After all, one advantage of panel data models is the ability to control for multicollinearity.

4.3 REGRESSION RESULTS ON THE FACTORS AFFECTING BANK PROFITABILITY

TABLE 6: RESULTS OF THE FIXED EFFECT (ROA)

Variable	EXPECTED SIGN	COEFFICIENT	ST. ERROR	T	P>|t|
Capital Ratio	+	8.823607*	4.613259	1.91	0.061
Loans	+	2.213465*	1.118067	1.98	0.053
Deposits	+	.1318895	1.225397	0.11	0.915
Taxation	-	3.742393***	1.339682	2.79	0.007
Expenses	-	-.548611***	.1157452	-4.74	0.000
Inflation	+/-	-.0583676	.0421663	-1.38	0.172
Liquidity	-	3.651434***	1.274561	2.86	0.006
GDP	+	-.0257795	.1120776	-0.23	0.819
_cons		-.0511165	1.43978	-0.04	0.972

NB: * implies that it is significant at 10% or 0.1

** implies that it is significant at 5% or 0.05 and

*** means it is significant at 1% or 0.01

rho = .52768844 No. of observations = 70 R-sq: overall = 0.3116 Adj R-sq = 0.221318

F(8,55) = 7.44 corr(u_i, Xb) = -0.3359 Prob > F = 0.0000

The results of the regression analysis on ROA using the fixed effects is presented in Table 6. The value for the R-squared in the model is 0.3116 which infers that 31.16% of the variation in the dependent variable is explained by the independent variables in the model and an adjusted R-squared of 22.13%. The 68.84% remains unexplained by the independent variables of the study. The computed F, 7.44, exceeds the critical F value of 2.82, at a 99% confidence level. Collectively, all explanatory variables influence the dependent variable at a 99, 95 and 90% confidence level. Also, Since Prob > F is 0.0000 and as such less than 0.01, the model used is acceptable. The rho is 0.52768844 meaning that, 52.77% of the variance is due to differences across panels.

TABLE 7: RESULTS OF THE RANDOM EFFECT (ROE)

Variable	EXPECTED SIGN	COEFFICIENT	ST. ERROR	z	P>|z|
Capital Ratio	+	-178.0998***	30.86391	-5.77	0.000
Loans	+	8.374806	9.269558	0.90	0.366
Deposits	+	41.56648***	7.488145	5.55	0.000
Taxation	-	6.409153	10.24156	0.63	0.531
Expenses	-	-5.482713***	0.8866502	-6.18	0.00
Inflation	+/-	.0330651	.3670688	0.09	0.928
Liquidity	-	30.68647***	9.331138	3.29	0.001
GDP	+	-.0462539	.9671602	-0.05	0.962
_cons		8.828522	11.8222	0.75	0.455

NB: * implies that it is significant at 10% or 0.1

** implies that it is significant at 5% or 0.05 and

*** means it is significant at 1% or 0.01

No. of obs. = 70 R^2: overall = 0.6325 Adj R^2 = 0.5843033 Wald chi^2 (8) = 105.01 Prob >Chi^2 = 0.0000

The results of the regression (Random Effects) is presented in Table 7. With an overall R-square of 0.6325, it can be deduced that the selected variables explain 63.25% of the profitability of the listed commercial banks when measured using ROE. It also has an adjusted R-square of 58.43%. The Prob > chi^2 is 0.0000 which is less than 0.05 and has a Wald Chi^2 of 105.01 proves that the model is okay. The F test shows whether all the coefficients in the model are different from zero. The p-values also tests the same hypothesis. If it is lower than 0.05 for 95% confidence or 0.1 for 90% confidence level or as may be chosen by the researcher, the hypothesis can be rejected. This means the variable has a significant influence on the dependent variable. The associated coefficients in both tables depict how much profitability will change if the independent variables change by a unit across time.

From Tables 6 and 7, it can be deduced that, the effect of the capital ratio on profitability differs depending on whether ROA or ROE is used in measuring profitability of the banks. When ROA is considered as the dependent variable, the effect is positive and significant, as expected. This implies that the listed commercial banks in Ghana play it safe by reserving enough equity to serve as buffer against any shocks. This is in line with the work by Karkrah and Ameyaw (2010). Findings by Vong and Chan (2006) also support this. On the other hand, capital ratio has a significant negative impact on ROE. The result suggests that a higher capital ratio leads to or predicts lower profitability which is consistent with the findings of Hoffmann, (2011), who found a negative impact of capital- assets ratio among US banking sector over the period, 1995-2007 and contradicts that of Bandt et. al (2014). This does not necessarily mean a decrease in wealth but could be as a result of a decreased level of

indebtedness or leverage of the banks as more equity is retained. Due to the fact that ROE equals ROA times the total assets-to-equity ratio, it could be high at the expense of an over-leveraged balance sheet. Thus, banks with higher leverage and as such lower equity, generally report lower ROA but higher ROE and vice versa.

Concerning the effect of the composition of the bank's assets on profitability, the positive coefficient of the loans to total assets ratio confirms expectations with both ROA and ROE. Hence, banks with larger loan portfolio tend to have higher levels of profitability. This can be explained by the fact that loans are a major source of earning for banks due to the interest charged on both short term and long term loans. So as they lend more, they earn more. Nonetheless lending more tends to be risky for the bank as it makes it more illiquid and leaves less cushion to meet unexpected redrawals.This finding is in agreement with previous works by Abreu and Mendes, (2000) as well as Husni (2011) and Naceur (2003. The coefficient of Loans regarding ROE is however insignificant.

Deposits to total assets has a direct relationship with bank profitability. It is significant regarding ROE and insignificant when it comes to ROA. Deposits, though a liability, are a main source of bank investment that leads to direct earning for the bank. The results of the regression confirm the general notion that deposits have a positive impact on profitability. This is in line with the research conducted by Husni (2011) on the determinants of commercial banks performance in Jordan, which had a significant positive relationship.

As expected, EX, the ratio of operating expenses to operating income, had a significant negative impact on the profitability of the listed commercial banks in Ghana over the period of 2004-2013. The results are consistent with the findings of Oladele et al. (2012), who examined the determinants of bank performance in Nigeria. The implication is that, efficient

cost management is a prerequisite to improving profitability of the banks regarding both the ROA and ROE. This is supported by the research conducted by Grigorian and Manole (2006) as well as P. I. Vong et al (2009).

The ratio of liquidity contrasted expectation. In both ROA and ROE, liquidity exhibited a positive and highly correlated relationship. Though it is argued that when banks hold high liquidity, they do so at the opportunity cost of some investment, which could generate high returns, a bank holding adequate liquidity not only meets the requirement set by the commercial bank but also, it meets its obligations and prevent a run on the bank. This tends to boost the banks goodwill and attract potential customers from other micro finance institutions which have been closing on the rampant in recent times. Adequate liquidity helps minimize liquidity risk and financial crises. The aggressive nature of the recent banking services such as the use of mobile bankers also tends to increase the level of deposits which leads to an increase in the level of liquidity. The direct relation between liquidity and profitability is affirmed by the findings of Lartey et al. (2013), who sought to find the relationship between the liquidity and the profitability of banks listed on the Ghana Stock Exchange from 2005-2010. However, if liquid assets are held excessively, the opportunity cost of holding low-return assets would eventually outweigh the benefit of any increase in profit. (Lartey et al., 2013),

Contrary to expectation, taxation had a positive impact on profitability and was highly significant with ROA. Just as Bashir and Hassan (2004) asserted, the positive correlation can be attributed to the bank's ability to easily transfer its tax cost to its clients by increasing the fees and enhancing its interest rate spread. This is however based on the efficiency of

management to distribute its portfolio to lessen its tax by transferring some of their tax load to the clients.

Regarding the macro-economic variables, both had an insignificant effect on profitability. Inflation rate had both a negative and positive impact on profitability depending on whether the measure used was ROA or ROE. There was an inverse relationship with ROA and a direct one with ROE. Whether inflation affects profitability positively or not, depends on whether it was anticipated and as such controlled by increasing interest rate or not. Inflation measured by consumer price index (CPI) had a positive impact on return on equity for the listed commercial banks in Ghana which is consistent with the findings of Davydenko, (2011); Sehrish et al., (2011) and Athanasoglou et al. (2006). The results suggest that, bank income increased more than bank costs. The negative relationship of inflation is also in accordance with studies of Khrawish, 2011 and Zeitun, 2012. In both instances however, inflation was insignificant which is in line with studies of Alper et. al., 2011, Demirguc- Kunt et. al., 1999 and Naceur, 2003. When the operating cost increases due to inflation is offset by the benefit of increased interest rate, there is low or no impact.

Finally, not as expected, GDP growth showed an insignificant inverse correlation with profitability of listed commercial banks in Ghana which is contrary to economic theory. Generally, economic growth enhances profit and vice versa. This is because the effect of the economic cycle is expected to influence demand for credit by households and firms. Also, economic growth leads to an increase in bank credit thereby leading to an increase in interest income and eventually profit. Nonetheless, the works of Khrawish, 2011 and Sufian, 2011 support the inverse relationship. This conflicting result may be due to customer's preference

or choice or information asymmetry of the customers about economic changes in the economy.

4.4 CONCLUSION

Profitability of the commercial bank was measured in two ways, ROA and ROE. Two multiple regressions were run. From the results, the ROE regression showed the highest explanatory power of 63.25%. In both cases, capital ratio, the level of liquidity and expenses were the bank specific variables that had a significant impact on bank profitability. In addition to this, loans and Taxes had a significant impact on ROA whereas Deposits had a significant impact on ROE. The macro-economic factors were insignificant to profitability contrary to the findings of Sudin (2004) whiles Deposits was insignificant to ROA. Loans and Taxation were also insignificant to ROE.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.0 INTRODUCTION

This last chapter summarizes the findings of the study, draws conclusions on the research objectives and provides recommendations for increasing profitability based on the findings obtained.

5.1 SUMMARY OF FINDINGS

This research was undertaken using six bank-specific and two external determinants. The internal factors were Capital Ratio, Loan, Deposits, Taxation, Expenses and Liquidity. The external factors also included inflation rate and GDP. These variables were incorporated because previous studies conducted across the world adopted them and they helped paint a clear picture of the reality.

This study explores the impact of commercial indicators on bank performance from 2004-2013. It is accepted that a strong and healthy banking system is a prerequisite for a sustainable economic growth. The econometric analysis revealed that a better capitalized bank tends to be more profitable when ROA is taken as the measure of profitability. However, an increase in the equity to total assets ratio reduces the ROE of the banks due to the fall in leverage.

Considering the bank-specific factors, the findings confirm that loans, taxes and deposits are directly related to both ROA and ROE. Loans and taxes are significant in regards to ROA and deposits in terms of ROE. Liquidity on the contrary was significantly and positively correlated to ROE and ROA. The study also affirmed the inverse relationship between expenses and

profitability. As the banks operational expenses increase, it eats into its profit thereby reducing it.

Taking the results of the macro-economic factors into account, GDP did not turn out as expected. It had a negative effect on profitability. This could also be due to customer preference or information asymmetry. Inflation interestingly went both ways. It related positively with ROA and negatively with ROE. It was however negligible in both measures.

5.2 CONCLUSION

Profitability is the ability to generate revenue that exceeds cost of production from all the business activities of an organization, company, firm, or an enterprise. It as such depicts how efficiently the management can make profit by using all the resources available in the market. The profitability of commercial banks can be measured by the use of ROA, ROE or ROCE. However, in this study, profitability is measured using ROA and ROE. Several factors, both internal and external, accounts for the level of profitability and the listed commercial banks in Ghana are no exception. This study sought to identify the main drivers of profitability of these banks, examine their individual contribution at the bank-specific and macro-economic level and finally, to determine the level of correlation between the various independent factors as well as the profitability of the listed commercial banks in Ghana.

After analyzing the data of 7 listed commercial banks for a 10-year period from 2004 to 2013, using the panel data multiple regression, the major drivers of commercial banks which had significant impact on profitability included; Capital Ratio, Expenses and the level of Liquidity. In addition to these factors, loans and taxation had a significant impact on ROA and Deposits on ROE. The identification of these key factors was one objective of this study.

Another objective of this research was to determine whether bank-specific or macro-economic variables were the main contributors of commercial bank profitability. The findings proved that the macroeconomic factors do not contribute noticeably to profitability. The bank-specific factors rather contributed more. Even when tax is treated as an external factor, as was not the case in this study, it does not overturn the fact that the external factors have less impact on bank profitability. This is because, it had a coefficient of 3.742393 which showed by how much profitability would increase with a unit increase in taxes over the 10-year period. However, that of the bank-specific could have one variable with a coefficient as high as 8.8. Altogether, internal factors affected profitability much more than the external ones did.

Finally, with the help of the correlation, the study was able to deduce that, there was no strong correlation among the determinants and no sign of multicollinearity.

5.3 RECOMMENDATION

Based on the study, it can be inferred that much focus should be placed on management efficiency and not really on economic variables as these are insignificant and beyond the management's control.

The bank's operational expenses must be efficiently controlled as it decreases profitability with any increment. By aiming at optimal utilization of resources through cost decisions, operational expenses can be reduced.

Banks in Ghana must also maintain adequate levels of liquid assets. They must find an optimal balance between the liquid and illiquid assets so as to benefit from both the returns on investment and the positive impact of liquidity on profitability.

Higher loans contribute significantly towards profitability of commercial banks, thus banks can lend more and earn more. This must however be undertaken cautiously as it may affect the level of liquidity.

Regulatory bodies must also intervene to standardize certain bank fees to protect clients from bearing the full tax costs of the banks.

For future research, this study can be extended to cover unlisted commercial banks in Ghana whiles applying other econometric techniques to verify the relationship. Additional macroeconomic factors such as exchange rate, market concentration, good image and income level can be included. Cost efficiency, credit risk and reserve ratios could also be incorporated to ascertain the determinants of bank profitability in Ghana.

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APPENDIX A: REGRESSION RESULTS

ROA FIXED EFFECTS

. xtset id year

panel variable: id (strongly balanced)

time variable: year, 2004 to 2013

Fixed-effects (within) regression Number of obs = 70

Group variable: id Number of groups = 7

R-sq: within = 0.5198 Obs per group: min = 10

between = 0.0713 avg = 10.0

overall = 0.3116 max = 10

F(8,55) = 7.44 corr(u_i, Xb) = -0.3359 Prob > F = 0.0000

roa	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
capitalratio	8.823607	4.613259	1.91	0.061	-.4215702	18.06878
loans	2.213465	1.118067	1.98	0.053	-.0271921	4.454122
deposits	.1318895	1.225397	0.11	0.915	-2.323861	2.58764
taxation	3.742393	1.339682	2.79	0.007	1.057611	6.427175
expenses	-.548611	.1157452	-4.74	0.000	-.7805696	-.3166523
inflation	-.0583676	.0421663	-1.38	0.172	-.1428707	0.0261354
liquidity	3.651434	1.274561	2.86	0.006	1.097158	6.205711
gdp	-.0257795	.1120776	-0.23	0.819	-.250388	0.198829
_cons	-.0511165	1.43978	-0.04	0.972	-2.9365	2.834267

---

sigma_u | 1.0161028

sigma_e | .96130932

rho | .52768844 (fraction of variance due to u_i)

F test that all u_i=0: F(6, 55) = 5.14 Prob > F = 0.0003

Variable	No. of Obs.	Mean	Std. Dev.	Min	Max
ROA	70	3.314714	1.492298	0	7
Capital Ratio	70	0.1267955	0.0360658	0	0.21667
Loans	70	0.4647869	0.1537766	0	0.839685
Deposits	70	0.6374884	0.1600782	0	0.89
Taxation	70	0.2355762	0.1101511	0	0.7087
Expenses	70	0.866284	1.24896	0	8.387217
Inflation	70	12.478	3.267193	8.73	19.3
Liquidity	70	0.4457286	0.1522176	0	0.75
GDP	70	6.65	1.251752	4.1	8.4

ROE- RANDOM EFFECTS

Random-effects GLS regression Number of obs = 70

Group variable: id Number of groups = 7

R-sq: within = 0.4612 Obs per group: min = 10

between = 0.8841 avg = 10.0

overall = 0.6325 max = 10

Wald chi2(8) = 105.01 corr(u_i, X) = 0 (assumed) Prob > chi² = 0.0000

roe	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
capitalratio	-178.0998	30.86391	-5.77	0.000	-238.592	-117.6077
loans	8.374806	9.269558	0.90	0.366	-9.793194	26.5428
deposits	41.56648	7.488145	5.55	0.000	26.88998	56.24297
taxation	6.409153	10.24156	0.63	0.531	-13.66394	26.48225
expenses	-5.482713	.8866502	-6.18	0.000	-7.220515	-3.74491
inflation	.0330651	.3670688	0.09	0.928	-.6863765	.7525068
liquidity	30.68647	9.331138	3.29	0.001	12.39778	48.97517
gdp	-.0462539	.9671602	-0.05	0.962	-1.941853	1.849345
_cons	8.828522	11.8222	0.75	0.455	-14.34257	31.99961
sigma_u	0					
sigma_e	7.8704354					
rho	0	(fraction of variance due to u_i)				

Variable	Number of Obs.	Mean	Std. Dev.	Min	Max
ROE	70	27.18	13.07825	0	61.4
Capital Ratio	70	0.1267955	0.0360658	0	0.21667
Loans	70	0.4647869	0.1537766	0	0.839685
Deposits	70	0.6374884	0.1600782	0	0.89
Taxation	70	0.2355762	0.1101511	0	0.7087
Expenses	70	0.866284	1.24896	0	8.387217
Inflation	70	12.478	3.267193	8.73	19.3
Liquidity	70	0.4457286	0.1522176	0	0.75
GDP	70	6.65	1.251752	4.1	8.4

APPENDIX B: HAUSMAN TEST

HAUSMAN FIXED RANDOM ROA

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
capitalratio	8.823607	-3.871185	12.69479	1.962866
loans	2.213465	1.95323	.2602346	.
deposits	.1318895	3.540286	-3.408397	.6896712
taxation	3.742393	.5821693	3.160224	.
expenses	-.548611	-.6221322	.0735212	.
inflation	-.0583676	-.0592278	.0008601	.
liquidity	3.651434	3.591375	.0600589	.1771653
gdp	-.0257795	-.0270169	.0012374	.

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 25.56

Prob>chi2 = 0.0012

(V_b-V_B is not positive definite)

HAUSMAN FIXED RANDOM ROE

	---- Coefficients ----			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fixed	random	Difference	S.E.
capitalratio	-103.2624	-178.0998	74.83748	21.77082
loans	9.596296	8.374806	1.221491	.
deposits	30.31288	41.56648	-11.25359	6.676846
taxation	18.86245	6.409153	12.45329	3.925914
expenses	-5.148431	-5.482713	.3342816	.3344455
inflation	.0588511	.0330651	.025786	.
liquidity	29.80718	30.68647	-.8792933	4.671286
gdp	-.0955063	-.0462539	-.0492524	.

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 12.62

Prob>chi2 = 0.1258

(V_b-V_B is not positive definite)

APPENDIX C: CORRELATION

ROA

	ROA	C R	L N	D T	T X	E X	INF	LIQ	GDP
ROA	1.0000								
C R	0.1362	1.0000							
L N	0.0656	0.1292	1.0000						
D T	0.3877	0.0372	0.2741	1.0000					
T X	0.2862	0.0711	-0.0514	0.2759	1.0000				
E X	-0.3779	-0.2304	0.0435	0.2350	-0.0582	1.0000			
INF	-0.1279	-0.0491	-0.0539	-0.1788	-0.1648	-0.1847	1.0000		
LIQ	0.3039	0.1657	-0.5597	0.1289	0.2937	0.0129	-0.0668	1.0000	
GDP	0.0471	0.0208	0.2120	0.1595	0.1658	0.1306	-0.4973	-0.0958	1.0000

ROE

	ROE	CR	LN	DT	TX	EX	INF	LIQ	GDP
ROE	1.0000								
CR	-0.2763	1.0000							
LN	-0.0524	0.1292	1.0000						
DT	0.4532	0.0372	0.2741	1.0000					
TX	0.2876	0.0711	-0.0514	0.2759	1.0000				
EX	-0.2872	-0.2304	0.0435	0.2350	-0.0582	1.0000			
INF	0.0023	-0.0491	-0.0539	-0.1788	-0.1648	-0.1847	1.0000		
LIQ	0.2953	0.1657	-0.5597	0.1289	0.2937	0.0129	-0.0668	1.0000	
GDP	-0.0104	0.0208	0.2120	0.1595	0.1658	0.1306	-0.4973	-0.0958	1.0000