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EFFECT OF CAPITAL STRUCTURE ON ASSET QUALITY OF BANKS

BY

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DECLARATION

I hereby declare that this submission is my own work towards the award of a Master of Business Administration, Accounting Option and that to the best of my knowledge, it contains no material previously published by another person or any material which has been accepted for the forward of any other degree of the University, except where due acknowledgement has been made in the text

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DEDICATION

To the Almighty God.

ACKNOWLEDGMENT

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ABSTRACT

The main objective of the study is to examine the effect of capital structure on asset quality of universal banks in Ghana. In order to achieve this objective, the study utilizes a panel data set obtained from 11 universal banks operating in Ghana with data spanning from 2015 to 2021. The study employs a quantitative approach and explanatory research design. With a 77-firm year observation, this study utilizes secondary data from the audited annual financial statements of the selected banks. To achieve the study objectives, the study conducts descriptive statistics and regression analysis in respect to each objective. The study also carries out the LM-test, F-test and Hausman tests to determine the appropriate model for this study and finds that the fixed-effect model was appropriate for this study. This study recommends that when more loans are granted to customers, the management of the respective banks should come out with stringent credit recovery policies to redeem such loans in order not to go bad and plunge the sector into liquidity crisis. Again, the study recommends that management of the banks under study should mostly go in for long term debt as it has wider duration of payment period and use such funds to grant loans to their customers to earn more interest.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The quest of many profit-making organizations to grow, maximize the wealth of their shareholders, compete successfully, and combine the appropriate mixture of debt and equity to finance their operations cannot be over-emphasized. In line with this statement, the going concern concept of firms rest on some aspects like good corporate governance practices, asset quality management and the financing decisions made by the management of a firm (Akingunola et al., 2018). Capital structure which deals with the optimal mix of debt and equity remains one of the hottest concepts in accounting and finance literature (Ahmed and Bhuyan, 2020). The concept of capital structure was initiated through the seminal work of Miller and Modigiliani (1958). For the purpose of asset financing, the concept of capital structure denotes the appropriate combination of debt and equity (Abdullah and Tursoy, 2023). Thus, how firms control their finances is considered an essential aspect of corporate financing since it has the tendency to influence the wealth of shareholders (Abdullah and Tursoy, 2019).

Generally, the concept of capital structure is viewed the combination of debt and equity that firms engage to finance their operations. Capital structure as defined by Hiu (2008) refers to the various aspect of funding sources that an organization maintain as a result of its funding decisions. In a perfect market, the notion that capital structure is not relevant was first initiated by Miller and Modigliani. On the other hand, the trade-off theory as proposed by Kraus and Litzenberger (1973), which rest on tax assumption that firms rely to determine its capital structure through its balance tax-shield as well as the cost of bankruptcy relating to the finance of debt. In addition, as proposed by Jensen and Meckling (2019), the choice of finance by firms are influence by the agency costs that results from the conflict of interest between the agents

and the principals. In addition, the goal of firm to use internal financing through retained earnings followed by debt and equity is premised on pecking-order theory (Myers and Majluf, 1984).

Asset quality is a function of loan portfolio quality of financial institutions which is basically assessed by its non-performing loans (NPL) (Abdulazeez et al., 2019). Poor capital structure composition might have adverse impact on asset quality of banks when issues involving liquidity arise. As financial institutions trade on credit basis, they are liable to risk of default from borrowers (Abdulazeez et al., 2019). Among banks risk component, credit risk plays a vital role in banks performances when these loans fail to yield income or gone bad (Drehman et al., 2008). Hence, the researcher observed that such banks face some level of NPLs which further worsen their asset quality. Abdulatif et al. (2014) reveal that among the several components which account for poor performance in financial institutions, asset quality cannot be overlooked.

Sequel to the above arguments, there exists no studies in Ghana that examine the effect of capital structure on asset quality of banks. To the best of the researcher's knowledge, studies conducted in capital structure have mostly linked it to the financial performance of firms (Chauhan et al., 2022; Opoku-Asante et al., 2022). However, looking at the importance of asset quality in terms of liquidity, banks' sustainability and growth, it becomes imperative to carry out this study to fill gap and contribute to literature. Besides, looking at the importance of the banking sector in terms of credit mobilization, employment creation and GDP contribution, it is crucial to conduct this study using the banking sector Centrally, the purpose of this study is to analyse the effect of capital structure on asset quality of banks in the Ghanaian context.

1.2 Problem Statement

To sanitise the banking sector and relieve them of total collapse as a result of poor asset quality, the Apex bank of Ghana came up with diverse measures aimed at securing investors of their funds from poor corporate governance by management of financial institutions in Ghana. According to Ghana Business News (April 15, 2018), one of such measures is to peg the minimum capital requirement by banks to GHS400 million to strengthen the financial sector. While most studies on capital structure have linked it to firm performance (Iqbal, 2022; Olusola et al., 2022; Opoku-Asante et al., 2022; Riaz and Akhtar, 2022), to the best of the researcher's knowledge, there is relatively no study that have linked it to asset quality of banks. A study of this nature intends to fill the gap.

Sequel to the above argument, many studies on capital structure have been carried out mostly out the context of Ghana (Chauhan et al., 2022; Surayya and Kadang, 2022; Usoro, 2022). With this, challenges always arise when attempt is made to generalize the findings of those studies to that of Ghana. This is because, differences exist with respect to how finances are raised by banks to finance their operations. No studies have been carried out in Ghana to assess the relationship between capital structure and asset quality of banks. Following financial crisis that resulted in the collapse of giant companies like Enron and WorldCom, the concept of capital structure and credit management began to gain much attention from scholars and management.

In addition, it has been empirically verified in the existing finance literature that non-performing loans is a statistically significant predictor of banks insolvency (Bhattarai, 2016). Considering the critical role of banks in various societies, the collapse of banks does not only affect the banks but the economy of a country as a whole. Thus, non-performing loans in banks have a long-term adverse effect on the economy and welfare of country. As a result, various policy makers and government supervisory bodies have the interest of finding solutions to

control the problem of non-performing loans in banks (bank asset quality). From a scholarly perspective, no study exists on how capital structure of banks impact on their asset quality. Centrally, the purpose of this study is to analyse the effect of capital structure on the asset quality of banks in Ghana.

1.3 Research Objectives

The main purpose of the study is to analyse the effect of capital structure on the asset quality of banks in Ghana. Specifically, the study seeks to achieve the following objectives;

i. To analyse the effect of total equity on asset quality of banks.
ii. To examine the effect of short-term debt on asset quality of banks.
iii. To investigate the effect of long-term debt on asset quality of banks.

1.4 Research Questions

The study seeks to answer the following questions;

i. What is the effect of total equity on asset quality of banks?
ii. What is the effect of short-term debt on asset quality of banks?
iii. What is the effect of long-term debt on asset quality of banks?

1.5 Significance of the Study

The conduct of this study carries some key relevance that needs to be highlighted. To begin with, a study of this nature is among the paucity of studies in Ghana that have been carried out to ascertain the nexus between the variables. A study of this nature would provide useful insight to the various stakeholders such as management, shareholders, employees, creditors, government, investors, and academicians on how capital structure impact on the asset quality of banks.

Secondly, in many countries, banks are the main sources of fund for businesses. Thus, banks promote economic growth by mobilizing funds and directing them towards productive sectors of the economy. For many businesses including small, medium and large enterprises, banks loans are their major source of funds. Therefore, if the lending and borrowing activities of banks are deteriorated as a result of loan defaults, it will not only affect the banks but ultimately affect the economy at large. Thus, this study on asset quality and capital structure is timely to proffer solutions to control the problem of low asset quality. This study makes contribution to both theory and practice. From a theoretical perspective, this study contributes to the nascent body of studies on asset quality. Considering the fact that existing studies have mostly focused on macroeconomic determinants of asset quality, this study fills a gap in literature by examining capital structure as a bank specific determinant of asset quality. From a practical perspective, the findings of this study will inform various policy makers and management of banks to develop policies to improve asset quality in banks.

1.6 Scope of the Study

This study focused on 11 universal banks operating in Ghana. Geographically, the scope is limited to Ghana. This study selected capital structure and asset quality variables. Specifically, the scope of this study covers total equity, short-term debt, long-term debt and asset quality (proxied by non-performing loans) of banks. Data of the firms under study spans from 2015 to 2021.

1.7 Research Methodology

The main objective of the study is to analyse the impact of capital structure on asset quality of banks in Ghana. The study is quantitative research that employs explanatory research design to achieve the objectives of the study. The population of the study revolves around universal banks in Ghana. The study therefore utilises 11 universal banks in Ghana. This study, employs

the Generalized Method of Moments (GMM) estimation technique. The GMM estimation method takes care of the endogeneity issues of capital structure variables among the selected banks under study. In this study, data from the annual financial reports of Ghanaian banks spanning from 2015 to 2021 are used. With a total of 77 firm observations, the dependent variable is asset quality and the independent variables are capital structure. The study controlled for the effect of firm age, firm size and GDP growth in the country.

1.8 Organization of the Study

This thesis is organised into five main chapters. The first chapter is the introduction chapter. The second chapter of the study is the literature review. The chapter three, which is the methodology, follows the literature review. The fourth chapter presents the data analysis and discussion of results. The final chapter is summary, conclusion and recommendation.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter of the study, the researcher presents the review of literature on the topic: "effect of capital structure on asset quality of banks in Ghana. Specifically, the literature review has been grouped into four sections. The first and second section present the conceptual review and theoretical review respectively. In addition, the third and fourth section of the chapter also present the empirical review and the conceptual framework guiding the study.

2.1 Conceptual Review

This part of the literature reviews the major key concepts on the study of capital structure and asset quality of banks. The concepts under review include capital structure, total equity, debt, and asset quality. The next sub-sections discuss them into details.

2.1.1 Capital Structure

Capital structure involves how a company finances their operations. The concept of capital structure involves the appropriate mix of debt, equity and retained earnings to finance a business (Ahmed and Bhuyan 2022; Akinggunola et al., 2018). According to Olusola et al. (2022), capital structure involves the composition of various firm sources of funding being long-term financial obligations and equity shares or hybrid, retained earnings and other gains by the entity. The hardest decision by management of a company is to determine the optimal capital structure that will be in the best interest of the company. Putting it in a different context, capital structure involves how company assets are funded through a mix of long-term obligations, equity and hybrid instruments. Following Chauhan et al. (2022), capital structure is seen as the combination of financial obligations, equity stock and preference shares. From the above definition, it can be argued that the various authors defining capital structure points

to a similar direction as involving the appropriate mixture of debt and equity to finance a business. From the perspective of Abdullah and Tursoy (2021), it is impossible to finance a business with either only debt or only equity. This issue has made the concept of capital structure to include both debt and equity mixture. The next sub-sections discuss equity and debt as the main components of capital structure. Afrifa et al. (2019) also define equity as raising money to finance a company by selling interest to individuals and institutions.

2.1.1.1 Firm's Equity

A firm's equity involves selling a stake in a company with the aim of securing funds for operations. Equity financing involves giving up a portion of ownership to secure funds for the company to operate. Equity involves selling a portion of a firm's equity in return for capital to finance a business (Velliscig et al., 2022). A firm's equity usually involves the floating of shares inviting applicants to purchase and become part owners of a company. According to Parvin et al. (2020) equity refers to stock which indicates the ownership interest in a company. Besides, some earnings are retained by the banks in the form of equity to expand the business. With respect to equity, firms raise funds from individuals and institutions by selling shares to them in the form of offering ownership. The equity shareholders are entitled to dividend from the company within a specific period. Equity which are mostly in the form of shares are considered as capital to finance the operations of a company (Aif-Alyousfi et al., 2020). Equity, which is mostly referred to as capital are funds that a firm require to purchase assets and to keep their organization running. Equity involves ownership of a long-term interest in a company with high level of risks and payment of dividends. The funds raise by companies in the form of equity does not require collateral and involves variable returns.

2.1.1.2 Firm's Debt

A firm's debt involves borrowing funds to finance their operations. Debt financing does involves giving up a portion of ownership to secure funds for the company to operate. The debt of a company entails the borrowing of funds and paying it back with interest (Detthamrong et al., 2017). According to Pham et al. (2022), debt involves the borrowing of funds from financial institutions or external parties which requires repayment of principal with interest in a later date. To fulfil it long term goals, debt is a form of instrument raised by a firm within a specific period of time with fixed interest to be paid in a later date. Debts which are in the form of debentures and loans are considered as liabilities to the organization (Arianpoor and Naemi, 2022). The debt structure of a firm mostly come in two forms. These are short-term debt and long-term debt. While the short-term debt is payable within one accounting year, the long-debt of a company extend beyond one accounting year. The payment of the principal with interest of short-term debts are within a short period, usually for a period of 12 months. On the other and, the payment of the principal and interest of a long-term debt is mostly done beyond 12 months. Debts involves a loan obligation on a company with comparatively short-term with fixed or regular interest.

2.1.2 Asset Quality

The concept of asset quality measures the risks component of financial institutions that are tied to their assets. According to Abdlazeez et al. (2019), assess quality is a measure that financial institutions use to asset the component of risks attached to their assets and the amount of provisions they have to make for loan losses. Asset quality measures the risks components on the balance sheet of financial institutions in relation to the credit they have offer to their clients. On the balance sheet of financial institutions, Egungwu and Egungwu (2018) defined asset quality to include the level of credit risks in relation to their loan portfolio. On the other hand,

Velliscig et al. (2022) defining the concept of asset quality take into consideration the non-performing loans and loan loss provisions made by the financial institutions. Adebisi et al. (2018) confirm this assertion by revealing that asset quality of financial institutions include their loan loss provisions (as an instrument used to adjust loan loss reserves depending on loan portfolio performance) and non-performing loans (loan that does not generate any income for a bank as its payment of principal and interest is over 90 days due). Abdullatif et al. (2014) defining the concept of asset quality revealed that when there is a high loan delinquency or past due loans that results in a ballooning level of non-performing assets this erodes the income for the bank and has a negative impact on returns.

2.2 Theoretical Review

In this section of the study, the researcher presents the theory that guides the study of capital structure and asset quality of banks in Ghana. the theory under review is the tradeoff theory. The next sub-section reviews this theory in detain and explain its relevance to the conduct of this study.

2.2.1 Trade-Off Theory

Trade-off theory is one of the widely accepted versions of structural capital theories, and is one of the most prominent theories of structural capital models in recent times (Danso, 2014). The trade-off theory presupposes that companies must select an appropriate capital structure that provides incremental gains and debt costs after recognizing market imperfections. According to trade-off principle, any enterprise should have an optimized capital structure (Hassan and Samour, 2015). The rationale behind the argument is the trade-off between future gains and debt servicing costs (Kraus and Litzenberger, 1973; Myers, 1984). As Modigliani and Miller (1963) acknowledge, due to interest deductibility pre-tax profits, companies may profit from leveraging. In other words, there is a tax shield to exploit because interest expenditures

minimize taxable profits and enable businesses to collect tax savings (Graham, 2003). Masulis further proves its favorable effect on firm valuation (1980). However, Myers (1984) and Cornett and Travlos (1989) argue that although companies will profit from tax deduction by raising their debt levels, each company can step towards its own optimum capital structure, which can entail either raising or decreasing debt.

The trade-off theory acknowledges the detrimental impact of debt on firm performance. Debt funding is related to a pledge to the potential liquidity outflow due to future debt interest payments. Interest payments thus adversely impact the liquidity and financial results of companies, which raises the financial likelihood of failure and insolvency (Brealey et al.,2008; Ross et al., 2013). The trade-off theory proposes that the optimum capital structure can be calculated by matching the debt advantages of tax savings with the debt costs of higher financial distress risk (Kraus and Litzenberger, 1973; Myers, 1984). Again, the principle suggests that businesses should increase their debts under normal business situations, as long as the debt gains outweigh the expense of the possibility of bankruptcy. However, bankruptcy risk grows noticeably during emergencies, raising the possibility of debt burdens being greater than debt gains. In other words, businesses have incentives to reduce their amount of debt during periods of recession. However, the trade-off theory supports debt finance benefits since the business handles the trade-offs between debt and debt prices. That is, tax advantages can improve firm efficiency. While bankruptcy expenses remain, Gruber and Warner (1977) and Miller (1977) conclude that tax savings are far lower.

Within the trade-off theory, there is a debt ‘‘pecking-order’’ with bank debt being preferred to market debt because of the lower implied bankruptcy costs. the higher NPL ratio reduces the bank’s profit. Banks having to expand their credit activities also lead to higher NPL ratios, consistent with the trade-off theory (Duong et al., 2013). When banks go in for long-term debt,

they might be able to extend their credit offer to customers to generate much return. However, measures must be taking to recover most of the credits granted to the customers in order not to deteriorate the asset quality of banks.

2.3 Empirical Review

In this section of the study, the researcher presents the empirical review of studies from both developed and developing countries. Among such studies, Agasha et al. (2022) also sample 12 MFIs in Uganda to study the role of cost of capital in capital structure-loan portfolio quality nexus. The study involves a cross-sectional research design with data spanning from 2008 to 2019. To test for the hypotheses, the study employs the PLS-SEM technique. The findings of the study confirm that cost of capital play a partial mediating role in capital structure-loan portfolio quality nexus. The results of the study further reveal that capital structure of MFIs has a significant impact on their loan portfolio quality.

Sile et al. (2019) sample 11 banks quoted on the stock exchange of Nairobi to study asset quality as a determinant of financial performance in Kenya. The main objective is to analyse asset quality and financial performance of banks with data spanning from 2012 to 2017. The analytical strategic include both descriptive and inferential statistics. Specifically, the study employs regression analysis to assess the relationship between asset quality and financial performance of banks. The findings of the study reveal that asset quality has a significant impact on the performance of quoted banks in Kenya.

Velliscig et al. (2022) sample 63 banks quoted on selected European Stock Exchange the implication of capital structure and asset quality on bank resilience and performance. The study utilizes secondary data spanning from the first quarter of 2015 to the last quarter of 2018 from

the financial statements of the selected banks. The data was analyse quantitatively using descriptive statistical models. The study specifically employs the GMM estimation technique to establish the relationships between the variables under study. The study findings reveal that total capital of banks impact significantly on their stability. The findings of the study also reveal that the relationship between total capital and insolvency risk is negative and insignificant. Again, the study reveals that capitalized banks experience high performance in their operations.

Temuhale and Ighoroje (2020) employ 36 quoted industrial goods firms in Nigeria to assess the nexus between asset structure, capital structure and firm performance. The study utilizes secondary data covering a 9-year period from 2011 to 2019 from the annual financial statements of the selected firms. The panel data was analysed using descriptive statistics, correlation analysis and regression technique. The results of the study reveal that asset structure has a positive but insignificant impact on capital structure of the firms under study. The findings of the study also confirm that optimal capital structure impact positively on the performance of the quoted firms under study.

Parvin et al. (2020) utilizes dataset of 187 MFIs in Bangladesh to establish the relationship between capital structure, financial performance and firm sustainability. The main objective of the study seeks to analyze how capital structure impact on the performance of MFIs in Bangladesh. The study involving panel data utilizes the fixed effect and random effect models for the analysis. The findings of the study reveal that equity to asset ratio influence the performance of MFIs. The study also finds that debt to loan ratio has a negative effect on firm risks.

Bapat and Sagar (2015) also selected 46 public and private banks in India to assess the relationships among asset quality, income diversification and firm profitability. The dataset

involves secondary data spanning from 2006 to 2013, retrieved from the annual financial statement of the selected banks. The panel data set was analyse using descriptive statistics, correlation analysis and the fixed effect model. The findings of the study reveal that asset quality has a significant negative impact on firm profitability. The study also reveals that the relationship between diversification and firm profitability is positive and significant.

Sanathanee (2020) employs 9 commercial banks in Sri Lanka to study the nexus between asset quality and firm profitability. The study involves a panel data covering the period of 2008 to 2016. The researcher utilizes the fixed effect model to analyse the data. The researcher further employs Pearson correlation to establish the level of multicollinearity among the predictive variables. the findings of the study reveal that the determinants of banks profitability include credit risk identification, capital adequacy and firm liquidity, among others. The findings of the study establish a negative relationship between asset quality and bank profitability.

Gong and Wei (2022) sample 34 banks quoted on the stock exchange in China to assess asset quality, financial structure and bank regulations. The secondary data for the study spans from 2008 to 2016 and were retrieved from the annual financial report of the selected banks under study. The researchers utilize Hausman test to determine the best estimation model to use. The panel dataset of their study employs the fixed effect model as the best estimator. The findings of their study reveal that prefer to use asset with lower quality which is financed by short-term debt under certain conditions. The study findings further reveal that under optimal capital structure choice, the banks under study prefer assets with high quality which is financed by long-term debt.

Afrifa et al. (2019) sample 625 MFIs across 40 countries to study optimal capital, loan portfolio quality and firm performance. The study utilised secondary data spanning from 2010 to 2015.

The study utilizes both descriptive and inferential statistics to analyze the data. The study employs the GMM regression model to assess the relationship between the variables employ in the study. Specifically, the fixed effect model was chosen to analyse the panel data. The findings of the study reveal a negative relationship between optimal capital and performance of MFIs. The study further reveals that the negative relationship between optimal capital and MFIs performance nexus do not vary with respect to regulated, profit-making and deposit-taking MFIs.

Ahamed et al. (2017) sample 56 quoted banks in India to study asset quality, bank profitability and non-interest income. The panel data for the study spans from 2006 to 2015 and were retrieved from the annual financial statements of the respective 56 listed banks under study. The study utilised the fixed effect model for the analysis. The regression technique utilize involves the GMM estimation model. The findings of the study reveal that higher share of non-interest income of banks involved in more trading activities generates much profits. The study findings further confirm that income diversification benefit banks with lower asset quality.

Mehzabin et al. (2022) sample 492 banks from 28 countries in Asia to assess the impact of capital structure and non-interest income on bank profitability. The main objective of the study is to assess the influence of capital structure on the profitability of banks in Asia. The panel data spanning of 492 banks from 2004 to 2018 utilizes the fixed effect regression model. The findings of the study reveal that the profit margin of banks is enhanced when their total debt ratio increases. The study results also confirm that the banks enhance their profitability by lowering their operating cost. The study findings further reveal that when the interest rates of the banks are lower, non-interest income play a vital role in the performance of banks.

Swamy (2017) also utilize 24 banks to investigate the determinants of asset quality and profitability of banks. The study utilizes a panel data technique with data covering 1997 to 2015. The study analysis involves the use of regression technique. Specifically, the GMM estimation technique is utilize. The findings of the study the study reveal the determinants of asset quality to include bad debts, non-performing loans and loan-to deposit ratio. The results of the study further confirm that capital adequacy and firm's investment activities impact on the level of profitability. The study findings again confirm that as compared to private banks, public banks contain high level of bad debts which influence their profit margin.

Saif-Alyousfi et al. (2020) sample 827 listed non-financial firms on the stock market of Malaysia to assess the determinants of capital structure. With 8270 observations, the panel data set spans from 2008 to 2017. The data was collected from the World Bank database. The analytical technique of the data involves static panel estimation model. The results of the study reveal that variables which include profitability, growth opportunity, cashflow volatility as well as tax-shield impact negatively on non-financial firms' debt measures. The study findings also reveal that the key determinants of non-financial firms prevent value of debt include firm age, firm size, inflation and interest rate.

Lassoued (2022) sample 575 MFI firms to assess the nexus between capital structure and earnings quality of microfinance firms. The panel dataset covers a 9-year period from 2007 to 2016. The study control variables include liquidity, firm age, institutional investment and leverage. The analytical technique of the dataset includes both descriptive and inferential statistics. The GMM estimation technique is employ to analyse the data. The findings of the study are robust and reveal that management of MFIs manage their earnings for external

financial purposes. The study findings further confirm that the debt structure of MFIs has a significant negative impact on their earnings management.

Satiadharma and Machali (2017) analyse the impact of asset structure and firm size on firm value. The study further analyse capital structure as intervening variable. The study utilizes 16 firms quoted on the stock market of Indonesia with data spanning from 2010 to 2014. The study utilizes multiple regression technique to analyse the dataset. The findings of the study reveal that the relationship between capital structure and firm value is positive and significant. The study findings further reveal that capital structure play no significant role in asset structure-firm value nexus. The study also reveals no direct and significant impact of firm size on firm value.

Dethhamrong et al. (2017) assess the relationships among capital structure, corporate governance and firm performance. The study utilizes data set quoted on the stock exchange of Thailand. The study has a sample of 493 firms with data spanning from 2001 to 2014. The secondary dataset for the study is obtain from the annual financial reports of 493 non-financial firms. This study involves the use of multiple regression technique. The study after performing the Hausman test utilize the fixed effect model for the analysis. The findings of the study reveal that the relationship between leverage and firm performance is positive and significant. The study further reveals no significant impact of corporate governance on firm leverage and performance. Again, the study reveals a negative impact of audit committee on firm performance.

Salike and Ao (2018) also utilize commercial banks in Asia to study the role of asset quality on determinants of banks profitability. The study consists of 947 banks from 12 Asian countries with data covering the period of 2001 to 2015. The panel data set utilizes the fixed effect

estimation model for the analysis. The findings of the study reveal that the nexus between asset quality and bank profitability is negative but significant. The study further reveals that real GDP growth as a macroeconomic variable has a significant influence of banks profitability. The study findings further reveal that the determinants of bank profitability include income diversification as well as capital adequacy.

Pham et al. (2022) investigate the effect of capital structure on bank profitability in Vietnam. The study involves 30 commercial banks in Vietnam with secondary data spanning from 2012 to 2018. The panel dataset of the study utilizes the fixed effect model to analyse the data. The study utilizes the GMM estimation technique in addition. The findings of the study reveals that the relationship between customer deposits and bank profitability is negative. The study findings further reveal a significant positive relationship between non-deposit liabilities and bank profitability.

Arianpoor et al. (2022) employ 190 companies in Iran to assess capital structure, firm risk, cost of capital and environmental sustainability during the period of COVID-19 outbreak. The selected companies for the study are listed on the stock exchange of Tehran. With 1330 observations, data from the 190 selected companies spans from 2014 to 2020. The analytical technique of the dataset includes both descriptive and inferential statistics. The GMM estimation technique is employ to analyse the data. The findings of the study reveal that during the pandemic, firms which are underleveraged had lower level of total risk, while those firms who are overleveraged had high level of total risk. The study further confirms that during the pandemic, systematic risks impacted negatively on environmental sustainability. The findings of the study again reveal that low cost of equity is link to firms who are overleveraged.

2.4 Conceptual Review

The conceptual framework of the study that seeks to assess the effect of capital structure on asset quality of banks in Ghana has been presented diagrammatically. Figure 2.1 presents the conceptual framework model of the study.

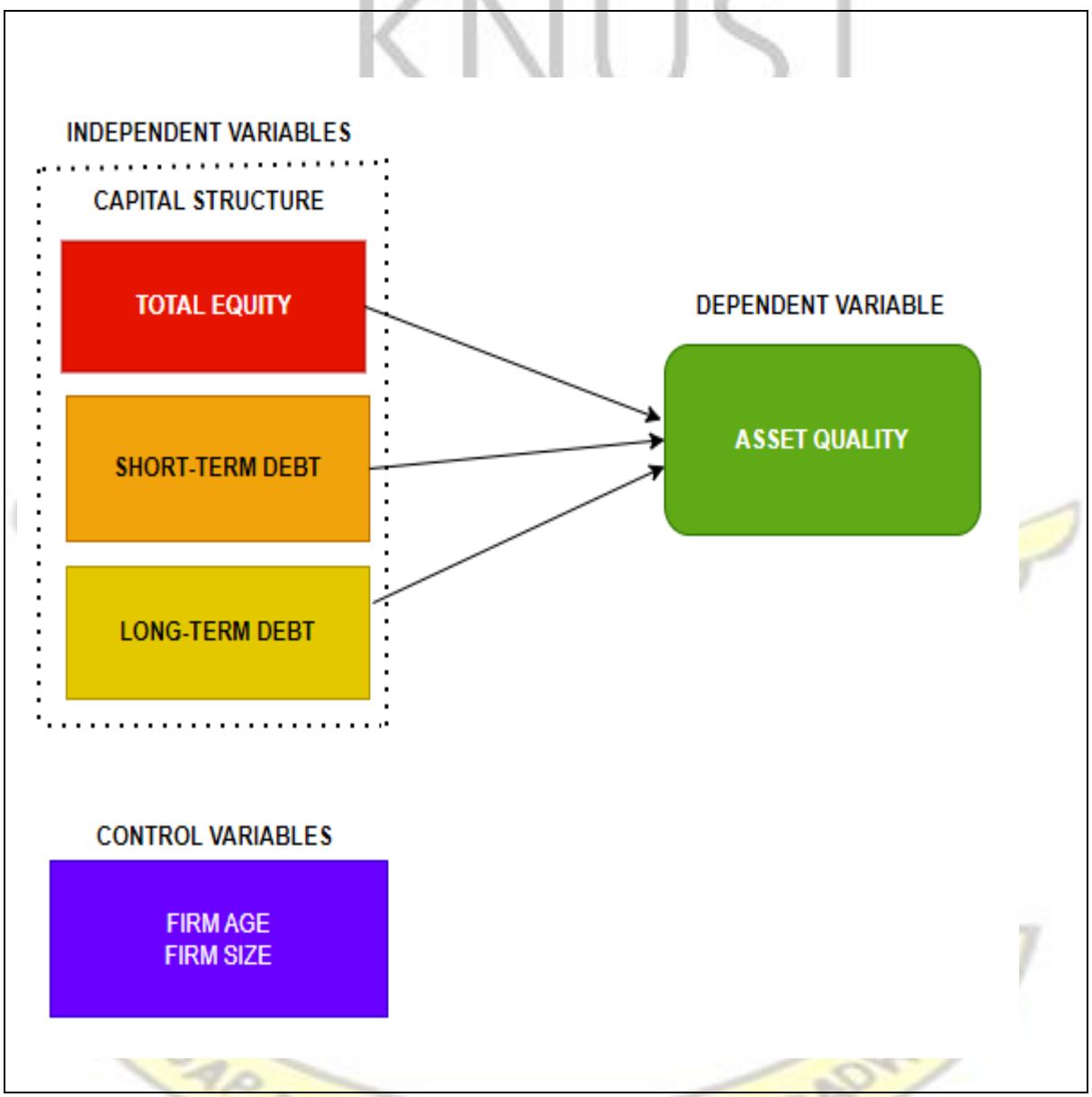

Figure 2.1: Conceptual Framework Model

Source: Researcher's Construct (2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter of the study explores the research methodology employed to analyse the effect of capital structure on asset quality of banks in Ghana. The chapter presents the research design of the study, research approach, data source, population and sample size, model specification, and the method of data analysis.

3.1 Research Design

This study is quantitative in nature as it enables the researcher to measure, analyse and understand the nature of the study through the use of various statistical tools like the mean and standard deviation. The study is also based on collection and analysis of numerical data as well as statistical hypotheses testing which are consistent with the quantitative method.

3.2 Study Population

The population of the study consists of all universal banks operating in Ghana. Currently, 23 universal banks are operating in Ghana. Hence, the population of this study is made up of 23 universal banks in Ghana.

3.3 Sample Size and Sample Technique

The sample size of this study consists of 11 universal banks in Ghana. This study adopts convenient random sampling technique to reach out to these chosen banks for the study. The selected banks are chosen for the study as a result of data accessibility and availability of their annual financial statements spanning from 2015 to 2021.

3.4 Data and Data Source

There are two main sources of data, namely; primary source and secondary source. This study utilizes of secondary data from the annual financial reports of the selected banks covering a 7-year period from 2015 to 2021. The annual financial reports of these banks are retrieved directly from the websites of these selected banks. The researcher obtains the data on variables which include total equity, short term debt, long-term debt, total assets and non-performing loans from the annual financial statements of the selected banks.

3.5 Data Analysis

The analysis of data involves the breaking down of the data components to clarify the relationship among the study variables. The data will be analysed quantitatively using both descriptive and inferential statistical models. In assessing the relationship among the variables of the study, the researcher will employ Hausman test to select either the fixed effect or random effects model for the data analysis. Pearson correlation matrix will be employed to test for the presence of multi-collinearity in the set of data. Besides, various statistical tools such as the mean and the standard deviation will be used to analyse the set of data.

3.6 Model Specification

Specifically, the fixed effect model considers the difference that may exist among the capital structure components of selected banks under study. In line with this assertion, the fixed effect model is chosen over the pooled OLS which treat the data as a time series. Specifically, the model specification for the study is given as;

$AQ_t = \alpha + \beta\acute{o} + \varepsilon_t$ ..... (1)

Where;

AQ- Asset Quality

a- is the intercept

t – Represents the time from 2015 to 2021

ε_t- error term

Specifically, the nexus between capital structure and asset quality of banks has been modeled below;

$NPL_t = \alpha + \beta 1Tequity_t + \beta 2STdebt + \beta 3LTdebt + \beta 4Fage + \beta 5Fsize + \varepsilon_t$…….. (2)

Where;

NPL= non-performing loans;

α is the intercept;

t – Represents the time from 2015 to 2021;

$\beta 1$ to $\beta 3$ – denotes the regression parameters in the model to be estimated;

Tequity represents total equity;

STdebt represents short-term debt

LTdebt represents long-term debt

Fage represent firm age

Fsize represents firm size

3.7 Variable Measurement

Variables	Measurement
Capital structure	ratio of total debt to total equity
Total Equity	total capital accrued to the firm
Short-term debt	debt due within 1 accounting year
Long-term debt	debt due beyond 1 accounting year
Asset Quality	Non-performing loans
Firm size	Natural log of total assets
Firm age	Number of years since the year of the firm's IPO

Source: Field Study (2023)

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CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

This chapter presents the results and discusses the findings of the study. The discussion of this chapter is backed by existing literature of the study. This chapter specifically presents the descriptive statistics, correlation analysis, and model specification, among others. This chapter begins with the descriptive statistics of the variables employed in the study.

4.1. Descriptive Statistics

Table 4.1 presents the results of the descriptive statistics of the study. The Table presents the number of observations, mean, standard deviation, as well as the minimum and the maximum of the variables under study. From Table 4.1, total equity records a mean and a standard deviation of 966,981,883 and 545,796,682 respectively, with a minimum and a maximum of 141,149,000 and 2,698,471,000. This is an indication that on average, the banks under study have total equity of around 966,981,883. On the other hand, short-term debt obtains an average, standard deviation, minimum, and a maximum of 5,276,004,597, 3,118,204,167, 1,121,432,000 and 15,174,726,000 respectively. By indication, the banks under study on average have short-term liabilities of around 5,276,004,597. Similarly, long-term debt as another capital structure proxy for the study records an average of 681,485,402, standard deviation of 684,413,958, a minimum of 25,537,000 and a maximum of 3,548,609,000. This means, the selected banks under study have long-term debt of around 681,485,402. In addition, non-performing loans reveal an average of 0.33, a standard deviation of 1.73, a minimum of 0.02, and a maximum of 15.32. This means, around 33% of the loans granted by universal banks in Ghana to their customers usually go bad.

Table 4.1. Results of Descriptive Statistics

Variables	*Obs.*	*Mean*	*SD*	*Min*	*Max*
TE	77	966981.88	545796.68	141149.00	2698471.00
STD	77	5276004.59	3118204.17	1121432.00	15174726.00
LTD	77	681485.40	684413.95	25537.00	3548609.00
NPL	77	0.33	1.73	0.02	15.32
Firm Age	77	40.06	24.12	9.00	104.00
Firm Size	77	3.55	0.27	3.02	4.19

TE= total equity STD= short-term debt LTD= long-term debt
NPL- non-performing loans

Source: Field Study (2023)

4.2 Correlation Analysis

This study employs Pearson Correlation matrix to test for the presence of multicollinearity amongst the predictive variables of the study. From table 4.2, the results of the correlation matrix display both positive and negative correlation among the study variables. The model is statistically significant at 0.01 and 0.05 level. Table 4.2 indicates that long-term debt negatively correlates with short-term debt, while firm age also correlates negatively with non-performing loans. However, the correlation coefficients in the results are not significantly large to induce the problem of multicollinearity in the regression model. Table 4.2 reveals the results of the Pearson correlation matrix.

Table 4.2. Pearson Correlation Matrix Results

Variable	1	2	3	4	5	6
1. TE	1					
2. STD	0.924**	1				
3. LTD	-0.036	0.044	1			
4. NPL	0.059	0.035	0.289*	1		
5. Firm age	0.289*	0.175	-0.231*	-0.035	1	
6. Firm size	0.394**	0.259*	0.087	0.141	0.409**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Field Study (2023)

4.3 Panel Unit Root Test

When being for analysis, panel data should not contain any unit root. This is because the unit root could cause the model to be estimated poorly. The researcher employs Harris-Tzavalis tests to check for unit root. Table 4.3 reveals that all the variables in the study are stationary at level. The researcher therefore concludes that all the variables in the study contains no unit root since the p-values are less than 0.05.

Table 4.3. Results of Panel Unit Root Tests

Variables	**P-value**	**Conclusion**
TE	0.0000	Panels are stationary
STD	0.0006	Panels are stationary
LTD	0.0002	Panels are stationary
NPL	0.0001	Panels are stationary
Firm Age	0.0000	Panels are stationary
Firm Size	0.0015	Panels are stationary

Source: Field Study (2023)

4.4 Model Determination

Under this section the researcher employs the LM test and the F-test to validate the model under pooled OLS, random-effect or the fixed effect model. From Table 4.4, it can be observed that LM test reject the random-effect while the F-test support the fixed-effect model. The decision here is to use the fixed effect model since the F-test supports it.

Table 4.4: LM and F-Test Statistics

	Test	Stats	P-value	Conclusion
Model 1	LM Test	0.49	0.2021	Random-Effect Rejected
	F-test	1.17	0.0029	Fixed-Effect Supported

Source: Field Study (2023)

4.4.1 Hausman Test

To select either fixed effects or random effects model for the data analysis, the researcher utilizes the Hausman test. With the Hausman test, the null hypothesis is that the preferred model is random effects and the alternate hypothesis is that the model is fixed effects. From the Hausman test, the researcher finds overwhelming evidence against the null hypothesis of random effect. The researcher therefore conclude that the model is efficient under Fixed-Effect estimation technique. Table 4.5 displays the results of the Hausman test.

Table 4.5. Hausman Test Statistics

	Test	p-value	Results
Model 1	Hausman	0.0122	Fixed-Effect Supported

Source: Field Study (2023)

4.5 Regression Analysis

This section of the study presents the regression analysis model. Table 4.6 presents the summary of the regression model under the estimation techniques. Specifically, the model presents the effect of total equity, short-term debt and long-term debt on asset quality of banks. Table 4.6 reveals the regression coefficient, the p-values and the R-squared under the fixed effect model.

Table 4.6: Summary of Fixed Effect Regression Model

Variables	Coef.	Std. Err.	T-stats	Prob
Constant	-2.834278	2.737275	-1.03543	0.004
Total Equity	8.62E-07	1.10E-06	0.781073	0.074
Short-term debt	-1.43E-07	1.82E-07	-0.785462	0.434
Long-term debt	7.25E-06	3.04E-07	2.384066	0.019
Firm size	0.333499	0.362363	0.920346	0.360
Firm age	-0.00360	0.009250	-0.389165	0.038
R-squared=0.1133		No. of Observations=77		

Source: Field Study (2023)

4.5.1 Fixed-Effect Model on NPL

The regression model in Table 4.6 reveals that the independent variables under study include total equity, short-term debt and long-term debt, while the dependent variable is asset quality (proxied by non-performing loans). The control variables of the study are made up of firm size and firm age. From Table 4.6, in the absence of variables such as total equity, short-term debt, long-term debt, firm size and firm age, asset quality of the banks under study is expected to reduce by 2.834278 (p= 0.004). Relative to the independent variables, results of the model reveals that total equity has a coefficient of 8.62E-07 and is statistically significant at 0.05 level

(p=0.0074). Short-term debt as the next independent variable of the study obtains a parameter estimate of -1.43E-07 and is statistically insignificant at 0.05 level (p=0.434). Similarly, long-term debt also records a coefficient of 7.25E-06 and is statistically significant at 0.05 level (p=0.019). Relative to the control variables, results of the study reveal that firm size has a coefficient of 0.33334 and is statistically insignificant at 0.05 level (p=0.3605). Firm age as the next control variable has a parameter estimate of -0.0036 and is also statistically significant under 0.05 level (p=0.038). Under the fixed effect model the model obtains an overall R-squared of 0.1133. This is an indication that about 11.33% of the variations in the dependent variable can be accounted for by the predictive variable of the study.

4.6 Discussion of Results

In line with existing literature, this section of the study discusses the results of the study in accordance with the study objectives. Specifically, this section discusses the effect of total equity, short-term debt as well as long-term debt on asset quality of selected banks in Ghana. The next sub-sections discuss these results in details.

4.6.1 The Effect of Total Equity on Asset Quality of Banks

The first objective of the study is to analyse the effect of total equity on asset quality of banks. Under the fixed-effect estimation technique in Table 4.6, the model reveals a coefficient of 8.62E-07. The regression model results show a significant positive relationship between total equity and asset quality of the banks under study. Specifically, the p-value of 0.004 reveals a significant impact of total equity on asset quality of the banks under study. From the regression model results, a unit rise in total equity will lead to a percent increase in asset quality of the banks under study. The researcher therefore considers this to mean that when the total equity of the banks increase, they are able to grant more loans to their customers which mostly lead to part of the loans being declared as non-performing. The findings of this study are in line

with Bace (2016) who reveal that when banks obtain high equity to operate with, they are able to expand their operations by granting more loans and credit facilities to their customers. Mostly, some of these customers who have obtain loans default which deteriorate the asset quality of these banks.

4.6.2 Effect of Short-Term Debt on Asset Quality of Banks

The second objective of the study is to evaluate the effect of short-term debt on asset quality of banks. Table 4.6 presents the results of the fixed effect model. The model reveals a coefficient of -1.43E-07. The regression results reveal a negative impact of short-term debt on asset quality of the banks under study. Specifically, the p-value of 0.434 reveals an insignificant impact of short-term debt on asset quality oof banks. From the fixed effect model, a unit rise in short-term debt will lead to a 1 percent decrease in asset quality of the banks under study. The researcher interprets this to mean that when short-term debt of the banks mostly in the form of customers deposits reduces, they are unable to grant more loans to their customers which will in turn reduce their non-performing loans ratio. This suggests that when it comes to non-performing loans (asset quality), debt ratio plays a critical role. This finding is in sync with the postulations of Leary (2009) that when banks have more debt that equity, the burden of mangers to repay the debt forces them to put strict measures in place to reduce the rate of non-performing loans.

4.6.3 Effect of Long-Term Debt on Asset Quality of Banks

The third objective of the study is to examine the effect of long-term debt on asset quality of banks. Under the fixed-effect estimation technique in Table 4.6, the regression model results show a positive impact of long-term debt on asset quality of the banks under study. Specifically, the p-value of 0.019 reveals a significant impact of long-term debt on asset quality of the banks under study. From the regression model results, a unit rise in long-term debt will lead to a

percent increase in asset quality of the banks under study. The researcher interprets it to mean that when financial institutions hold high long-term debts, they are able to defer payment to a future date and therefore use such funds to grant more loans to their customers. As the loan portfolio of these banks' increases, some of these loans will deteriorate when management fails to put stringent debt recovery mechanisms to reduce their occurrence. My finding is in tension with Velliscig et al. (2022).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATONS

5.0 Introduction

This chapter presents the summary of findings, draws conclusion and provide recommendations to key stakeholders. The chapter is divided into three main sections. Section 5.1 presents a summary of the findings; section 5.2 detail the conclusion of the study; section 5.3 provides the recommendations of the study.

5.1 Summary of Findings

The first objective of the study is to analyse the effect of total equity on asset quality of banks. The study finds that total equity has a significant positive impact on asset quality of the banks under study.

The second objective of the study is to evaluate the effect of short-term debt on asset quality of banks. The findings of the study reveal a negative and insignificant impact of short-term debt on asset quality of banks.

The third objective of the study is to examine the effect of long-term debt on asset quality of banks. The findings of the study reveal a positive impact of long-term debt on asset quality of the banks under study.

5.2 Conclusion

The main objective of the study is to examine the effect of capital structure on asset quality of universal banks in Ghana. In order to achieve this objective, the study utilizes a panel data set obtained from 11 universal banks operating in Ghana with data spanning from 2015 to 2021. The study employs a quantitative approach and explanatory research design. With a 77-firm year observation, this study utilizes secondary data from the audited annual financial statements

of the selected banks. To achieve the study objectives, the study conducts descriptive statistics and regression analysis in respect to each objective. The study also carries out the LM-test, F-test and Hausman tests to determine the appropriate model for this study and finds that the fixed-effect model was appropriate for this study. Based on the findings, this study concludes that capital structure has an impact on asset quality of universal banks in Ghana.

5.3 Recommendations of the Study

The findings of the study show that total equity has a significant positive impact on asset quality of banks. Since total equity of banks comprises of shareholders' funds, reserves, capital gains and other funds, the implication is that banks with high total equity are more likely to extend their credit and loan portfolio to their customers. This study recommends that when more loans are granted to customers, the management of the respective banks should come out with stringent credit recovery policies to redeem such loans in order not to go bad and plunge the sector into liquidity crisis.

The study also finds that short-term debt has a negative impact on asset quality of the banks under study. Since the asset quality of this study is measured with non-performing loans, the implication is that banks in Ghana whose capital structure is made up of more debt than equity are likely to record lower non-performing loan ratio in their portfolio. Thus, this study recommends that no bank should keep more debt than equity as it has the tendency to reduce non-performing loans. Again, owing to the fact that the NPLs of the banks under study have been increasing over a period of time, this study recommends that the various policy makers and regulatory bodies such as bank of Ghana must put in place stringent measures to reverse the trend.

The findings of the study also reveal that long-term debt has a positive impact on asset quality of banks in Ghana. Based on this, the study recommends that management of the banks under

study should mostly go in for long term debt as it has wider duration of payment period and use such funds to grant loans to their customers to earn more interest. This will at the end create value for the company and investors as well.

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