

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI,

GHANA

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The Effect of Capital Structure on the Financial Performance of Insurance Companies in

Ghana

By

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in Partial Fulfilment of the Requirements for the degree of

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## DECLARATION

I hereby declare that this submission is my own work towards the award of Masters of Science in Accounting and Finance (MSc. Accounting and Finance) and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma at Kwame Nkrumah University of Science and Technology, Kumasi or any other educational institution, except where due acknowledgment is made in the thesis.

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## DEDICATION

To God be the Glory for bringing me to a successful completion of this project work and the entire programme. I also dedicate this work to Mr. David Boamah for being there for me throughout the programme.

# KNUST



## ACKNOWLEDGEMENT

I am immensely grateful to my supervisor Dr. Kwame Mireku for his guidance and support in conducting this study, his patience and supervision has been immense.

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## ABSTRACT

This study purposefully looked at the effect of capital structure on financial performance of insurance firms in Ghana. The main objectives which directed the study focused on two areas which are the trend of equity and debt of insurance firms in Ghana between 2015-2019 and the effect of capital structure (equity, debt, long-term debt, and short-term debt) on performance (ROA and ROE). The study used the quantitative approach with the explanatory design. Annual data on 10 insurance firms were selected using the convenience approach. Data obtained were analysed by means of trend and inferential analysis using the multiple regression analysis. The study found that when the trend of equity finance move upward, debt finance move the opposite direction and vice versa. The study found that equity financing has a negative relationship with ROA but has a positive relationship with ROE. The study found that debt financing has positive effect on both ROA and ROE of insurance firms but the extent of effect on ROA is greater than that of ROE. Again, the study found that long-term debt has positive effect on ROA but the otherwise is the case for ROE. Lastly the study revealed that short-term debt has negative relationship with both ROA and ROE on insurance firms in Ghana. A conclusion is therefore made that insurance firms in Ghana exercise caution in the use of debt, especially short-term debt since it exerts negative effect on profitability of the firms, but rather improve on financing most of their operational activities using retained earnings instead which is congruent with the contention of the pecking order theory.

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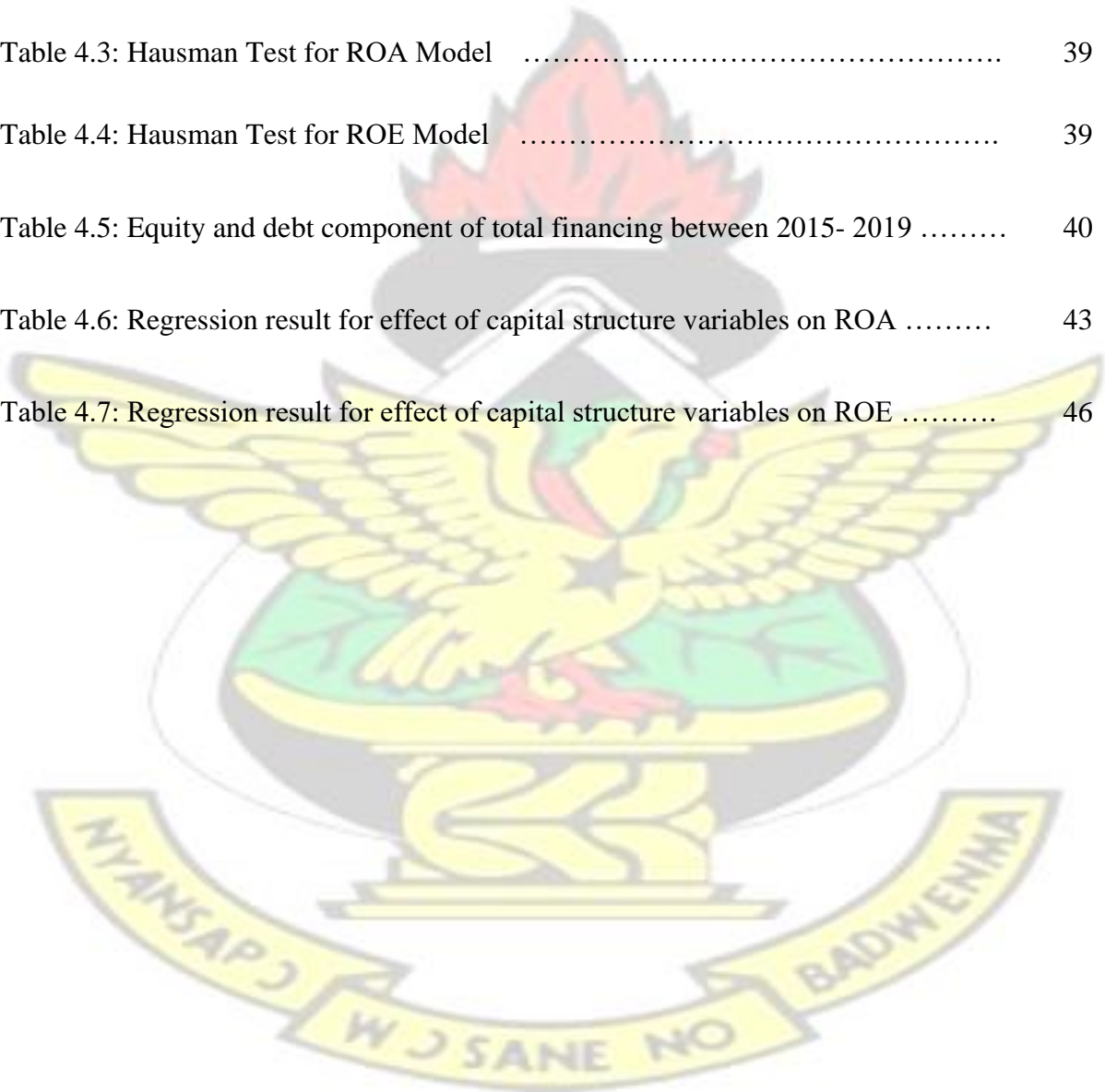
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## CHAPTER ONE

### INTRODUCTION

#### 1.0 BACKGROUND OF THE STUDY

One of the primary responsibilities of corporate managers is to maximize the shareholders' value and the overall value of a firm. In this regard, corporate managers employ different strategies to ensure profit maximization which greatly influence shareholders' value in a firm. Essentially, one of the strategies adopted by corporate executives as part of efforts to enhance firm value is to ensure an appropriate capital structure for the firm (Gleason et al., 2000; Narang, 2018).

Generally, the capital structure of an entity relates to the individual mix of equity and debt used by the entity to finance its operations (Abor, 2005). It is important to note that having a large amount of debt or equity or an extremely low amount of debt or equity comes with their own pros and cons to the firm. Therefore, in order to maximize the overall value of the business, it is appropriate for the business executives, to adopt the right mix of debt and equity which enables the company to achieve the highest benefit to improve firm performance (Maina and Ishmail, 2014).

As key players in the financial sector of every economy, insurance companies play a crucial role in financial intermediation chain. By their nature, insurance firms pool funds together in a form of periodic premium from firms and individuals in order to restore the firm or individual to its prior state on the occurrence of an event which form the subject of the insurance agreement (Chideh and Sorayaei, 2019). This means that insurance firms go

beyond the role of financial intermediation by providing a broader cushion on which risks at individual firm and personal level are transferred to reduce their impact. As indicated by Yapa Abeywardhana (2015) the peculiarity of their role of transferring risks makes insurance firms very indispensable in every economy.

Like other business ventures, insurance companies are established with a profit motive. Therefore, appropriate strategies to ensure an optimal capital structure that enhances insurance firm performance is very necessary. With respect to insurance companies, their uniqueness and uncertainty regarding claims by insured makes it far more important to ensure an optimal capital structure that helps to improve performance and prevent possibilities subjecting the firm into distress situation. In spite of the uniqueness of insurance firm operations and the criticality of their role in the financial sector, extant literature on studies on capital structure and firm performance in Ghana have scarcely looked at the topic in relation to the insurance industry. For instance, most of the studies pursued in Ghana on capital structure and firm performance have mainly focused on general listed firms in Ghana (Abor, 2005; Addae, Nyarko-Baasi, and Hughes, 2013), listed banks (Gatsi, 2012) non-financial listed firms in Ghana (Mireku, Mensah, and Ogoe, 2014), and microfinance institutions (Kyereboah-Coleman, 2007). It is in consideration of the above discussion that this study seeks to examine the effect of capital structure on the performance of insurance companies in Ghana.

## **1.1 PROBLEM STATEMENT**

In the pursuit of corporate goals to maximize shareholder value and the overall firm value, a business requires capital to finance its operations. Even though the capital required to finance a firm's operations may come in several ways, it may either be in the form of debt or equity,

each of which has its own pros and cons. In this regard, decisions on the appropriate mix of debt and equity to finance resource acquisition and operations present as very challenging for companies as it can make or unmake the profitability, growth, and sustainability of companies (Anh, Duong, and Yoon, 2018). With regards to insurance companies, regulatory capital requirements and the uniqueness of their operations make it even more challenging to determine an optimal capital structure to obtain the most benefit since they operate in a dynamic environment where claims from the insured vary from year to year and cannot be predicted with certainty. Thus, technically, what remains the appropriate capital structure to achieve an optimal performance benefit in insurance firms remains a daunting task. It is important to note that extensive research has been done on capital structure and firm performance nexus in both international context and Ghana, most of the studies conducted in Ghana have been biased towards listed entities in general (Abor, 2005; Addae, Nyarko-Baasi, and Hughes, 2013), listed banks (Gatsi, 2012) non-financial listed firms in Ghana (Mireku, Mensah, and Ogoe, 2014), and microfinance institutions (Kyereboah-Coleman, 2007). Considering the above studies and to the best of the researcher's knowledge, there is a gap in research as there is paucity of research which explore the capital structure-performance nexus in respect of insurance companies in Ghana. Hence, this study attempts to investigate the effect of capital structure on the performance of insurance companies in Ghana.

## **1.2 OBJECTIVES OF THE STUDY**

The general objective of this study is to investigate the effect of capital structure on the financial performance of insurance companies in Ghana. The specific objectives of the study are as follows;

1. To compare the trend of equity and debt financing of insurance companies in Ghana from 2015 to 2019.

2. To examine the effect of equity financing on performance of insurance companies in Ghana.
3. To examine the effect of overall debt financing on performance of insurance companies in Ghana.
4. To examine the effect of long-term debt financing on performance of insurance companies in Ghana.
5. To examine the effect of short-term debt financing on performance of insurance companies in Ghana.

### **1.3 RESEARCH QUESTIONS**

1. How is the trend of equity and debt financing of insurance companies in Ghana from 2015 to 2019?
2. What is the effect of equity financing on performance of insurance companies in Ghana?
3. What is the effect of overall debt financing on performance of insurance companies in Ghana?
4. What is the effect of long-term debt financing on performance of insurance companies in Ghana?
5. What is the effect of short-term debt financing on performance of insurance companies in Ghana?

### **1.4 SIGNIFICANCE OF THE STUDY**

It is expected that study of this nature will be beneficial to a wide range of stakeholders either directly or indirectly. Some of these stakeholders include the government, the national insurance commission, insurance companies, and researchers in academia.

The government will find this study as a useful tool in developing policies and programmes regarding the capital make up of insurance firms, especially regarding the minimum capital requirement since it will provide the government and the insurance regulator the opportunity to know the capital make up which make insurance companies more productive and profitable.

Insurance firms would greatly benefit from this study since it will provide them with insight into how their capital make-up affects their productivity and profitability which will go a long way to enhance their operations.

It is also important to note that this study would add to existing pool of literature in respect of capital structure and firm performance, and particularly literature on capital structure and firm performance in the insurance sector. Therefore, researchers in academia would derive significant benefit from this study since it will serve as reference point for scholars who would pursue similar research in future.

## **1.5 SCOPE AND LIMITATIONS**

The purpose of the study is to investigate the effect of capital structure on the performance of insurance companies in Ghana. To achieve the purpose of the study, the study will focus on examining the effect of equity, total debt portfolio, and long-term debt on the performance of insurance firms using return on assets and equity as measures of performance. The study shall use data covering a period of five years from 2015-2019. The study shall focus on the insurance industry in Ghana by gathering secondary data from the annual reports of insurance companies as well as the National Insurance Commission.

## 1.6 ORGANIZATION OF THE STUDY

The final report of the study shall be organized according to the following arrangement.

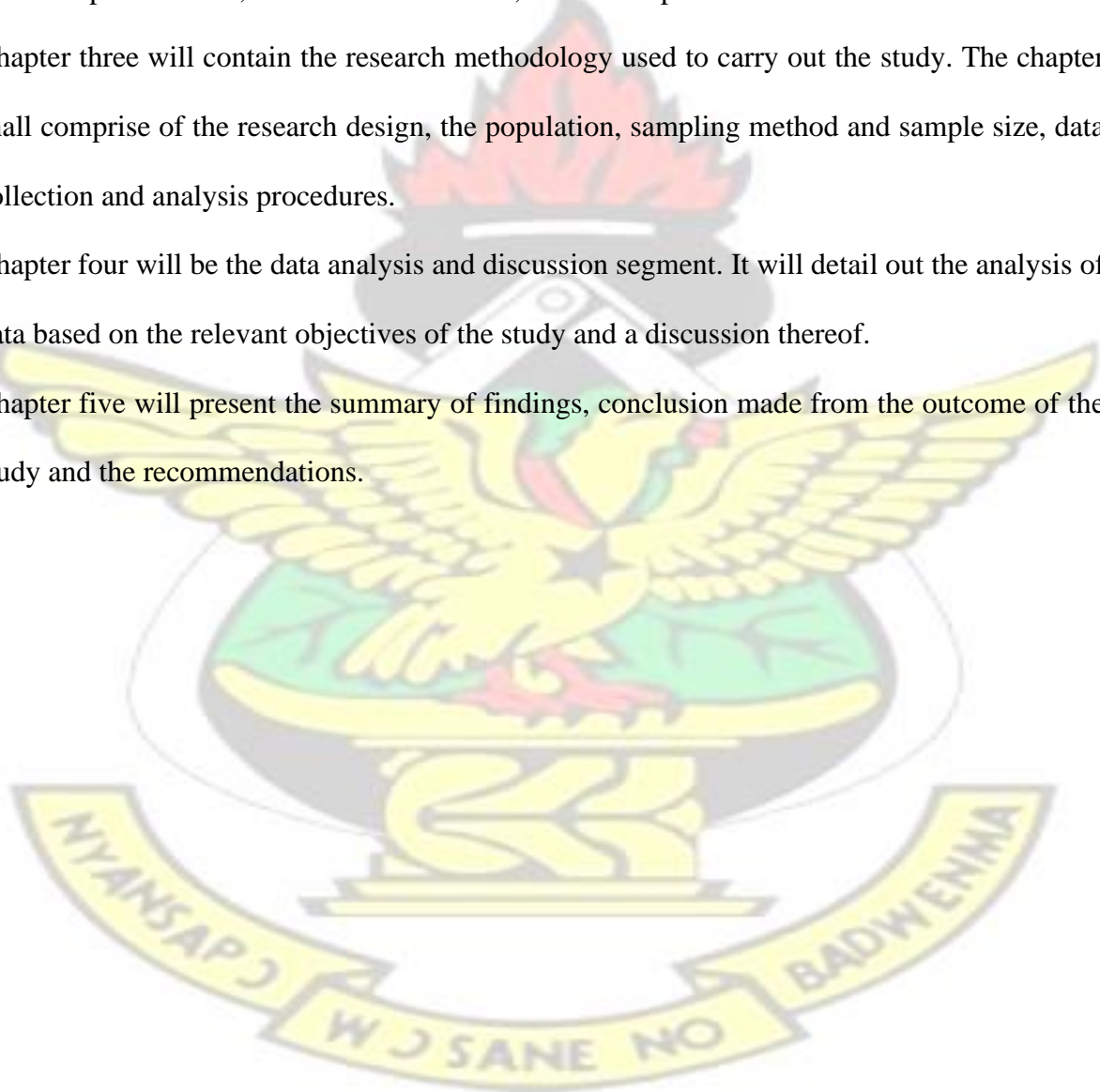
Chapter one will be the introduction chapter and shall be composed of the background of the study, the problem statement, the objectives and the research objectives, significance of the study, scope and limitations, as well as the organization of the study.

Chapter two will be literature review chapter and will cover three main sections. These are the conceptual review, the theoretical review, and the empirical review.

Chapter three will contain the research methodology used to carry out the study. The chapter shall comprise of the research design, the population, sampling method and sample size, data collection and analysis procedures.

Chapter four will be the data analysis and discussion segment. It will detail out the analysis of data based on the relevant objectives of the study and a discussion thereof.

Chapter five will present the summary of findings, conclusion made from the outcome of the study and the recommendations.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 INTRODUCTION**

This chapter contains the literature review of the study. The chapter is made up of three key sections. The first section presents the conceptual review of the study which looks at definition and explanation of key concepts of the study. The second section contains the theoretical review which discusses relevant theories supporting the study. The third section also presents the empirical review which looks at a discussion of the pattern of findings of prior studies related to the current study.

#### **2.1 CONCEPTUAL REVIEW**

##### **2.1.1 Definition and Overview of Capital Structure**

The term capital basically refers to cash and other assets introduced into a business to finance the business' operations. The term structure also simply means an arrangement of the different parts of something. From this primary understanding of the two terms, capital structure can be referred to as the make up or the different arrangement of a firm's capitalization. According to Abor and Biekpe (2005), capital structure as a concept describes the proportions or the percentage of debt to equity for a firm's funding of its operations. It involves the mix of various sources of financing which include sources such as equity shares, preference shares, debentures, long-term loans and retained earnings.

Jiraporn and Gleason (2007) define capital structure as the mix of securities and financing sources used by corporations to finance real investment. The author argues that an entity ought to make investment in order to remain in business and at least produce reasonable earnings to break even. To fund these investments, the firm ought to reasonably tap the different sources of funding which could be an internal source such as retained earnings or issuing of shares or to rely on external funding such as loans or bonds (Khasawneh and Staytieh, 2017).

Another school of thought indicates that capital structure has to do with the relationship between the different long-term sources of financing, namely equity capital, preference share capital, and debt capital (Parmasivan and Subramanian, 2009). Similarly, Gitman and Zutter (2012) define capital structure as the blend of equity and debt held by an entity. It is important to observe that the financing of the company with regards to debt and equity is a critical financial management activity since it influences the value of the the company.

It is worthy to note that in as much as firms may have different mix of debt and equity at different points in time, the companies try to maintain their financing mix within an appropriate target of capital structure. Ehrhardt and Brigham (2011) emphasize that the prime objective of capital structure is to determine the appropriate mix of debt and equity that maximizes the value of the firm. This means that decision on a firm's capital structure involves the selection of a target capital mix, the average maturity of the firms debts, and type of financing to use at particular points in time. From the above discussions on the meaning of capital structure, it can be concluded that capital structure involve the blending of varied sources of finance to fund a firm's operations, which may be in two principal forms, either debt financing or equity financing.

## **2.1.2 Components of capital structure**

Ordinarily, the financing source of a company comprises different sources which could be internal or external. Irrespective of the source of financing with the capital structure of an entity, there are two principal medium of financing which make up the components of capital structure of every entity (Nenu, Vintilă, and Gherghina, 2018). These are the equity financing or capital and debt financing or capital. These two principal make up of capital structure are explained in detail in the subsequent discussion.

### ***2.1.2.1 Equity Financing***

The equity financing or capital or an entity's overall capital make up refers to the part of the total capital base of the entity that is provided and owned by the owners of the entity (Nenu, Vintilă, and Gherghina, 2018). It is important to emphasize that the equity component of the capital represents the permanent capital of the business entity which cannot be withdrawn in the course of the business lifetime. According to Khasawneh and Staytie (2017) owners are the real risk bearers of the entity, hence their investment in the business cannot be withdrawn while the business continue to operate. Indeed, equity financing of business in mostly achieved via the issue or transfer of common stock which can be done via an organized exchange market (i.e. for listed entities) or otherwise.

Nawaz et al. (2011) and Murtala et al. (2018) assert that the equity capital of an entity comprises of two items namely, the contributed equity capital and the retained earnings equity capital. The authors emphasize on one hand that the contributed equity capital relates to the funds which the owners of the business have actually invested into the business in exchange for share. Thus, in effect, this funds invested by the owners of the business provided them the right to become shareholders of the entity. On the other hand, the retained

earning equity capital represent profits from past years that have been kept by the company and used to strengthen the balance sheet or fund growth, acquisitions, or expansion. Technically, a firm that uses only equity financing without any element of debt is referred to as an unlevered firm (Abor, 2005). Such a firm faces an inherent risk in its operations mainly due to the uncertainty regarding the future operating profits and capital requirements (Ehrhardt and Brigham, 2011).

### ***2.1.2.2 Debt Financing***

Pandey and Singh (2015) assert that debt financing or capital of an entity refers to the borrowed funds that is included in the overall entity's capitalization. In other words, it refers to the proportion of borrowed funds in the total capital of an entity. Murtala et al. (2018) indicates that irrespective of the form or source it comes from, debt capital mainly involve long-term debt capital and short-term debt capital, although there may be medium-term debt. According to Nawaz et al. (2011), long-term debt presents as the less risk form of debt financing due to the longer period it offers debtholders to pay the principal component of the debt.

According to Abor (2008), an entity that employs debt financing as part of its capital make up becomes a levered firm. Such a firm become exposed to financial risk. Ehrhardt and Brigham (2011) indicates that such financial risk is the additional risk which the common stock holders become exposed to as a result of the entity's decision to use debt financing. It is important to emphasize that the common stock holders get exposed to financial risk in the event of employing debt financing in an entity due to the fixed charge obligation on debt which payment must precede owners interest in the entity whether profit is made in the year or not. Gitman and Zutter (2012) indicates that there is no standard criteria for determining the level of debt that an entity should employ in its capital structure because what is

acceptable for an industry or firm may not be appropriate for another industry or firm. Therefore, decisions on the amount of debt to use and at which time to use the debt is key financial management decision that must be determined by management given consideration to significant number of factors.

- **Long-Term Debt**

The long term debt is usually a part of the total debt portion of the entity overall capital used to finance the total assets of the entity. Ordinarily, as the name suggests, the long-term debt is that types of debt whose repayment spans a longer period of time. More often than not, the long term debt is argued to span beyond a period of twelve months or one year. However, ordinarily, there are instances where people regard debt of an entity which repayment falls below three years as a mid-term debt rather than a long term debt (Salim and Yadav, 2012). However, for the purpose of convenience, most financial experts and finance literature provides that any debt whose repayment goes above a twelve-month period is a long term debt.

On the statement of financial position which is usually referred to as the balance sheet which provide the statement of performance or affairs of the assets and liabilities of the entity, the long term debt is recorded as a long term liability or a non-current liability (Tudose, 2012). It is worthy of note that, in a statement of financial position, the long term debt is usually consolidated to form a single line item for the purposes of reporting. However, in detail, the long term debt of an entity usually comprises of different types and forms of long term debt. More often, the dominant ones include bank debt, mortgages, bonds and debentures.

Tudose (2012) emphasized that whenever a company contract a long term debt, it creates financial leverage in the firm and adds to the financial risks of the entity, which further leads

to an increased expected return on equity. It is important to observe that irrespective of the fact that long term debt shoots up the risks of the firm, managers mostly favour the use of long term debt to finance the assets acquisition due to its cheaper cost compared to equity and it eliminates the dilution of ownership compared to raising equity capital to finance an asset acquisition.

- **Short Term Debt**

The short term debt capital is the type of debt capital of an organization mostly used by business executive to finance short term activities that require urgent attention. As the name suggests, the short-term debt is that aspect of an entity's debt capital which repayment falls below or within a twelve-month period. Salim and Yadav (2012) point out that in some instances, the debt which repayment spans below a period of three years are regarded as short term debt, although it is common practice and well documented in finance literature to regard debt which maturity period has a maximum of twelve months as short term debt.

One of the statements of financial position which is usually referred to as the balance sheet which provides the statement of performance or affairs of the assets and liabilities of the entity, the short term debt is recorded as a short term liability or a current liability (Tudose, 2012). It is worthy of note that, in a statement of financial position, the short term debts are usually consolidated to form a single line item for the purposes of reporting. However, in detail, the short term debt of an entity usually comprises of different types and forms of short term debt. More often, the dominant ones include bank debt or overdrafts, short term borrowings from other entities and finance houses, current taxes, commercial papers, among others.

Just as a long term debt contraction creates leverage in the entity, a short term debt equally creates a leverage vacuum in the capital mix of a company (Tudose, 2012). The authors thus,

emphasize that the creation of leverage in the capital structure of the firm with the contraction of short term loan subjects the entity to a given level of financial risks and the consequent rise in expected equity return. Although often not regarded, the short term debt creates a high degree of financial risk even far more than the long term debt due to the shorter period timeline for repayment (Tudose, 2012). It is equally important to observe that irrespective of the fact that short term debt shoots up the risks of the firm, managers mostly favour the use of short term debt to finance operational activities and working capital to some extent due to the flexibility of contracting a short term loan which may be needed to cater for urgent needs. Besides, it is equally important to emphasize that, just like long term debts, short term debts do not subject the entity's ownership to dilution.

### **2.1.3 Some Determinants of Capital Structure**

#### **2.1.3.1 Profitability**

Nyeadi, Banyen, and Mbawuni (2017) observe that profitability serves as an influencing factor in the capital structure of an entity. The authors argue based on the contention of the pecking order theory that as a firm makes enough profit to fund its operational activities, the probability of using leverage becomes extremely low, since it becomes more beneficial for the firm to use the retained profit for its investment activities rather than debt. They further contend with regards to the trade-off theory and emphasize that contrary to the argument based on the pecking order theory and suggest that profitable firms will use debt financing in order to maximize the tax advantage on interest so as to maximize the overall firm value.

#### **2.1.3.2 Firm Size**

Although arguably, some schools of thought have emphasize that larger firms are more likely to disclose more information about the entity than smaller firms (Handoo and Sharma, 2014).

The authors contend that information disclosure offer larger firms the advantage to attract long-term debt compared to smaller firms. Sheikh and Wang (2011) also point out that the larger firms are able to maximize their economies of scale advantage to attract long-term debt at a fairly better credit terms compared to smaller firms. Thus in effect, the size of a firm greatly determines the capital structure of the firm as argued by Sogorb-Mira (2005) that smaller firms are more likely to use equity financing while larger firms are more likely to have significant amount of debt financing in its capital structure. Indeed, several empirical studies have confirmed the contention by the authors above by revealing a direct relationship between firm size and debt usage (Huang and Song 2006; Abor and Biekpe, 2007; Akhtar and Oliver, 2009; Sheikh and Wang, 2011; Pratheepan and Yatiwella, 2016).

### ***2.1.3.3 Liquidity***

Based on the contention of the pecking order theory, entity's will preferably make use of internal sources of funds in the form of retained earnings if available before resorting to debt and fresh issue of shares (Alipour, Mohammadi, and Derakhshan, 2015; Nyeadi, Banyen, and Mbawuni, 2017). This suggests that entities with higher level of liquidity will most likely have lower debt ratio and vice versa. This means that firms that have high liquidity will certainly have low debt ratio.

### ***2.1.3.4 Nature of Business***

Handoo and Sharma (2014) indicate that the nature of business operation is significantly important in determining the capital structure of an entity. According to the authors, the nature of the business and the industry in which it operates shows the extent of financial leverage the company can maintain and without risk of bankruptcy. They thus argue that it is advisable for firms with periodic fluctuations in their operations to have low degree of financial leverage to ensure a reasonable level of sustainability.

### **2.1.3.5 Control**

One important factor which significantly determines the capital make up of an entity is the degree of control in the entity. Sheikh and Wang (2011) assert that the power to appoint senior management of the entity lies in the hand of the shareholders, with lenders having no direct stake in decisions regarding the appointment of management. Therefore, if management want to maintain their control in the entity, they tend to favour debt financing than the equity. Similarly, Alipour, Mohammadi, and Derakhshan (2015) argue that where shareholders do not want to dilute the control of the entity, they tend to prefer debt financing to equity.

### **2.1.4 Meaning of Firm Performance**

Performance is a concept used in financial literature with significantly high level of varied consensus. While some authors agree on one dimension, other authors also agree on a different dimension with logical backing of the varied view of what performance. Significantly, most studies on organizational performance lend credence to organizational theory and strategic management since that form the basis for studies on performance (Tudose, 2012). Extant literature has pointed out that performance of an entity can be measured from either financial or non-financial perspective. According to Tudose (2012), the decision to adopt either financial or non-financial measure of performance by a person or a firm lies on what goal the performance seek to achieve. One school of thought advises that it is always appropriate to use form of measure to complement the other in order to obtain very good picture of the state of performance of the organization (Malm and Roslund, 2013).

One researcher emphasize that more often than not, financial performance measures like return on asset or return on equity are used to determine the efficiency and effectiveness of

the firm in its operations (Le and Phan, 2017). However, it is important to indicate that other operational performance indicators like sales growth and market share gives a very wide picture of the progress of the firm which usually translate into the financial performance. Therefore, irrespective of the approach used, performance must be seen as a set of interconnected concept which determines how well the entity is.

It is worthy of note that several indicators are used by financial analyst and experts to assess the performance of an entity. More commonly, indicators such as the return on investment, liquidity indicators like the quick ratio, receivables days, inventory turnover, among others are used (Tudose, 2012). The option of performance measure to adopt relies on the objective the firm seek to achieve.

In recent times, various schools of thought have incorporated performance measure which focus on creating value given the objective of sustainable development (Tudose, 2012). Proponent of sustainable development emphasize that a firm do not only exist to attain a certain level of performance up to a given period and fold up but performance must lead to a sustained growth of the entity (Le and Phan, 2017). Therefore, in their view, performance measures which do incorporate sustainable development measures must always be used with caution. In today's world of business, business measure performance using different approaches at different level of the organization. For instance, an entity may look at the overall firm performance together with the department or unit performance measure to ascertain which department or unit is lagging behind and the appropriate strategies to enhance their performance to enable it contribute significantly to the overall firm performance. For the purpose of this study, aggregate performance measurements (specifically profitability performance measures) for the entire firm is employed.

## **2.1.5 Measures of Firm Financial Performance**

### ***2.1.5.1 Return on Assets (ROA)***

Practically, the ROA is a performance indicator which is used to provide a direct picture of how well or otherwise managers have used the entity's asset to generate a given level of profit. This means that, the ROA tells a story about the entity on how every unit if current invested by the owners of the business in financing the assets of the firm has been used to generate a unit out of the profit realized at the end of the year. It is worthy of note that a higher ROA is preferred over a lower one since a higher ROA is a glance picture of better performance. Indeed, the approach to measuring an ROA by firms is a topic of varied consensus among different schools of thought. Some schools of thought argue that the simplest and ideal measure of ROA is to use profit after all deductions including interest and taxes on total assets of the firm (Ehrhardt and Brigham, 2011; Ross et al., 2011; Gitman and Zutter, 2012). In contrast, other schools of thought content that the ideal way to compute ROA is to take the profit prior to deduction of interest and taxes (i.e. PBIT) on the total assets of the firm (Glantz, 2003; Ross et al., 2003; Friedlob and Schleifer, 2003; Lindow, 2013). Irrespective of which method to adopt, the key thing is that the ROA helps to ascertain the overall profitability of the firm in respect of the assets available for generation of the profit. It is worthy of note that it may give an idea of the financial soundness or otherwise of the firm, hence it is a very good performance indicator for determining the financial performance of the firm.

### ***2.1.5.2 Return on Equity (ROE)***

Similar to the ROA, the ROE is a performance indicator which is used to provide a direct picture of how well or otherwise managers have used the entity's shareholder funds or equity to generate a given level of profit. This means that, the ROE tells a story about the entity on

how every unit of current of shareholders equity invested in the total capital of the business been used to generate a unit of the profit at the end of the year. It is worthy of note that a higher ROE is preferred over a lower one since a higher ROE is a glance picture of better performance. Some authors argue that the ideal way to measure ROE is to use the profit subsequent to deduction of interest and taxes on the total shareholders equity (Ehrhardt and Brigham, 2011; Ross et al., 2011; Gitman and Zutter, 2012). At variance with the above method of computing the ROE, some schools of thought advocate for the use of EBIT and divide by the shareholders equity (Glantz, 2003; Lindow (2013). Le and Phan (2017) assert that the ROE gives an indication of whether a firm is able to make profit on its investment opportunities, which is very important for the firm to remain competitive and stay in business.

#### ***2.1.5.3 Net Profit Margin***

The net profit margin is another critical performance measure that shows at a glance the proportion of the entity's total revenue over a period that came out as profit attributable to the owners of the business. As the name suggest, the net profit margin tells us the percentage of the total revenue obtained that reflects the true profit of the firm. This means that the net profit margin indicates the users of financial information, especially the shareholders who are the ultimate lossers in the event of a business fold up, the level of efficiency in the use of the funds generated with the entity's assets since it gives us the percentage of revenue left after deducting all expenses. It is important to note that lower net profit margin gives indication of lower margin of safety as a potential decline in the volume of sales may subject the entity to reporting a loss rather than profit. According to finance experts and some finance literature, the net profit margin as a measure of performance ought to be used with care for purpose of comparison since different entities operate under different financial arrangement and different

levels of operational expenditure (Stahl, 2012; Dita and Murtaqi, 2014; Kusmayadi, Rahman, and Abdullah, 2018).

Brigham and Ehrhardt (2011) avers that a firm's capital structure significantly impact on the net profit margin of the entity. This is because, the level of leverage determines the capital charge in terms of finance cost which has a bearing on the profit for the period used in determining the net profit margin of the firm. However, emphasis need to be made that if all things remain constant, a high level of leverage will lead to lower net profit margin since higher leverage will lead to higher finance cost, although there is a net off tax shield effect. Hence, extremely high level of leverage is detrimental to net profit margin.

#### ***2.1.5.4 Earnings Per Share***

The earnings per share, popularly referred to as the EPS is a widely known measure of performance. In its basic meaning, the EPS shows the level of performance of a firm based on how well the entity has performed in the light of the outstanding number of share existing over a period for the generation of that profit. One school of thought indicates that the EPS is common and straightforward ratio which show the net income or the profit of the entity after deducting all administrative, finance, and tax expenses from the revenue of the organization and dividing it by the existing outstanding shares over the year or the period (Darmadji and Hendy, 2005). The authors further point out that, since profit measure the success and performance of an entity, expressing the profit earned over the period as a ratio of the outstanding shares over same period provide shareholders and potential investors a picture of how well the business is doing in order to make decision to invest or divest. Technically, the EPS tell how much of monetary profit was made the usage of every single unit of shares held by the entity over a period, mostly one year. Like other measure of firm financial performance and profitability, the higher the EPS the better.

According to Milad et.al (2013), the EPS is an important financial ratio and plays a critical role in the financial markets, especially the stock market. Although arguably, it is one key ratio relied on by players including financial analysts in the financial market to make decisions on the entity whose stock to invest or to divest. Like other measure of firm financial performance and profitability, the higher the EPS the better. One school of thought contends that the EPS is the most widely used ratio that influences the price of a stock (Sivathaasan and Rathika, 2013). It is therefore, not surprising that the EPS is widely relied on by stock market players and investors since it speaks volumes about the performance of the firm and how well a stock is likely to perform to generate dividends to the investor.

#### ***2.1.5.5 Return on Investment***

The return on investment, popularly referred to as the ROI is a widely known and used measure of firm performance as it is one of the well known measures of profitability. ROI is what determines if the money invested in a business is flowing back in revenues. To measure return on investment, revenue is divided by cost of your investment. ROI can help investors to operate their business more efficiently and also help an investor decide whether to take or reject an investment. When an investment shows negative or positive ROI, this can be an essential indication to the investor about the worth or value of their investment. With ROI the investor distinguishes between high performing investments from low performing investment.

One school of thought pointed out that there exist a positive relationship between ROI and capital structure (Banu, 1990). This proponent indicates that good capital structure decisions affect the fortune of the company since it enhances the ROI of the entity. The author therefore indicates that it is very prudent to ensure that appropriate and optimal capital mix is

determined by the entity's management so ROI is not affected since it may have devastating consequences for the entity. The authors thus proposes that management of firms lay greater emphasis on the debt and equity levels of the entity to achieve the most sound and appropriate level of ROI for the entity since it is a significant measure of performance and indicates to the investors of the entity the level of returns on a given level of investment.

### **2.1.6 Overview of the Insurance Sector in Ghana**

In Ghana, the national insurance commission is the only institution mandated by law to regulate all insurance companies within the country. Currently, there are a number of them that trade in varieties of insurance products. They include Star life insurance company, Glico insurance, Enterprise insurance company and the like.

Before it was made a law most Ghanaian tribes like the Ashantes, Ewes, Gas and the like used to contribute towards their funerals. The idea of pooling of resources against losses has been a cultural practice pertaining to funerals among all tribes in Ghana. Members make a pool through periodic contribution to help finance the burial costs in case of death in the family. In Akan, this contribution is usually referred to as “ετοϋ”. Despite the existence of the mindset, it never transformed into an industry until the early part of the 20<sup>th</sup> century when the British merchants started trading on the shores of the Gold Coast. The insurance industry has undergone several stages since its inception. From a noble existence as an appendage of the British insurance market, the industry has now grown through several stages to become one of the emerging markets on the African continent upholding international insurance practices.

### **The Appendage Period**

The inception of insurance operation in Ghana can be traced far back to the wave of globalization in the early 20th century which brought numerous British merchants to trade in the then Gold Coast. As they basically imported and exported cash crops, minerals, textiles and machinery in the Gold Coast, the traders initiated their insurance practices which sought to protect them from all associated risk of the trading activities. This beginning of the industry caused it to exist as an appendage of the British insurance market since the practice of insurance was controlled and regulated mostly by UK companies through their agents in the country without any local presence.

During this period, the British insurance market was regulated under the Assurance Companies Act 1909 by the British Board of Trade which operated on the principle of freedom with publicity (Daykin and Cresswell, 2001). According to Booth (2007), the phrase 'freedom with publicity' implies an environment where insurance companies can operate with complete business freedom as long as they publish their financial positions in such a way that it can be verified by independent actuaries and other interested parties. The unrestricted business environment introduced in the Gold coast saw marine (cargo) insurance as the first insurance policy in Ghana (then Gold Coast). Other insurance policies from various insurance companies in Europe and Asia were later introduced but covered only the foreign nationals.

### **The Regulatory Period**

After several years of depending on other regulations in the insurance industry in Ghana, the industry began to depend on its own regulation with the promulgation of the Workmen's compensation Act of 1963 (Act 174), the Insurance Law of 1965 (Acts 288), the insurance regulations of 1966 (LI 497) and the Insurance amendment decree of 1972 (NRCD 95). These laws provided the path for undertaking insurance business in Ghana by requiring every

insurer operating in Ghana to be incorporated locally with at least 40 percent of the proprietary interests owned by Ghanaians while twenty percent of local non-life businesses and five percent of international non-life treaties were to be conceded to the Ghana reinsurance company (a new company instituted by NRCD 95 in 1972 to undertake reinsurance businesses). These regulations resulted in reducing the eleven (11) insurance companies as at the end of 1971 to seven (7) insurance companies, one (1) Reinsurance Company and two (2) brokerage firms as at the end of 1976. It also increased the number of locally owned insurance companies from one (1) in 1971 to twelve out of the eighteen insurance companies registered in 1989.

The Baah-Nuakoh et al. (2001) research report argued that, the year 1972 is the real turning point in the history of the Ghanaian insurance industry since NRCD 95 gave the control of the industry to Ghanaians. This change of control plagued the industry into unprofessional practices and a lot of divisive tendencies especially due to the low knowledge of insurance operation among the local folks. A report of the Gepi-Attee committee in 1983 confirmed a sharp increase in the level of malpractices, insolvency, and failure to pay claims as well as general insurance fraud among others in the industry during the early part of 1980s. The malpractices during this period created a negative impression of the industry in the minds of most Ghanaians. These phenomena were mostly attributed to the absence of a developed supervisory body to oversee the activities of the companies in the industry. In 1989, the National Insurance Commission (NIC) was instituted as the supervisory body of the industry by the enactment of The Insurance Law 1989 (PNDCL 227). This new body was charged with the responsibilities of ensuring effective administration, supervision, regulation and control of the business of insurance in Ghana.

The National Insurance Commission (NIC) was established under Insurance Law 1989 (PNDC Law 227), but now operates under Insurance Act, 2006 (Act 724). The object of the Commission, as detailed in Act 724 is to ensure effective administration, supervision, regulation, monitoring and control of the business of insurance in Ghana. There are currently over fifty direct insurances operating in Ghana resulting in a very competitive Insurance market.

## **2.2 THEORETICAL REVIEW**

### **2.2.1 The Capital Structure Irrelevance and Relevance Theory**

Per the argument advanced by Modigliani and Miller in their works in 1958 and 1963, emphasis is made that under a perfect market condition, the firm will rely more on its operating profit than the capital structure, thus rendering the value of the capital structure irrelevant. However, in their subsequent work which incorporate the effect of tax deductibility on the firm, they argue that firm stands to increase its market value upon a given level of leverage. However, it is important to note that, even though the argument fits well into the capital structure theory, it leads to excessive risk exposure if extreme debt ratio is introduced into the entity (Mollik, 2008). Therefore, it is important to emphasize that although leverage leads to improved performance due to the tax shield on interest, extreme levels of leverage do not lead to the tax shield improving performance but a worsening situation of excessive risk exposure which can mar the performance of the firm (Fama and French, 2002; Nyeadi, Banyen, and Mbawuni, 2017).

### **2.2.2 Pecking Order Theory**

The proponent of the pecking order theory argues differently from the proponents who support some form of leverage to maximise tax shield advantage. The theory contends that

instead of using leverage financing, the firm should look at its financing arrangements in an order of internal financing with retained earnings first, prior to subscribing to leverage or debt financing (Donaldson, 1961). The theory therefore prescribes an ideal order of financing investment activities of the firm by first considering the usage of internally retained profit. If the retained earnings tend out to be insufficient, then the firm must secondly look at debt financing, and thirdly raising additional equity. Thus, in the view of the proponents of the pecking order theory, debt should only be used if there are inadequate retained earnings to finance the investment activities of the firm. Nyeadi, Banyen, and Mbawuni (2017) contend that internal funds in terms of retained earnings are a cheaper source of capital compared to debt and equity financing. Thus, as the appropriate source of funding is utilized at the right time, it enhances the firm value through improved profitability.

### **2.2.3 Trade-off theory**

The trade off theory argues that a firm is influenced by a complex of factors. It points out that the determination of the ideal capital structure is a complex one as firms need to look at the various influences in respect of tax shield advantage, agency cost, bankruptcy cost, and several other factors which may affect the firm positively or negatively. This means that the optimal capital structure ought to be determined not only on the look of the advantage a given level of debt or equity brings to the firm but by undertaking a complex analysis of different factors and trading off some of the factors to enable the firm yield the most appropriate benefit from a given mix of debt and equity. Malm and Roslund (2013) argue based on the trade off theory that there ought to be a balance between what benefits can be obtained with leverage and what can be lost in respect of financial distress cost with the introduction of leverage financing in the firm's capital structure. Therefore, the trade off theory contends that the appropriate capital structure is reached when the present value of the tax shield advantage can offset the

present value of financial distress cost that the introduction of leverage will subject the entity to. Thus, ordinarily, firms will use debt financing in order to maximize the tax advantage on interest so as to maximize the overall firm value but not at the expense of its financial distress.

### **2.3 EMPIRICAL REVIEW**

Given regards to the significance of capital structure in organizational performance, vast studies have explored the link between capital structure and firm performance in both developed and developing countries. The following review provides empirical discussion on capital structure and firm performance.

Abor (2005) examined how different mix of capital affect the performance of SMEs using SMEs within both Ghana and South Africa context. The study adopted varied measures of performance to test how capital structure impact on them. The outcome of the study shows that among the total debt and long-term debt negative association with performance of SMEs.

A study by Abrar and Javaid (2016) investigated the relationship between the capital structure indicators and firm performance in MFI across different continents. Using ROA, ROE, and Operational self-sufficiency as performance indicators against debt to equity ratio, and other capital structure variables, the study revealed that there is a positive relationship between leverage and performance.

Study pursued by Le and Phung (2013) used listed firms in Vietnam between 2007 and 2011 and explored how capital mix impact on the profitability of firms. In their study, the authors employed ROA, ROE, and Tobin Q as proxies for performance while capital structure variables included short-term debt, long term-debt, and total debt ratios. The study revealed a

significant negative relationship between the capital structure variables and performance variables.

In another study, Mumtaz et al. (2013) focused only on large private entities in Pakistan and examine whether or not leverage financing affect performance of large firms in Pakistan. The authors employed debt to equity ratio on five different performance indicators, namely ROA, ROE, and EPS, Profit margin, and PE ratio. Similar to the outcome of the study by Le and Phung (2013), they also found a strong association between the study variable, but the association was an inverse association.

Another study conducted by Salteh et al. (2012) focused on the Iranian context using some listed firms on the Tehran Stock Exchange. In this study, the subject of capital structure and performance was explored. Similar to the work Mumtaz et al. (2013), the author employed ROA, ROE and EPS but added Tobin's Q and market to book value of equity as proxies for financial performance. However, at variance with the work of Mumtaz et al. (2013), the authors also used long-term leverage finance, short-term leverage finance, and total leverage finance as proxies for capital structure. The study revealed mixed outcomes unlike the studies of Le and Phung (2013) and Mumtaz et al. (2013). It emerged from the study that capital structure have positive relationship with ROE, market to book value of equity, and Tobin's Q but there exist an negative relationship between capital structure and ROA and EPS.

Ahmad, Abdullah, and Roslan (2012) used consumer and industrial entities listed in Malaysia to examined how capital structure influence the performance of some Malaysian listed firms. The study focused on firms which were listed during the period from 2005 to 2010. Similar to

the studies above, they also used ROA and ROE as measures for financial performance while using long-term debt (LTD), short-term debt (STD), and total debt (TD) as measures for capital structure. The work by the authors revealed that there is significant negative relationship between all the three measures of capital structure and ROE, but the study found a significant positive relationship between ROA and short-term debt and total debt.

The study authored by Onaolapo and Kajola (2010) using listed firms from different sectors in Nigeria also examined the capital structure and firm performance nexus. Particularly, the study paid attention on the period from 2001 to 2007. Using debt ratio as proxy for capital structure and ROE and ROA as proxies for performance, the study found that a significant negative indirect association exists between debt ratio and the variable used to represent performance. Thus concluding that a negative relationship between capital structure and performance.

The authors Badar and Saeed (2013) performed a study on the leverage capital structure and entity performance using data from some listed firms on the Karachi Stock Exchange. Specifically, the authors used food and beverage firms with data ranging from 2007 to 2011. Employing the three leverage indicators, namely long-term debt, short-term debt, and total debt and ROA as proxy for performance, the study revealed that both long-term debt and total debt have significant direct relationships with performance but short-term debt capital is inversely related to firm performance. Thus, the authors conclude that firms ought to use more of long-term debt rather than short-term debt financing.

Using data in respect of MFIs, Kar (2012) also examined the link between capital structure and firm performance. Adopting capital structure and performance variables from previous

authors, the authors specifically used ROA, ROE, and operating expense percentage as measures of performance with capital structure variables made up of capital to asset ratio, debt to equity ratio, and loan to asset ratio. It emerged from the outcome of the study that there is a positive link between the capital structure variables and performance indicators.

One other study which has looked at capital structure and performance is the work of Kyereboah-Coleman (2007) which investigated capital structure and performance using MFIs in Ghana. Using the ROA and ROE as performance indicators, the author employed long term debt, short term debt, and total debt as indicators of capital structure together with other firm specific variables as control indicators. It emerged from the study that most of the MFIs used for the study were highly leveraged. The author further concluded that in spite of the high level of leverage, the outcome of the study showed a direct association between all the leverage capital indicators and performance measures.

Using listed Egyptian entities, Ebid (2009) studied how capital structure can translate into better performance of firms. The author adopted the long-term and short-term leverage financing as measures for capital structure while using the ROA and ROE for performance. It was reported by the author that both long and short-term leverage financing have an inverse relationship with ROA. Unlike the above outcome, there was no strong relationship revealed in respect of the capital structure measure and ROE.

#### **2.4 CONCEPTUAL FRAMEWORK**

The conceptual framework exhibited in figure 2.1 below shows the relationship between independent and dependent variables used in the study. The general independent variable is the capital structure which is represented by four variables, namely, equity to asset ratio, debt

to asset ratio, long-term debt to asset ratio, and short-term debt to asset ratio. The dependent variable is financial performance and this indicator is represented by ROA and ROE.

### Independent Variables

### Dependent Variables

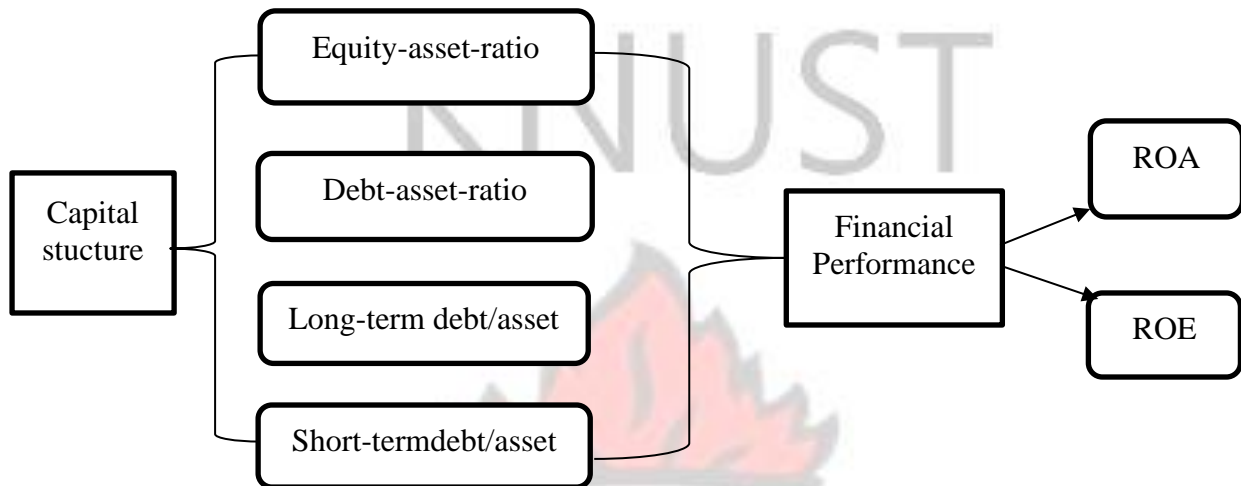


Figure 2.1: Conceptual framework

Source: Developed by Author (2020)



## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.0 INTRODUCTION

This chapter contains the research methodology. The chapter is made up of six main sections. These first three sections of the chapter are the research design, the population, and the sampling technique and sample size. The subsequent sections of the chapter involve the data collection, data analysis, and the reliability of data.

#### 3.1 RESEARCH DESIGN

The research design employed for the study focused on three areas which involve the research purpose, strategy and approach. The study adopted the explanatory research purpose since the study sought to examine the relationship between different variables by explaining the link between capital structure and firm performance indicators which synchronizes with the method adopted by Anh, Duong, and Yoon (2018) in a similar study. Again, the study adopted the desk research strategy since it utilized data obtained from the National Insurance Commission and other publicly available sources. This strategy was adopted since similar ones were adopted by Mireku, Mensah, and Ogoe (2014) and Murtala (2018) in similar studies. Further, the study employed the quantitative approach to research since it used secondary data which were analysed by means of quantitative techniques of multiple regression analysis to ascertain the link between the independent and the dependent variables. This approach was adopted since it aligns with the approach used by some authors such as Birru (2016) and Anh, Duong, and Yoon (2018) and Murtala in similar studies.

### **3.2 POPULATION**

The population of the study comprised all the 29 non-life insurance companies in good standing with the National Insurance Commission as at of December 2019.

### **3.3 SAMPLE SIZE AND TECHNIQUE**

The sample size consisted of 10 insurance companies, selected using the convenience sampling technique. The selection was done based on availability and convenience of obtaining the relevant data for the study.

### **3.4 DATA COLLECTION**

The study employed secondary data which were collected from the annual reports of the selected insurance companies during the five-year period. Besides, data were obtained from the Fact Book of the National Insurance Commission to corroborate the information obtained from the annual reports of the respective insurance firms. Data in respect of inflation and GDP which were part of the control variables were obtained from the World Bank Development Indicators Database.

### **3.5 DATA ANALYSIS AND MODEL SPECIFICATION**

#### **3.5.1 Data Analysis**

Data obtained for the study were analysed by means of trend and inferential analysis. The inferential statistics used was the panel regression analysis. Both the explained and the explanatory variables were computed, sorted, and screened using the Microsoft excel software, after which the organized data were analysed using the STATA statistical software.

### 3.5.2 Model Specification

Since the study used panel data to establish the effect of capital structure on performance, the following panel regression models (based on the fixed effect model) were employed to determine the relationship between the variables of the study.

$$ROA_{iy} = A + B_1ETA_{iy} + B_2DTA_{iy} + B_3LDTA_{iy} + B_4SDTA_{iy} + B_5Size_{iy} + B_6LQ_{iy} + B_7Infl_y + B_8GDP_y + u_{iy} \dots\dots\dots (1)$$

$$ROE_{iy} = A + B_1ETA_{iy} + B_2DTA_{iy} + B_3LDTA_{iy} + B_4SDTA_{iy} + B_5Size_{iy} + B_6LQ_{iy} + B_7Infl_y + B_8GDP_y + u_{iy} \dots\dots\dots (2)$$

Where:

A - is the intercept or slope of the regression

B<sub>1</sub> to B<sub>7</sub> – is the coefficients of regression.

***Dependent variables:***

ROA<sub>iy</sub> – is Return on Asset for firm *i* in year *y*

ROE<sub>iy</sub> - is Return on Equity for firm *i* in year *y*

***Independent variables:***

ETA<sub>iy</sub> – is Equity divided Total Assets for firm *i* in year *y*

DTA<sub>iy</sub> – is Debt divided by Total Asset for firm *i* in year *y*

LDTA<sub>iy</sub> - is Long-term debt divided by Total Assets for firm *i* in year *y*

SDTA<sub>iy</sub> – is Short-term debt divided by Total Assets for firm *i* in year *y*

***Control Variables:***

Size<sub>iy</sub> - is Size (total assets) for firm *i* in year *y*

LQ<sub>iy</sub> – is the Liquidity for firm *i* in year *y*

Infl<sub>iy</sub> – is the rate of inflation in year y

GDP – is GDP growth rate per annum

u<sub>iy</sub> - is the error term

### 3.5.3 Description and Measurement of Variables

Table 3.1: Description and Measurement of Variables

VARIABLE	OPERATIONAL MEASUREMENT	CODE
<b>Dependent variables</b>		
Return on Asset	PAT/ Total Asset	ROA
Return on Equity	PAT/Equity	ROE
<b>Independent variables</b>		
Equity capital	Equity/Total asset	ETA
Debt capital	Total debt/Total Asset	DTA
Long-term debt capital	Long-term debt/Total Asset	LDTA
Short-term debt capital	Short-term debt/Total Asset	SDTA
<b>Control variables</b>		
Firm Size	Log of total assets	Size
Liquidity of firm	Current assets/Current liabilities	LQ
Inflation	Annual consumer price inflation	Infl
GDP rate	Annual GDP growth rate	GDP

### 3.6 PRE-TESTING OF DATA

The data used for the study were pre-tested to determine their suitability for the study. Correlation analysis was performed to determine the strength of correlation between the variables with a further multi-collinearity testing using the variance inflation factor.

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## CHAPTER FOUR

### PRESENTATION OF ANALYSIS AND DISCUSSION

#### 4.0 INTRODUCTION

This chapter contains the presentation of analysis and discussion. The chapter is made up of four main sections. The first section of the chapter is the descriptive statistics. The second section is the correlation analysis. The third section is the trend analysis on equity and debt. The fourth section is the regression estimation.

#### 4.1 DESCRIPTIVE STATISTICS

The summary statistic of the study variables is presented in this section. In all 10 variables were used for study, the descriptive property on which is presented in Table 4.1. The description properties on the variables which is found in Table 4.1 covers the total observations, the minimum and maximum values, the mean, and the standard deviation.

From Table 4.1, it is seen that the total observations for each of the variables is 50. Per the range of figure for the minimum and maximum values of the variables in the table, it is evident that there are no outliers in the values for the variables. With respect to the mean, it is seen that the variable with the maximum mean value is Debt to Total Asset (DTA), representing total debt financing, with a mean value of 52.70 whilst the variable with the minimum mean value is liquidity (LQ), with a mean value of 1.46. On standard deviation (SD) for the variables, it is seen that the variable with the maximum standard deviation is Equity to Total Asset (ETA), representing equity financing, with a standard deviation value of 13.91. The variable with the minimum standard deviation is total assets (TA) with a standard deviation value of 0.29.

Table 4.1: Summary Statistics of variables

	<b>Obs.</b>	<b>Min.</b>	<b>Max.</b>	<b>Mean</b>	<b>SD</b>
ROA	50.00	-3.00	17.00	5.24	3.64
ROE	50.00	-10.00	33.00	11.40	8.05
ETA	50.00	7.41	68.59	46.12	13.91
DTA	50.00	31.41	76.97	52.70	12.82
LDTA	50.00	1.68	33.95	16.00	7.65
SDTA	50.00	20.43	60.06	36.69	10.17
TA	50.00	7.41	8.73	8.02	0.29
LQ	50.00	0.57	3.57	1.46	0.81
INFL	50.00	7.18	17.45	12.39	4.43
GDP	50.00	2.18	8.14	5.30	2.19

Source: Computed from Secondary data

## 4.2 CORRELATION OF VARIABLES

The section presents the correlation among the variables with specific emphasis on the independent variables to determine the degree of correlation among the independent variables. This is done to establish if all the predictor variables are suitable for the regression estimation. From the outcome of the correlation analysis, it is seen that there is no perfect correlation between any of the independent variables.

As a further check to establish the existence of multi-collinearity among the independent variables, the variance inflation factor (VIF) of the variables is also tested. As determined by Field (2009), a VIF value more than 5 indicates presence of multi-collinearity and vice versa. From the VIF estimation, the variable with the highest VIF value is inflation with VIF value of 3.44. This shows that the issue of multi-collinearity among the independent variables does not seem to be a major problem in this study.

Table 4.2: Matrix for correlation of variables and VIF estimation

	ROA	ROE	ETA	DTA	LDTA	SDTA	TA	LQ	INFL	GDP	VIF
ROA	1.00										
ROE	0.89	1.00									
ETA	0.13	-0.18	1.00								2.37
DTA	-0.14	0.23	-0.76	1.00							2.37
LDTA	0.06	0.29	-0.46	0.61	1.00						2.25
SDTA	-0.22	0.07	-0.61	0.80	0.01	1.00					3.28
TA	0.13	0.16	-0.19	0.13	0.13	0.06	1.00				1.34
LQ	-0.12	-0.08	0.02	-0.04	0.36	-0.32	0.20	1.00			2.41
INFL	0.19	0.24	-0.01	0.09	-0.13	0.21	-0.35	-0.54	1.00		3.44
GDP	-0.03	-0.10	0.15	-0.22	0.00	-0.28	0.24	0.33	-0.73	1.00	2.62

Source: Computed from Secondary data

### 4.3 RESULT OF HAUSMAN TEST

To ascertain either the fixed or the random effect is ideal for the panel regression estimation, the Hausman Test was done for both ROA and ROE models to determine which effect is suitable for each of the models based on a null hypothesis that the random effect model is suitable and an alternative hypothesis that the fixed effect model is suitable. Tables 4.3 shows the result of the Hausman test to be 12.17 and p-value is 0.0025 whilst Table 4.4 shows the Hausman test to be 8.13 and p-value is 0.0012. It can be seen that the probability of the chi-square is less than alpha 0.05 (5%) in both tests, therefore, the null hypothesis is rejected in both models. Thus, the fixed effects model is adopted as the suitable model in both ROA and ROE models.

Table 4.3: Hausman Test for ROA Model

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Test:	Ho:	difference in coefficients not systematic
		$\text{Chi2 (5)} = (b-B)' [(V_b - V_B)^{-1}] (b-B)$ $= 12.17$
		$\text{Prob} > \text{chi2} = 0.0025$
		(V_b – V_B is not positive definite)

---

Table 4.4: Hausman Test for ROE Model

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Test:	Ho:	difference in coefficients not systematic
		$\text{Chi2 (5)} = (b-B)' [(V_b - V_B)^{-1}] (b-B)$ $= 8.13$
		$\text{Prob} > \text{chi2} = 0.0012$
		(V_b – V_B is not positive definite)

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### 4.3 TREND OF EQUITY AND DEBT FINANCING

At this section, the trend analysis of equity and debt financing over the five-year period from 2015-2019 for the 10 insurance companies used for the study is presented. In doing this, an overview is provided on the total capital composition over the period and then narrows down to the specifics on equity and debt capital used to finance the activities of the firms over the period. It is seen from Table 4.3 that the cumulative total assets (capital) value for the five-year period is Gh¢7.04bn made up of Gh¢3.22bn equity representing 46% and Gh¢3.82bn debt representing 54%. This shows that the companies relied more on debt to finance their operations during the period.

Looking at the total assets value for the respective years, it is seen that the total capital (equal to total asset) for the year 2015 is Gh¢0.99bn. This amount increased by 5% in 2016 to an amount of Gh¢1.04bn. Again, in 2017, the total capital composition was Gh¢1.25bn, depicting a 20% increase in the preceding year. The year 2018 also saw an increase from the previous year total capital value by 37.6%. It is seen that the year 2019 also recorded an increase by 18% from the previous year. It is worthy of note that even though the year 2019 also recorded an increase from the preceding year value, there was a relative decline in the percentage of increment unlike the previous years where the percentage of increment per year went above the preceding year.

Table 4.5: Equity and debt component of total financing between 2015- 2019

Year	Total Assets	Equity		Debt	
	Value (Gh¢bn)	Value (Gh¢bn)	Percentage (%)	Value (Gh¢bn)	Percentage (%)
<b>2015</b>	0.99	0.38	39%	0.61	61%
<b>2016</b>	1.04	0.47	45%	0.58	55%
<b>2017</b>	1.25	0.62	50%	0.63	50%
<b>2018</b>	1.72	0.77	45%	0.95	55%
<b>2019</b>	2.03	0.98	48%	1.05	52%
<b>Total</b>	<b>7.04</b>	<b>3.22</b>	<b>46%</b>	<b>3.82</b>	<b>54%</b>

Source: Computed from secondary data.

Regarding the trend of equity financing, it is seen in Table 4.3 that the total value of equity finance in the total capital in 2015 is Gh¢0.38bn which is 39% of the total capital value for the year. In 2016, the contribution of equity financing to the total financing increased to 45% from the prior year contribution of 39%. Again in 2017, equity financing contributed 50% of the total financing of the companies, representing an increase by 5% from the previous year contribution. However, in 2018, equity contribution to total financing declined to 45% showing a decline by 5% from the prior year contribution. In 2019, the equity contribution

marginally increased by 3% from the previous year, resulting in 48% equity contribution to total financing of assets.

With respect to the trend of debt financing, it is seen in Table 4.3 that the component of debt financing in total capital in the year 2015 is Gh¢.061bn, constituting 61% of the total financing of the companies. In the year subsequent to 2015 (i.e. 2016), contribution from debt declined to 55% indicating a 6% decline from the prior year debt financing contribution. The debt contribution to total capital in the year 2017 further declined by 5% to 50% from the prior year contribution of 55%. However, in 2018, the debt component in total financing increased by 5%, recording a total debt contribution of 55%. But in 2019, debt contribution recorded a marginal decline by 3% from the prior year to arrive at a total contribution of 52%.

It is worthy of note that an observation of the trend picture in Table 4.3 above shows that the percentage of debt component in total capital has been highest in all respective years except in 2017 where both debt and equity contributed equally to total capital. It is further observed that for the three-year period from 2015 to 2017, the percentage of equity finance in total capital increased year on year. Contrastingly, the percentage of debt finance in total capital declined year on year over the same period. It is also found that in 2018 when equity capital contribution to total capital dropped from the prior year, contribution from debt increased in same year but in 2019 when contribution from equity marginally increased from the previous year, debt contribution also declined from the preceding year. The general observation made from the trend of equity and debt financing is that whenever the percentage of contribution from equity financing increases, it results in a decline in the percentage of contribution from debt financing and vice versa.

## **4.4 CAPITAL STRUCTURE AND FIRM PERFORMANCE**

This section covers the empirical outcome of the relationship between capital structure and performance using the regression analysis on the secondary data on insurance companies obtained. The study employed two dependent variables as proxies for performance which are the return on assets (ROA) and return on equity (ROE). Therefore, the regression estimation is presented in two tables based on the model specifications one (1) and two (2) defined in the preceding chapter.

### **4.4.1 Link between Capital Structure Variables and ROA**

Over here, the regression estimation for association between the independent variables and the ROA as dependent variable is presented in Table 4.4. From the table, the probability of F which show the level of significance is 0.041 which is smaller than the projected maximum P-value of 0.05. This gives indication that all the parameters employed in the estimation are statistically significant. From the table, it is seen that the R-square ( $R^2$ ) value is 0.250 (i.e. 25%). This provides indication that 25% of the systemic changes in the ROA is attributable or explained by the independent variables, namely: ETA, DTA, LDTA, SDTA, and LDTA.

#### **4.4.1.1 Equity Financing and ROA**

Results of the coefficient of regression as presented in Table 4.4 shows that a change in ETA will lead to -0.013 changes in ROA. This result shows an inverse relationship between ETA and ROA, suggesting that with a 1% increase in ETA, there will be a reduction in ROA by 1.3%. This result is consistent with the outcome of the study by Le and Phung (2013) which revealed a similar finding that a negative association exist between capital structure and firm peromance using the ROA. The outcome further supports the finding from the study conducted by Mwangi, Makau, and Kosimbei (2014) which reported a similar outcome although the study by Mwangi, Makau, and Kosimbei (2014) used non-fianncial service

firms. Contrastingly, the result disagrees with the finding of the study by Badar and Saeed (2013) and Onaolapo and Kajola (2010) which discovered a direct relationship between equity financing and firm performance.

Table 4.6: Regression result for effect of capital structure variables on ROA

Source	SS	df	MS	Obs.	50.000	
Reg. Model	875.123	8	109.390	F(8,42)	2.243	
Residual	2,620.077	42	55.746	Prob > F	0.041	
Total	3,495.200	50		R <sup>2</sup>	0.250	
				R <sup>2</sup> (Adjusted)	0.117	
				Model SE	7.466	

ROA	Coefficients	Std. err.	t Stat	P-value	(95% confidence interval)	
Intercept	-72.152	35.979	-2.005	0.051	-144.532	0.229
ETA	-0.013	0.111	-0.114	0.910	-0.237	0.211
DTA	0.261	0.121	2.158	0.036	0.018	0.504
SDTA	-0.317	0.179	-1.770	0.083	-0.677	0.043
LDTA	0.705	0.123	5.725	0.000	0.451	0.959
TA	3.469	1.759	1.972	0.054	-0.069	7.007
LQ	-1.739	1.919	-0.906	0.369	-5.599	2.122
INFL	0.682	0.421	1.619	0.112	-0.165	1.530
GDP	0.313	0.743	0.421	0.676	-1.183	1.808

*P-value < 0.05*

Source: Estimated from secondary data

#### 4.4.1.2 Debt Financing and ROA

It is seen from the Table 4.4 that a change in DTA will result in 0.261 changes in ROA. This shows a positive relationship between DTA and ROA, suggesting that with a 1% increase in DTA, there will be a corresponding increase in ROA by 26.1%. It is worthy of note that the result of the positive relationship between debt and ROA is consistent with the outcome of a study by Abrar and Javaid (2016) which found positive relationship with ROA. Another

study which found consistent outcome with this finding is the study pursued by Ahmad, Abdullah, and Roslan (2012) which reported a significant positive relationship between debt and ROA. However, this finding in this study sharply contrast with the outcome of the study by Ebid (2009) which found negative association between debt and ROA. Similarly, this finding disagree with the result of a study by Abor (2005) which revealed an inverse relationship between debt and ROA. Other studies which revealed contrasting outcomes to this finding are Salteh et al. (2012) and Phung and Le (2013) which also revealed there is a negative association between debt and ROA.

#### ***4.4.1.3 Short-Term Debt Capital and ROA***

The regression estimation in Table 4.4 further shows that a change in SDTA will lead to - 0.317 changes in ROA, indicating a negative relationship between the two variables. This means that with a 1% increase in SDTA, there will be 31.7% decline in ROA. It is found from the above discussion that there is a significant negative relationship between short term debt and ROA. This is in congruence with the finding of a study pursued by Onaolapo and Kajola (2010) which also revealed a significant negative relationship between short-term debt and ROA. But it is important to note that unlike this study which focused on insurance companies in Ghana, the study by Onaolapo and Kajola (2010) was on non-financial entities listed on the Nigerian Stock Exchange. Again, the finding agree with Salteh et al. (2012) which disclosed an indirect relationship between short-term debt financing and ROA. There is also unison in this finding of the study and that of the result from a study pursued by Abor (2005) which found short-term debt financing to have negative impact of ROA. However, emphasis need to be made that the work of Abor (2005) focused on SMEs in Ghana unlike this study which uses insurance companies in Ghana. Further, Phung and Le (2013) and Mumtaz et al. (2013) investigated capital structure performance nexus which documented a finding matches with the current outcome that short-term debt is inversely related to ROA.

#### **4.4.1.4 Long-Term Debt Capital and ROA**

Again, it is seen from Table 4.4 that a change in LDTA will lead to 0.705 changes in ROA. This indicates that there is a direct relationship between LDTA and ROA and that 1% increase in LDTA will lead to a corresponding increase in ROA by 70.5%. From the above discussion on the result of the regression estimation, it is revealed that there is a direct relationship between long-term debt financing and ROA. This outcome is in tandem with the finding of the work by Badar and Saeed (2013) which revealed a direct or positive relationship between long-term debt finance and ROA. Conversely, this outcome of the study disagrees with the findings of the study by Abor (2005) which found an indirect relationship between long-term debt financing and ROA. Further to the above, the outcome of a positive relationship between long-term debt and ROA is incongruent with the finding of the work by Phung and Le (2013) which disclosed an inverse relationship between long-term debt finance and ROA. This finding of the current study also contradicts the results of studies by Onaolapo and Kajola (2010) and Salteh et al. (2012) which revealed that there is a negative association between long-term debt capital and ROA.

#### **4.4.2 Link Between Capital Structure Variables and ROE**

Here the regression estimation for the relationship between the independent variables and the ROE as dependent variable is presented in Table 4.5. From the table, the probability of F which shows the level of significance is 0.028 which is smaller than the projected maximum P-value of 0.05 (5%). This gives indication that all the parameters employed in the regression estimation are statistically significant. From the table, it is seen that the R-square ( $R^2$ ) value is 0.265 (i.e. 26.5%). This indicates that 26.5% of the systemic variations in the ROE is attributable to or explained by the independent variables, namely: ETA, DTA, LDTA, SDTA, and LDTA.

Table 4.7: Regression result for effect of capital structure variables on ROE

Source	SS	df	MS		Obs.	50.000
Reg. Model	189.130	8	23.641		F(8,42)	2.420
Residual	524.798	42	11.166		Prob. > F	0.028
Total	713.927	50			R <sup>2</sup>	0.265
					R <sup>2</sup> (Adjusted)	0.134
					Model SE	3.342

	Coefficients	Std. err.	t Stat	P-value	(95% confidence interval)	
Intercept	-32.827	16.102	-2.039	0.047	-65.221	-0.433
ETA	0.058	0.050	1.155	0.254	-0.043	0.158
DTA	0.134	0.054	2.476	0.017	0.025	0.243
SDTA	-0.221	0.080	-2.751	0.008	-0.382	-0.059
LDTA	-0.189	0.088	-2.142	0.037	-0.367	-0.011
TA	4.456	1.786	2.494	0.016	0.862	8.049
LQ	-1.529	0.859	-1.780	0.081	-3.257	0.199
INFL	0.204	0.189	1.082	0.285	-0.175	0.583
GDP	0.056	0.333	0.167	0.868	-0.614	0.725

*P-value < 0.05*

Source: Estimated from secondary data

#### 4.4.2.1 Equity Financing and ROE

Per the results of the coefficient of regression presented in Table 4.5, it is seen that a change in ETA will lead to 0.058 changes in ROE. This result shows a direct or positive relationship between ETA and ROE, suggesting that with a 1% increase in ETA, there will be a corresponding increase in ROE by 5.8%. This result is in agreement with the outcome of studies pursued by Sheikh and Wang (2013) and Saedi and Mahmoodi (2011) which also discovered that equity financing has a direct effect on ROE of firms. However, the result is incongruent with findings from studies done by Ahmad, Abdullah, and Roslan (2012), Mwangi, Makau, and Kosimbei (2014), and Majumdar and Chhibber (1999) which revealed an inverse relationship between equity financing and ROE.

#### ***4.4.2.2 Debt financing and ROE***

It is seen from the Table 4.5 that a change in DTA will result in 0.134 changes in ROE. This shows a positive relationship between DTA and ROE, suggesting that with a 1% increase in DTA, there will be a consistent increase in ROE by 13.4%. From the result, it is seen that there is a positive relationship between debt (total debt) and ROE. This finding agrees with the outcome of Abrar and Javaid (2016) which found a significant direct relationship between debt financing and ROE. However, this finding do not support the outcome of the study conducted by Ebid (2009) which found an insignificant relationship between total debt financing ROE. In sharp contrast, this outcome contradicts the finding of a study by Abor (2005) which revealed a negative link between total debt caiptal and ROE although the study by Abor was in respect of SMEs in Ghana. This result of the current study also does not support the outcome of the study by Phung and Le (2013) which revealed an inverse relationship between total debt finance and ROE. It is also important to highlight that the current finding is inconsistent with the result of some prior studeis such as Mumtaz et al. (2013) and Ahmad, Abdullah, and Roslan (2012) which established that there is an indirect relationship between debt and ROE.

#### ***4.4.2.3 Short-Term Debt and ROE***

The regression estimation in Table 4.5 shows that a change in SDTA will lead to -0.221 changes in ROE, indicating a negative relationship between the two variables. This means that with a 1% increase in SDTA, there will be 22.1% decline in ROE. The current study has also established that there is a significant negative relationship between short-term debt and ROE as a proxy for performance. This finding agrees with the empirical outcome of the work by Badar and Saeed (2013) which reported a significant negative relationship between short-term debt and ROE. The current finding also establishes consistency with the finding of the study pursued by Phung and Le (2013) which revealed an indirect relationship between short-

term debt financing and ROE. Similar to the above studies which current finding have consistency with, the current outcome also agrees with the study done by Ahmad, Abdullah, and Roslan (2012) where it emerged that there is a negative association between short-term debt financing and ROE. It is worthy of note that the current outcome do not support the result of the study by Ebid (2009) which disclosed an insignificant relationship between short term debt financing and ROE. In sharp contrast, the current study reveals an outcome which is incongruent with the work of Salteh et al. (2012) which reported a positive relationship between short-term debt finance and ROE.

#### ***4.4.2.4 Long-Term Debt and ROE***

Again, it is seen from the Table 4.5 that a change in LDFA will lead to -0.189 changes in ROE. This indicates that there is an inverse relationship between LDFA and ROE and that 1% increase in LDFA will lead to a reduction in ROE by 18.9%. This finding agrees with result from the study conducted by Abor (2005) which found a negative relationship between long-term debt financing and ROE. The finding from the current study further support the result of a study by Ahmad, Abdullah, and Roslan (2012) where long-term debt financing and ROE were found to be inversly related. Aside the outcomes of the previous studies above, the current is in tandem with the outcome of a study by Mumtaz et al. (2013) which reported that there is an indirect link between long-term debt capital and ROE as a proxy for performace. The findings of other empirical studies done by Phung and Le (2013) and Onaolapo and Kajola (2010) revealed that there is an inverse relationship between long-term debt capital and ROE, thus indicating consistency with the outcome of the current where long-term debt financing has a negative association with ROE.

Unlike the prior studies above which the current study find consistency with their findings, the current outcome does not support the result of the study by Ebid (2009) which did not

establish any significant relationship between long-term debt capital and ROE. It is worthy of note that the result of some other studies are also inconsistent with the current outcome. One of such studies is the work of Salteh et al. (2012) which found a positive relationship between long-term debt capital and ROE. Again, the result of the current study on long-term debt and ROE is in sharp contrast with the study by Badar and Saeed (2013) which established a positive relationship between long-term debt financing and ROE.



## CHAPTER FIVE

### SUMMARY, CONCLUSION, AND RECOMMENDATIONS

#### 5.0 INTRODUCTION

This is the last chapter of the study. It first looks at the summary of findings. Secondly, it touches on the conclusion for the study and then presents the recommendations based on the outcome of the study.

#### 5.1 SUMMARY OF FINDINGS

The capital mix of an entity is so crucial that if it is not managed well it can adversely affect the performance and consequently the survival of the firm. This study focuses on the capital structure and firm performance relationship among insurance firms in Ghana. A total of 10 insurance firms were sampled from insurance companies in Ghana for the study. The study tackled five key objectives which forms the major issues or areas of the study. The first area of the study focuses on the trend of equity and debt financing among the firms from 2015-2019. The second area focuses on how equity financing affect performance of insurance firms. The third area of focus is how debt capital affects performance. The fourth area focuses on the effect of long-term debt on performance whilst the fifth area addresses the effect of short-term debt on performance of the sampled firms. The findings on the key objectives of the study are presented below.

The study found that the debt capital forms the greater part of total capital in all respective years except in the years 2017 where both debt and equity contributed equally to total capital. It is also found that from the three-year period from 2015 to 2017, the percentage of equity

finance in total capital increased year on year whilst the percentage of debt finance in total capital declined year on year over the same period. It is also found that in 2018 when equity capital contribution to total capital dropped from the prior year contribution, the contribution from debt increased in same year but in 2019 when contribution from equity marginally increased from the previous year, debt contribution also declined from the preceding year. The general outcome from the study is that whenever the percentage of contribution from equity financing increases, it results in a decline in the percentage of contribution from debt financing and vice versa.

The study found that a change in ETA will lead to -0.013 changes in ROA. This means there is an inverse relationship between ETA and ROA, suggesting that with a 1% increase in ETA, there will be a reduction in ROA by 1.3%. The study also found that a change in ETA will lead to 0.058 changes in ROE. This means there is a direct or positive relationship between ETA and ROE, suggesting that with a 1% increase in ETA, there will be a corresponding increase in ROE by 5.8%. It is found that equity financing has a negative relationship with ROA but has a positive relationship with ROE.

The researcher discovered that a change in DTA will result in 0.261 changes in ROA which shows there is a positive relationship between DTA and ROA. Thus, suggesting that with a 1% increase in DTA, there will be a corresponding increase in ROA by 26.1%. It is also found that a change in DTA will result in 0.134 changes in ROE which depicts a positive relationship between DTA and ROE, suggesting that with a 1% increase in DTA, there will be a consistent increase in ROE by 13.4%. Comparison of the outcome on ROA and ROE shows that debt financing has positive effect on both ROA and ROE of the insurance firms but the extent of effect on ROA is greater than that of ROE.

The study also found that a change in LDTA will lead to 0.705 changes in ROA which indicates that there is a direct relationship between LDTA and ROA and that 1% increase in LDTA will lead to a corresponding increase in ROA by 70.5%. But the study also found that a change in LDTA will lead to -0.189 changes in ROE which indicates that there is an inverse relationship between LDTA and ROE and that 1% increase in LDTA will lead to a reduction in ROE by 18.9%. Comparison of the relationships shows that long-term debt has a positive relationship with ROA but the otherwise is the case for ROE.

Further, the study found that a change in SDTA will lead to -0.317 changes in ROA, indicating a negative relationship between the two variables which means that with a 1% increase in SDTA, there will be 31.7% decline in ROA. The study also found that a change in SDTA will lead to -0.221 changes in ROE, indicating a negative relationship between the two variables. This means that with a 1% increase in SDTA, there will be 22.1% decline in ROE. It is found that short-term debt has a negative relationship with both ROA and ROE.

## **5.2 CONCLUSION**

Decisions and actions on capital make up of a firm are very important since it can make or unmake the firm. Some schools of thought have emphasized that over-reliance on equity or debt has its own pros and cons to the entity (Parmasivan and Subramanian, 2009; Anh, Duong, and Yoon, 2018). The authors indicate that firms can leverage on the tax shield on debt interest to improve their performance in terms of profitability but excessive use of debt financing may subject the firm to sustainability challenges if care it not taken. Also, extreme use of equity denies the firm of the tax shield on debt interest. Hence, at each point in time, management ought to determine the appropriate mix of debt and equity to maximize the performance. This study has revealed that debt forms the greater part of total financing for

operational activities of the insurance firms in Ghana. The trend further reveals that whenever equity financing increases, debt financing declines and vice versa. The study concludes that there is an inverse relationship between debt and equity contributions to total financing of insurance firms in Ghana. The study found that equity financing has a negative relationship with ROA but has a positive relationship with ROE. It is also found that debt financing has positive effect on both ROA and ROE of the insurance firms in Ghana but the extent of effect on ROA is greater than that of ROE. Again, the study found that long-term debt has a positive relationship with ROA but the otherwise is the case for ROE. The study further found that short-term debt has a negative relationship with both ROA and ROE. It is therefore concluded that the different compositions of capital structure in terms of equity, debt, long-term debt, and short term debt exert varied effects on firm performance, hence capital structure decisions ought to be done with caution by considering what the firm intends to achieve in the long and short terms without generalization.

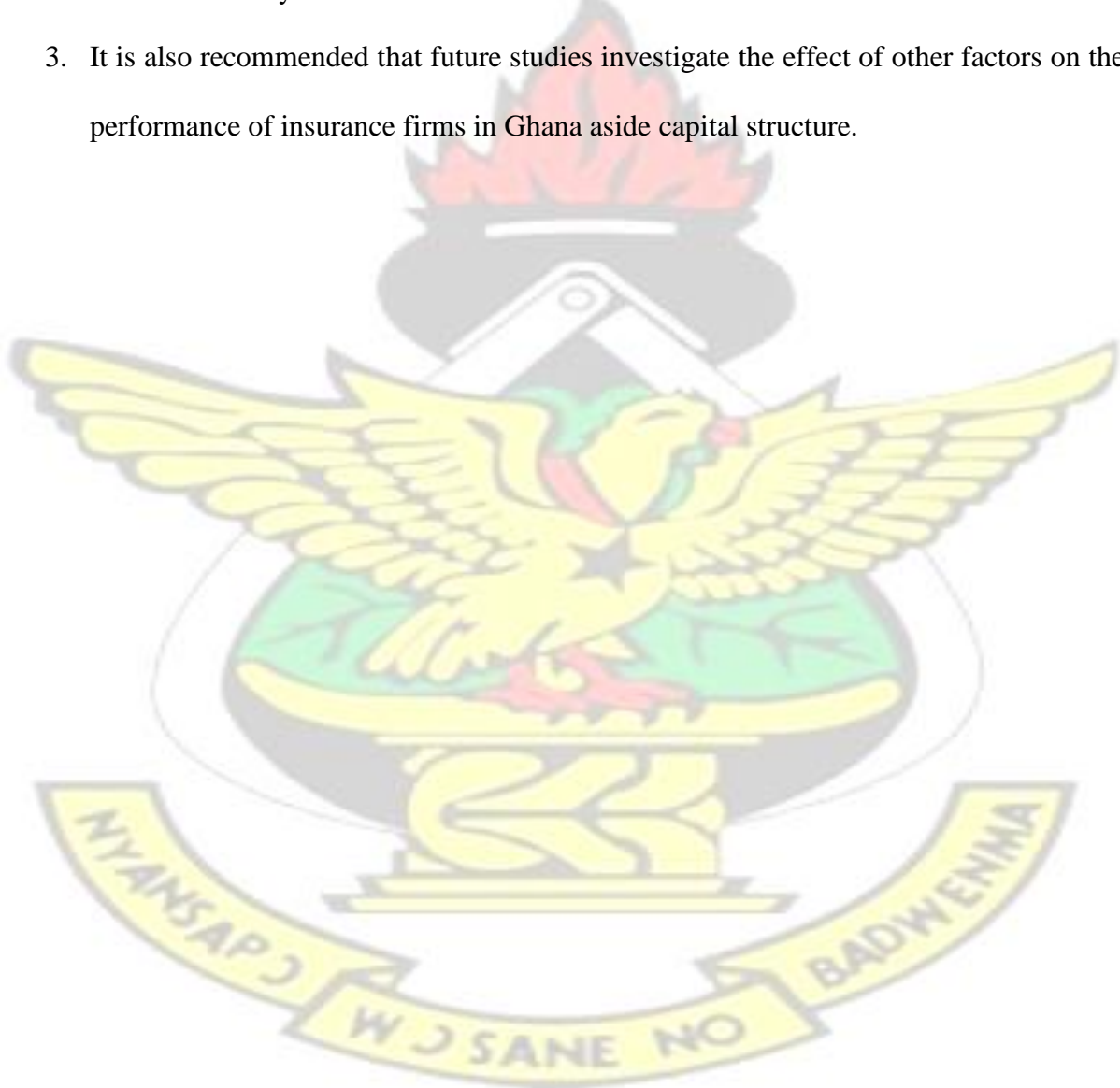
### **5.3 RECOMMENDATION**

The following recommendations are therefore made to help shape insurance firms' decisions on capital structure and policy consideration.

1. It is recommended that insurance firms in Ghana exercise caution in the use of debt, especially short-term debt since it exerts negative effect of the profitability of the firms. Thus, insurance firms should improve on financing most of their operational activities using retained earnings with debt as the last option which is consistent with the proposition of the pecking order theory.
2. A suggestion is made for management of insurance firms in Ghana to strive at determining the optimal capital mix for their firms since that would help to sustain them whenever there is financial and economic distress.

This study has added to literature on some groundworks laid by prior authors in the area of capital structure and firm performance. However, studies in this area is still inconclusive and the following recommendations are made for future studies.

1. It is recommended that future studies focus on investigating capital structure in terms of foreign and local ownership on the performance of insurance firms in Ghana.
2. It is also recommended that future studies explore the impact of capital structure on the sustainability of insurance firms in Ghana.
3. It is also recommended that future studies investigate the effect of other factors on the performance of insurance firms in Ghana aside capital structure.



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