

**THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE MEASURES AND
PERFORMANCE: EVIDENCE FROM GHANA**

By

Kwame Mireku (B.Com)

A Thesis submitted to the Department of Accounting and Finance,

Kwame Nkrumah University of Science and Technology

in partial fulfillment of the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION

School of Business, College of Arts and Social Sciences

June 2009

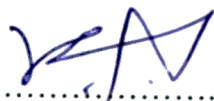
**L. BRARY
KWAME NKRUMAH UNIVERSITY OF
SCIENCE AND TECHNOLOGY
KUMASI-GHANA**

DECLARATION

I hereby declare that this submission is my own work towards the award of MBA and that to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any degree of University, except where due acknowledgement has been made in the text.

KWAME MIREKU (PG1628207)

Student Name



Signature

15/10/09

Date

Certified by:

MR. J. M. FRIMPONG

Supervisor



Signature

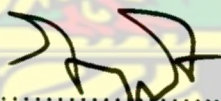
19-10-09

Date

Certified by:

MR. J. M. FRIMPONG

Head of Department



Signature

19-10-09

Date

DEDICATION

This work is dedicated to my mother and grandmother for their unflinching love, care, support and encouragement.

KNUST



ACKNOWLEDGEMENT

There are many people whom through diverse ways have contributed in making my studies and this thesis possible and have to be appreciated.

First and foremost, I thank the Lord God Almighty for his numerous mercies and also granting me wisdom, knowledge and good health without which this study could not have been done. May his name be praise forever and ever.

Also, I offer my deepest gratitude to my supervisor, Mr. J. M. Frimpong, Acting Dean and Head of Department, Accounting and Finance at KNUST School of Business. He has supported me throughout the preparation of this thesis with his encouragement and expertise despite his busy schedules whilst allowing me the room to work in my own way.

I would also like to express my thanks to Messrs Kingsleg Appiah Poku, and Mariama Zakari of KNUST Business School for co-ordinating various activities in connection with this thesis. Furthermore, I express my profound gratitude to Messrs. David Adagblenya, Margaret Ayonka, Nancy Osei-Duro and Dorcas Osei-Boahemaa for their inspiration and invaluable support and encouragement.

Finally, this acknowledgement would not be complete without mentioning the names of my siblings, Dr. Sandra Osei, Yaa Asantewaa, Lemuel Wiafe Akenteng and Kwaku Afriyie Baffour Gyawu. God richly bless you for your total dedication and support. I thank my family, friends and Trinity Baptist Youth Executives for their prayers and support throughout my studies.

TABLE OF CONTENTS

TITLE PAGE.....	i
DECLARATION.....	ii
DEDICATION.....	iii
ACKNOWLEDGEMENT.....	iv
LIST OF TABLES.....	viii
LIST OF FIGURES.....	ix
LIST OF ABBREVIATIONS.....	x
ABSTRACT.....	xi

CHAPTER ONE	INTRODUCTION	PAGES
1.1 Background of the Study.....		1
1.2 Statement of Problem.....		5
1.3 Objective of the Study.....		6
1.4 Research Hypotheses.....		6
1.5 Significance of the Research.....		7
1.6 Scope and Limitations of the Study.....		8
1.7 Organization of the Study.....		9
CHAPTER TWO	LITERATURE REVIEW	
2.1 Introduction.....		10
2.2 Meaning and Overview of Capital Structure.....		10
2.3 Capital Structure Theories.....		11
2.3.1 Static trade – off theory.....		12
2.3.2 Pecking Order Theory.....		12
2.3.3 Capital structure and the issue of tax benefits.....		14
2.3.4 Contracting costs.....		15
2.3.4.1 Bankruptcy cost.....		16
2.3.4.2 Agency cost.....		18
2.3.5 Information asymmetry costs.....		21
2.3.5.1 Market Timing Theory.....		22
2.3.5.2 Signalling theory.....		23

2.4 Determinants of Capital Structure.....	27
2.5 Measures of leverage.....	29
2.6 Performance Measures.....	31
2.7 Empirical evidence relating capital structure measures and performance.....	33

CHAPTER THREE RESEARCH METHODOLOGY

3.1 Introduction.....	37
3.2 The Study Population.....	37
3.3 The Sample Size.....	37
3.4 Data Sources	38
3.5 Data Analysis	39
3.6 Pearson's Coefficient of Correlation	40
3.7 Capital Structure Variables.....	42
3.8 Overview of Ghana Stock Exchange.....	42

CHAPTER FOUR EMPIRICAL ANALYSIS

4.1 Introduction.....	44
4.2 Descriptive statistics	44
4.3 Capital Structure Trend among Ghanaian Companies.....	46
4.4 Correlation between Capital Structure Measures and Performance.....	54

CHAPTER FIVE SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction.....	63
5.2 Summary of Findings	63
5.3 Recommendations.....	66
5.4 Direction for future research.....	66
5.5 Conclusion.....	67

REFERENCES.....	68
------------------------	-----------

APPENDIX A.....	74
------------------------	-----------

APPENDIX B.....	75
------------------------	-----------

APPENDIX C.....	76
------------------------	-----------

APPENDIX D.....	77
------------------------	-----------

APPENDIX E..... 78

APPENDIX F..... 79

APPENDIX G..... 80

APPENDIX H..... 81

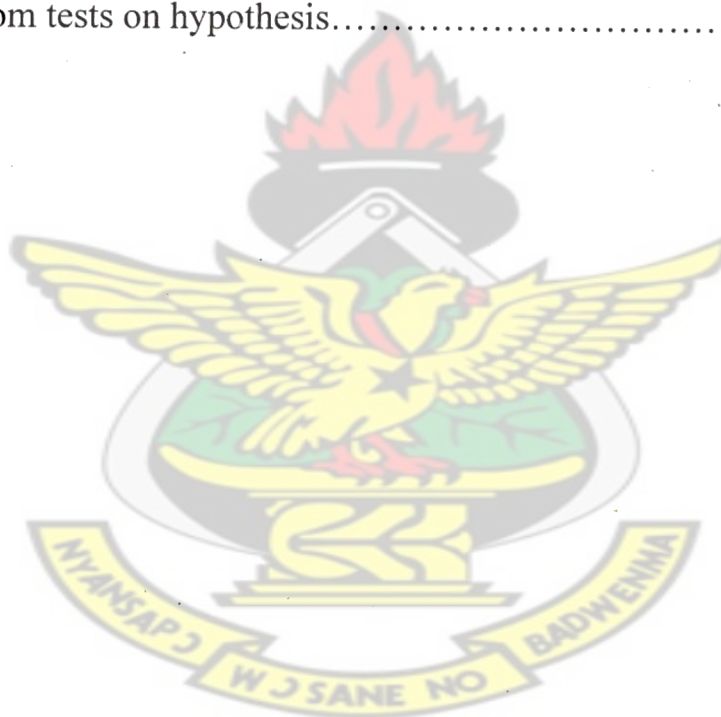
KNUST



LIST OF TABLES

PAGE

Table 4.1 Descriptive Statistics of the Study.....	44
Table 4.2: Short-Term Debts to Total Capital.....	51
Table 4.3 Long-Term Debts to Total Capital.....	51
Table 4.4: The Results of Correlations.....	54
Table 4.5: The Results from tests on hypothesis.....	61



LIST OF FIGURES

PAGE

Figure 1: Trend in Capital Structure (A).....	47
Figure 2: Trend in Capital Structure (B).....	48
Figure 3: Trend in Capital Structure (C).....	49

KNUST



LIST OF ABBREVIATIONS

ABL	Accra Brewery Ltd
ALUL	Aluworks Ltd
BKVAL	Book Value of Capital Structure
BOPP	Benso Oil Palm Plantation
CFAO	CFAO (Ghana) Ltd
CGL	Camelot Ghana Limited
CPC	Cocoa Processing Co
EBTS	Earnings before Tax to Sales Ratio
FML	Fan Milk Ltd
GGBL	Guinness Ghana Breweries Limited
GSE	Ghana Stock Exchange
LQD	Quick Ratio
LTD	Long Term Debt to Total Capital
MKTVAL	Market Value of Capital Structure
MLCL	Mechanical Lloyd Company Ltd
NPM	Net Profit Margin
OPRS	Operational Profit to Sales Ratio
PBCL	Produce Buying Company Ltd
PKL	Pioneer Kitchenware Ltd
PZ	PZ Cussons Ghana Ltd
ROE	Return on Equity
ROI	Return on Investment
SPPCL	Super Paper Products Co. Ltd
STA	Sales to Total Assets
STD	Short Term Debt to Total Capital
TPGL	Total Petroleum Ghana Ltd
UGL	Unilever Ghana Ltd

ABSTRACT

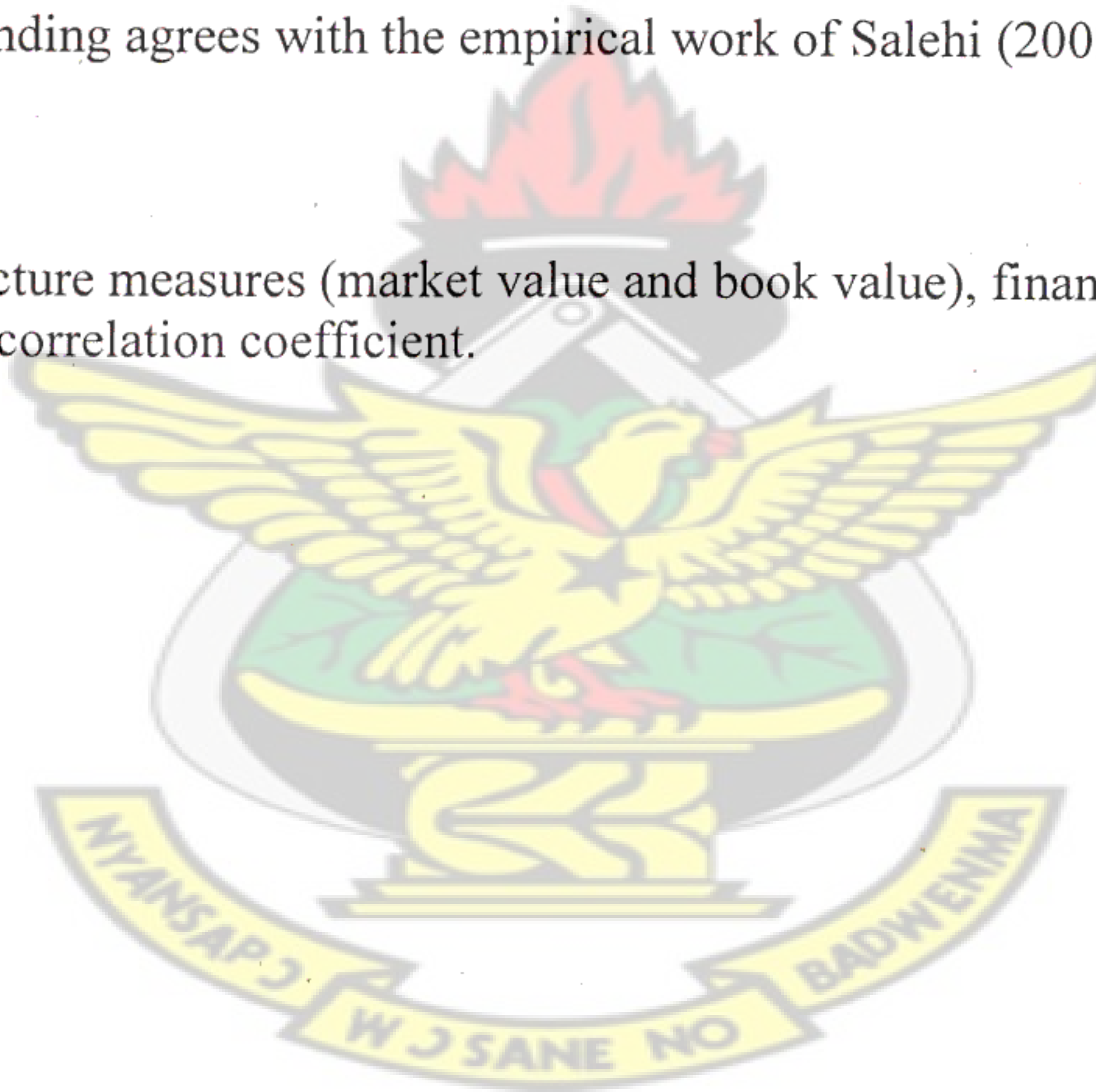
One of the main factors subject to intense debate in capital structure studies is whether to use the market value or the book value of debt and equity as the correct measure of leverage (Salehi, 2009). Capital structure is the combination of debt and equity that make up the total capital of firms. The choice and level of this mix is crucial for efficient running of organizations (Abor, 2005).

The purpose of this paper is to demonstrate and recognize the link between capital structure measures and financial performance and choosing appropriate measures to evaluate and analyze companies' financial status. The major aim is to determine which of the capital structure measures has a more significant relationship with performance. The study investigated the relationship between capital structure measures and performance of fifteen companies on the Ghana Stock Exchange (GSE) over a 6-year period, (between 2002-2007) using Pearson's coefficient of correlation and significant level. The study also looks at the capital structure trend in Ghana.

The study revealed that approximately 54.10% of the total capital of firms in Ghana is made up of debt. Of this, 47.14% constitute short-term debts while 6.96% is made up of long-term debts. This highlights the importance of short-term debts over long-term debts in firm financing in Ghana. The capital structure trend among Ghanaian companies depicted mixed trends. At one extreme you observe a rise in the use of debt and at the other end a fall. However, for most of the periods under study, these companies were highly geared. The gearing of these companies were at a results of extensive dependence on short-term debts.

Many measures of firm performance, such as a firm's profitability, were negatively correlated with financial leverage. This means that companies that have high profitability and good performance in Ghana have less debt and depend more on internal sources of financing thus supporting the pecking order theory. Results of the study demonstrated that market value of capital structure in comparison with book value measures has a stronger link with financial performance. This means market value should be taken more into consideration in evaluating capital structure. This finding agrees with the empirical work of Salehi (2009).

Keywords: Capital structure measures (market value and book value), financial performance, Pearson's correlation coefficient.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Capital Structure is a topic that continues to keep researchers pondering. It is seen as one of the most puzzling issues in corporate finance literature (Brounen and Eichholtz, 2001). Its importance derives from the fact that capital structure is tightly related to the ability of firms to fulfill the needs of various stakeholders. Capital structure refers to the firm's financial framework. Primarily, it consists of the debt and equity used to finance the firm. Researchers continue to analyze capital structures and try to determine whether optimal capital structures exist. An optimal capital structure is usually defined as one that will minimize a firm's cost of capital, while maximizing firm value. Hence, capital structure decisions have great impact on the success of the firm. Exactly how firms choose the amount of debt and equity in their capital structures remains an enigma.

Furthermore, the determination of a company's capital structure constitutes a difficult decision, one that involves several antagonistic factors, such as risk and profitability (Narendar, Al-Yahyaee, and Lateef, 2007). Decision becomes even more difficult, in times when the economic environment in which the company operates presents a high degree of instability. Are firms mostly influenced by the traditional capital structures of their industries or are there other reasons behind their actions? The answers to these questions are very important, because the actions managers take will affect the performance of the firm, as well as influence how investors will perceive the firm.

Much of the theory in corporate sector is based on the assumption that the goal of firm should be to maximize the wealth of its current shareholders. One of the major cornerstones of determining this goal is financial ratio. Financial ratios are commonly used to measure firm performance. Generally, corporations include them in their annual reports to stakeholders. Investment analysts provide them for investors who are considering the purchase of a firm's securities. Financial ratios represent an attempt to standardize financial information to facilitate meaningful comparisons. It provides the basis for answering some very important questions concerning the financial well being of the firm (Salehi, 2009).

KNUST

In doing business to achieve good financial performance, firms are faced with different forms of risk. These include market and operational risk. Profitable companies are those that can effectively manage these risks. In managing risk, firms must find appropriate ways of determining the capital structure that will eliminate or minimize the risks associated with their businesses. Therefore, the determination of appropriate choice and mix of debt and equity that would maximize the market value of firms is crucial.

The choice of capital structure of a firm is fundamentally a marketing problem (Brealey and Myers 2000, 2003). Usually firms do issue dozens of distinct securities in countless combinations. However, the combination that maximizes a firm's market value is what is optimal and thus what each must strive to identify in order to remain competitive (Brealey and Myers, 2000). In the corporate finance literature, it is clear that managers can make effective and efficient financing decision if and only if they know how debt and equity influence the performance of their firms. The point of fact is that, the knowledge of the

relationship between leverage and profitability would significantly enhance the quality of corporate financing decision which would in turn impact the value of the firm positively, all else equal.

In recent years, a number of studies have investigated business financing decisions in the past to gain insight into present-day corporate financing and corporate governance (see Rajan and Zingales, 2003). In addition to the above, financial economists have also worked over the past decades to transform corporate financing into a more scientific undertaking, with a body of formal theories that can be tested by empirical studies. However, the challenge has always been the issue of developing a universally accepted definitive theory of capital structure. In other words, designing empirical tests that are powerful enough to provide a basis for choosing among the various debt policy theories have been daunting.

What makes the capital structure debate even more intriguing is that the theories lead to such different, and in some ways diametrically opposed, decisions and outcomes. For example, some finance scholars have followed Miller and Modigliani in arguing that capital structure policies are largely "irrelevant" in the sense that they have no predictable material effects on the value of the firm. Another school of thought holds that corporate financing choices reflect an attempt by corporate managers to balance the tax shields of greater debt against potentially large costs of financial distress, including those arising from corporate underinvestment. But if too much debt can destroy value by causing financial distress and under investment, then too little of it especially in large, mature companies can also lead to overinvestment and low returns on capital (Barclay and Smith, 2005).

Also, one of the main factors subject to intense debate in capital structure studies is whether to use the market value or the book value of debt and equity as the correct measure of leverage. Those who favor the use of the book value measure present two strong arguments. First, the main cost of borrowing is the expected cost of financial distress in the event of bankruptcy. Financial distress affects the weighted average cost of capital and consequently the optimal leverage. In such a situation, the value of the distressed firm is closer to its book value. Once the debt has been issued, changes in the market value of that debt do not affect the interest tax shield cash savings. Furthermore, if bankruptcy occurs, the accurate measure of debt-holders' liability is the book value of debt and not the market value of debt. Second, previous studies have shown that managers think in terms of book rather than market values. Unlike market values, book values are more easily accessible, more accurately recorded and not subject to market volatility. On the other hand, those who prefer the market value to book value argue that the market value ultimately determines the real value of a firm. They suggest that it is possible for a firm to have a negative book value of equity while simultaneously enjoying a positive market value. This is possible because a negative book value reflects previous losses while a positive market value denotes the expected future cash flows of the firm. In practice, both measures of book and market values are often used (Salehi, 2009).

Based on this background, it is worth determining which of the capital structure measures has a more significant relationship with financial performance among companies listed on the Ghana Stock Exchange so as to aid managers, investors and other stakeholders to make informed financial decisions regarding their companies.

1.2 Statement of Problem

Survival and growth of firms needs resources but financing of these resources has limitation. Therefore, application of these resources should be in a way that creates an appropriate share of value for providers and users of resources. This makes capital structure decision strategic and a very sensitive. The lack of consensus in the various theories that inform such decisions also makes it delicate. Consequently, several studies have been conducted to determine the effect of capital structure on firm's profitability, the determinant of capital structure etc (see Abor, 2005). Although there has been considerable research on many areas of capital structure, most of the research papers were silent on the capital structure measure used. The capital structure measure comprises book value, adjusted value and market value. From the background of this study, it can be noted that various arguments have been raised in favour of which of the measures should be used in capital structure analysis. However, much has not been done to determine which of the measures has a more significant relationship with financial performance.

Further more, it is also clear that there is no universal theory for the debt equity choice with regards to whether to use the book value or market value of capital structure. This study of the relationship between capital structure measures and financial performance of companies listed on the stock exchange over the five years period (2002 – 2007) is therefore being carried to assess which of the capital structure measures has a more significant correlation with performance so as to provide a basis for capital structure decision for managers, investors and other stakeholders.

1.3 Objectives of the Study

The purpose of this paper is to demonstrate and recognize the link between capital structure measures and financial performance and choosing appropriate measures to evaluate and analyze the companies' financial status. Specifically, the study seeks:

- 1) To determine which of the capital structure measures has a more significant relationship with performance.
- 2) To determine the capital structure trend among Ghanaian companies
- 3) To ascertain the relationship between capital structure and return on investment (ROI);
- 4) To determine the relationship between capital structure and Return on equity (ROE);
- 5) To determine the link between capital structure and earnings before tax to sale ratio (EBT / S);
- 6) To determine the link between capital structure and operational profit to sale ratio (OPR/S).
- 7) To determine the link between capital structure and sales to total assets (STA)
- 8) To determine the link between capital structure and net profit margin (NPM)

1.4 Research hypotheses

Based on the purpose of the research the following hypotheses were extracted and tested:

- 1) There is a significant link between capital structure and return on investment (ROI);
- 2) There is a significant link between capital structure and Return on equity (ROE);
- 3) There is a significant link between capital structure and earnings before tax to sale ratio (EBT / S); and

- 4) There is a significant link between capital structure and operational profit to sale ratio (OPR/S).
- 5) There is a significant link between capital structure and sales to total assets (STA)
- 6) There is a significant link between capital structure and net profit margin (NPM)

1.5 Significance of the research

This study is of great importance. Although there has been a great deal of research on the subject of capital structure, this study makes a contribution to the literature as it attempts to unfold the capital structure practices of companies operating in Ghana and serves as a pivot for further research in the area.

The study unearths how debt policy influence performance of companies in Ghana; helping the government to know the kind of policy instrument that will help shape companies on the Ghana Stock Exchange and make them more efficient.

Performance measurement is the base of investing and financing decisions. Debt holders evaluate performance to decide about interest rate. Investors, on the other hand are interested in evaluating the performance to have knowledge of the success of management in applying their capital. So this study would help investors to recognize the link between capital structure and financial performance and choosing appropriate measures to evaluate and analyze the companies' financial status.

The study would also provide managers the opportunity to know how capital structure impact on companies performance in Ghana thus enabling them to make prudent financing decision which would increase their economic efficiency.

1.6 Scope and Limitations of the study

The study focuses on finding the relationship between capital structure measures and financial performance of companies on the Ghana Stock Exchange (GSE). The study focuses on companies on the GSE because of the availability of information regarding their financial statements which is key to this research. The starting point of the study was all non-financial firms. The study uses data from the annual reports of companies from 2002 to 2007. Specifically, the study includes all companies with at least six years of financial statements within the period of study. Companies for which performance data between 2002 and 2007 were incomplete were excluded from the sample. Moreover, financial firms were excluded due to peculiarity in terms of operations, structure of assets and liabilities that would hinder analysis and inter-company comparisons. Also, the capital structure of financial institutions was found to be highly regulated. In this paper, we have studied the issue of whether the capital-structure decision impacts firms' performance. For this reason, we used 2 definition of capital structure in scope of book value and market value and 6 measures were assumed for financial performance. The following constraints were encountered during the study:

- 1) The time frame required for a thorough analysis was not long enough. Although a study of this nature requires a longer duration, it was expected that the current study be presented in one academic year.

- 2) Lack of adequate funding for valuable research work was a major constraint in this study.
- 3) The adjusted value of capital structure was not included in the analysis because of the researcher's lack of knowledge and information on it.

1.7 Organization of the study

This study is organized into five (5) chapters. Chapter one (1), introduction gives a brief background into capital structure decisions and performance. The chapter also presents the statement of the problem, objective of the study, relevance of the study, the hypothesis and the scope and limitations of the study. Chapter two (2) contains a detailed review of the relevant literature on capital structure and financial performance as well as the relationship between them. Chapter three (3) presents the methodology or the actual process through which the study will be carried out. It includes detailed review of the methodology used in the study, as well as the data used for the research, a discussion on Pearson correlation coefficient and overview of the Ghana Stock Exchange. Chapter four (4) introduces and analyses the data. The key financial performance and capital structure measures were calculated and the relationships among them determined. This chapter discusses the findings and results of the analysis. Finally, chapter five (5) includes the summary, recommendations appropriate for policy direction and future research and conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter does a review on relevant related literature on capital structure. In this direction, the chapter provides broad discussion and review of the meaning of capital structure, theories of capital structure, the determinants of capital structure, capital structure measures, and empirical evidence by prior researchers. Also the concept of financial performance and its measures are also looked at.

2.2 Meaning and Overview of Capital Structure

Abor (2008) defines capital structure as the specific mix of debt and equity a firm uses to finance its operations. Capital structure represents the major claim to a corporation's assets. It includes publicly issued securities, private placements, bank debt, trade debt, leasing contracts, tax liabilities, pension liabilities, deferred compensation to management and employees, performance guarantees, product warranties, and other contingent liabilities. Capital structure concerns the composition of the liability of the company, or more specifically, which is the relative participation of the several financing sources in the composition of the total obligations (Brealey and Myers, 2000; and Weston & Brigham, 1992). There has been a large amount of academic discussion on the subject whether or not an optimal capital structure exists for companies. Modigliani and Miller (1958) first theorize the issue by posing their "M & M capital structure irrelevance proposition". They stated that capital structure does not influence firm value under certain conditions. They assumed a world with no taxes, no transaction costs, perfect capital markets and homogenous

expectations. The realities and interactions of the business environment were totally ignored by the author in this framework. Modigliani and Miller (1963) relaxed one of their crucial initial assumptions, the absence of corporate taxation. They said corporate taxation could influence the capital structure choice of firms. Based on the fact that interest is tax-deductible and its gains can translate into higher after tax profit necessary to enhance the value of the firm. The implication of “M&M” (1963) proposition is that firms must use more debt to increase value relative to equity. These two publications by Miller and Modigliani had triggered streams of studies that contributed to the clarification of the “capital structure puzzle”. For instance Weston and Brigham (1992), in their quest to seek a solution to above question contend that, the optimal capital structure is the one that maximizes the market value of the firms’ outstanding shares. According to Watson and Head (2007) if an optimum financing mix exist (that is one that gives a minimum WACC), then it would be in a company’s best interests to locate and move towards this optimal capital structure.

2.3 Capital Structure Theories

Before MM theory, conventional perspective believed that using financial leverage increases company’s value. In this respect, there is an optimized capital structure that minimizes capital costs. The principal theoretical models of capital structure centre on the idea that firms have information that investors do not have, and that the interests of managers, equity-holders and debt-holders may not coincide. The theories have also recognized the benefits of financial leverage in firm financing while avoiding the costs of financial distress. These recognitions have led to two dominant theoretical models within which other theories are embedded. These are the Static Trade-Off model and the Pecking Order model.

2.3.1 Static trade – off theory

Jensen and Meckling (1976) explain that the firm's optimal capital structure will involve the tradeoff among the effects of corporate and personal taxes, bankruptcy costs and agency costs, etc. In the Static Trade-off theory, capital structure moves towards an optimum leverage which is determined by balancing the corporate tax savings advantage of debt and the costs of financial distress. This idea has been developed in many papers, including, DeAngelo and Masulis (1980) and Bradley et al. (1984). However, it has been questioned by many others, including Miller (1977), who argues that the Static Tradeoff model implies that firms should be highly geared than they really are, as the tax savings of debt seem large while the costs of financial distress seem minor. Other theories that are rooted in the Static Trade-off model are bankruptcy costs, agency problems, and the benefits of tax savings.

2.3.2 Pecking Order Theory

According to Watson and Head (2007), the pecking order theory goes against the idea of companies having a unique combination of debt and equity finance which minimizes their cost of capital. The theory suggests that when a company is looking at financing its long-term debt investment, it has well defined order of preference with respect to the sources of finance available to it. Meyers (1984) and Fama and French (2002), describes a firm's debt position as the accumulated outcome of past investment and capital decisions. In this theory, commonly called the "Pecking Order" theory, firms with positive net present value investments will finance new investments first using internal funds, and in the absence of internal funds will finance them with safe debt, then risky debt, then with equity, but only if there is no other alternative. Thus, financing investments using internally generated funds

may be the cheapest source, and the firm's financial structure is the outcome of past cash flows and investment opportunities. The conflict between benefits of share holders and creditors has consequences like increase of interest rate by creditors, addition of supervision costs and decrease of investment. So, this conflict demonstrates that high leverage leads to poor performance (Jensen, 1976).

From the pecking order model, Myers and Majluf (1984) provided a theoretical foundation for the proposition of Donaldson (1961) that there is a financing hierarchy, where firms prefer internal finance, and if external finance is required firms issue the safest security first. In the model, raising external finance is costly because insiders have more information about the firm's prospects than outside investors, and outside investors know this and would thus demand higher returns on their investments. From the point of view of the insiders, debt is therefore a better source of funding than equity, and internal funding is even better. Debt financing will only be used when there is an inadequate amount of internal funding available, and equity will only be used as a last resort. As a consequence, Myers and Majluf (1984) observe that, there is no optimal leverage and that observed leverage is simply the sum of past financing events.

From the above, it is clear that there is a certain pecking order of firm financing. In this order, firms prefer retained earnings to debt and would only issue equity as a last resort (Myers and Majluf, 1984). The implications of the pecking order theory is that companies with few investment opportunities and substantial free cash flow will have low (or even negative) debt ratios because the cash will be used to pay down the debt. It also suggests that

high-growth firms with lower operating cash flows will have high debt ratios because of their reluctance to raise new equity (Barclay and Smith, 2005).

From the two broad theories explained above, several theories have emerged in the corporate finance literature, all in an attempt to define the theory of corporate financial policy.

Discussions on some of these theories are as follows:

2.3.3 Capital structure and the issue of tax benefits

While tax evasion is a crime, tax avoidance is good management. Every major business decision is affected in some way or other by taxes. A tax can generally be defined as the quantum of money that firms and individuals pay to a state for doing business within the territorial boundaries of that State. Basically, when making corporate business decisions, managers try to minimize taxes within the confines of the tax laws of that country.

Normally, the basic corporate profits tax law allows companies to subtract interest payments but not dividends in their computation of taxable income. Thus introducing debt into a firm's capital structure can lower its expected tax burden and thereby increase its after-tax cash flow (Modigliani and Miller, 1963). If there were only a corporate profits tax and no individual taxes on the returns from corporate securities, the value of a debt-financed company would equal that of an identical all-equity firm plus the present value of its interest tax shields (Miller, 1977). The present value represents the contribution of debt financing to the market value of the firm. This could be estimated basically by multiplying the tax rate by the principal amount of outstanding debt (provided the firm expects to maintain its current debt level). The above illustration echoing the benefits of debt usage over equity can certainly not

be true. This is because holders of debt and equity must pay taxes on the interest income and the dividend/capital gain that they receive respectively. However, debt-holders do know that they pay higher taxes than equity holders. Thus debt-holders being rational will therefore demand higher returns on their investments relative to equity holders to compensate. In this vein, it's the equity holders that bear all the tax costs of the firms operations, whether the company pays the taxes directly in form of corporate income tax or it pays it indirectly in the form of required returns on the debt it sells (Barclay and Smith, 2005). The tax benefit emanating from more debt usage may be eroded by a high tax on interest income.

However, it is important to note that it is the trade-off between debt and equity that determines the net effect of taxes on debt usage (Miller, 1977; Myers, 2001). Thus tax policy has a significant effect on the capital structure decisions of firms. The implication of the tax theory on capital structure therefore suggests that, firms must use more debt to create value (Miller and Modigliani; 1963).

2.3.4 Contracting costs

No matter the tax benefits of higher leverage, they must be set against the greater probability and higher expected costs of financial distress. Thus, another capital structure theory that can be reviewed within the context of the "trade-off theory" as advanced by Myers and Majluf (1984) is contracting costs. Contracting costs are the costs that firms bear as a result of using high levels of debt in their operations and also the consequences that they may face due to the running of the firm by managers rather than the true owners of the firm. The two most

prominent costs that can be identified under this are *bankruptcy and agency costs*. These are discussed in turn.

2.3.4.1 Bankruptcy cost

Titman (1984) defines bankruptcy costs as costs that occur when a firm fails to honour its debt obligations and stand the possibility of being closed down. According to Watson and Head (2007) these costs can be classified into direct and indirect cost. Direct bankruptcy costs includes the cost of paying lenders high rates of interest to compensate them for higher risk and if forced into liquidation, the cost of employing lawyers and accountants to manage the liquidation process. Indirect bankruptcy costs include loss of sales and goodwill as a consequence of operating the company at extreme levels of financial distress and, if forced into liquidation, the cost of having to sell assets at below their market value. The indirect costs are substantial and are costs that result from unwillingness of stakeholders to do business with the firm (Warner,1977). For instance, if a firm is perceived to be near bankruptcy, customers may not be willing to do business with such firms because the possibility that they may not be able to meet their warranty obligations is high (Abor, 2008). Further, suppliers and the banks may not extend credit for such firms. Such restrictions or limitations can affect a firm's value and its performance, as they eventually may have to forgo attractive investment opportunities managers to work harder, consume fewer perquisites, make better investment decisions, etc. leading to underinvestment. This could adversely affect firms' profitability and existence. The argument is that, firms may be unable to pay their debts if they over borrow and become financially distressed. Nonetheless, it is reasonable for firms to be highly leveraged so as to increase value because of the tax deductibility of debt (Miller and Modigliani, 1963). Warner (1977) contends that bankruptcy

2.3.4.2 Agency cost

Watson and Head (2007) contend that at higher level of gearing, in addition to bankruptcy costs, there are costs associated with the problem of agency. In corporate finance literature, agency theory is formalized by Jensen and Meckling (1976) building on an earlier work by Miller and Fama (1972). Under this, agency cost is defined as the costs that arise due to variances in the interests of principal and agents of the firm, both of who endeavour to maximize their own objectives at the expense of the other. Thus, the principal would typically impose some set of restriction on agents' behaviour to align their actions with the principal's objectives. Berle and Means (1932) contend that, in the modern firm in which share ownership is widely held, managerial actions depart from those required to maximize shareholder returns. In agency theory, the owners (debtors and shareholders) are principals and the managers are agents and there is an agency loss which is the extent to which returns to the claimants, the owners, fall below what they would be if the principals, exercised direct control of the corporation (Jensen and Meckling 1976).

Jensen and Meckling (1976) identify two types of conflicts that exist between principals and agents. These are, on the one hand, conflicts between shareholders and managers, and on the other hand, conflicts between debt-holders and equity holders.

Harris and Raviv (1990) observe that the conflicts between shareholders and managers arise because managers hold less than 100% of the residual claim. Consequently they do not capture the entire gain from their profit enhancement activities, but they do bear the entire risk of these activities (especially the risk of losing their jobs). Consequently, managers

would embark on projects that would preserve their interest and jobs relative to maximizing the shareholders wealth. For example, Jensen (1986) argues that in large mature public companies, "free cash flow" is available that cannot be profitably reinvested in the firm. The natural inclination of corporate managers is to use these excess cash to sustain growth at the expense of profitability, either by overinvesting in their core businesses or, perhaps worse, diversifying through acquisition into unfamiliar ones. To curb this unwarranted behaviour on the part of managers, shareholders can demand that more debt be introduced into the firms operations so as to increase managerial performance (Myers, 1977). The debt agreement must contractually obligate payments of interest and principal so as to perform the role of dividend payments (which are not mandatory) in squeezing out excess capital. Thus, in industries generating substantial cash but facing few growth opportunities, debt financing can add value simply by forcing managers to be more critical in evaluating capital spending plans.

The inefficiency that results due to the conflict between managers and shareholder can also be effectively resolved by making corporate managers own substantial amount of their company's equity. This action would make managers more loyal and execute more responsible and prudent investment decisions which are necessary for increasing shareholders wealth.

Agency costs can also arise due to conflicts between debt-holders and equity holders (Jensen and Meckling, 1976). These conflicts are deeply embedded within the concept of moral hazard and risk-taking between the parties and the associated costs they add to firm

financing. It is generally known that firms are not obligated to pay dividends to equity holders. Rather, they are entitled to residual claims of the firm after debt-holders have been paid. However, debt-holders receive fixed income on their investments whether the firms perform creditably or not else it is forced in bankruptcy. Consequently, debt-holders care about the level of risk that firms take which should be minimal so as to protect their investments. Nonetheless, equity holders would prefer management to take relatively excessive risk in order to maximize their value (the value of shareholders). This thinking is based on the concept of risk-return trade-off. Debt-holders being aware that shareholders through management would increase the risk of their investments would thus factor this 'risk increase' into their expected returns to compensate thus increasing the cost of debt. Thus astute managers in situations like this would resort to more equity use relative to debt in financing their operations although they would forgo the benefits of debt use. Also the conflicts between debt-holders and equity holders may occur because debt contracts give equity holders a motivation to invest sub optimally (Jensen and Meckling, 1976). Basically, debt contracts provide that if an investment yields large returns, well above the face value of the debt, most of the profits should go to shareholders who are residual claimants of the firm's cash-flows while debt-holders receive fixed agreed payments. The bone of contention however is that, debt-holders bear all the consequences if the investment fails, since shareholders are under the veil of limited liability. As debt-holders are not unaware of this development, debt financing becomes expensive as they would factor it into their required returns to compensate.

From the above discussion, one can conclude that, firms with higher agency costs due to conflict between the firm and the debt-holders should have lower levels of debt in their capital structure to maximize value. Thus to effectively reduce agency problems, there is a need to change the capital structure of the firm. This can be done for example by sending a binding signal to debt-holders by incorporating call provisions into the debt contracts among others (Arshadi, 1989). This provision would inevitably allow debts to be withdrawn before their maturity, an act which is capable of changing the capital structure of the firm by reducing the debt levels and reducing the agency costs (Barnea et al, 1980).

2.3.5 Information asymmetry costs

Barclay and Smith (2005) argue that business executives often have better information about the value of their firms than outside investors. In corporate finance, information asymmetry refers to the idea that firm insiders, typically managers have superior knowledge than do other market participants on the value of their firm's assets and investment opportunities (Klein et al, 2002). This information asymmetry creates an avenue for market participants to price firms' claims incorrectly, thus providing a positive role for corporate financing decisions. According to Abor (2008), the existence of information asymmetries between the firm and likely finance providers causes the relative costs of finance to vary among the various sources of finance. The presence of this information "gap" between managers and investors has led to the formulation of two distinct, but related, theories of financing decisions namely: market timing theory and signaling theory. These are reviewed within the "pecking order" model and are discussed in turn.

2.3.5.1 Market Timing Theory

Myers (1984) and Myers and Majluf (1984), contend that firms will always resort to the cheapest source of funding to stimulate their operations. This is based on the assumption that managers would act in the best interest of shareholders. The market timing theory is a theory that argues that managers critically observe the funds market and taking advantage of the information gap, would only issue new shares when they believe those shares are overvalued by investors and vice versa. The fact is that, pertinent problems within the firm may not be known immediately to outside investors (unless there is a presence of insider-trading) and thus would not reflect in the share prices of the companies. This is true because in the real world, capital markets are not efficient. This means that, companies that have profitable uses for more capital but believe their shares are undervalued will generally choose to issue debt rather than equity to avoid diluting the value of existing shareholders claim (Barclay and Smith, 2005). Investors are aware that managers know more than they do about the future performance of the firm, and they also understand management's motivations to issue overpriced shares and to avoid issuing undervalued ones. This well-known propensity of companies to "time" their share offerings is evident with decreases in share prices after announcement of new shares. As a result, these issues become relatively expensive and managers would reasonably avoid them and rather use internally generated funds. Thus, by choosing the timing of new shares, managers can control to some level the informational disadvantage of the market.

Further, dynamic models of asymmetric information by Lucas and McDonald (1990) and Korajczyk et al. (1992) have also suggested that firms should issue shares to invest in

growth opportunities to avoid the costs of financial distress. However, the issuance of new equities become rather expensive as investors are not unaware that firms would only issue equity when it is overpriced and would thus demand higher returns to compensate. As a result, astute managers would prefer to use internally generated funds rather than issuing new shares. The same notion would also inform debt-holders to demand higher returns on their investments to pay-off. Again, internally generated funds become a cheaper source of funding compared to debt. However, it is important for us to recognize that firms may not necessarily issue new equities because they believe it is overvalued or use internal funds because their existing shares are undervalued. This explains why information asymmetry can be costly to firms as investors may misinterpret managers' behavior and charge them unfairly.

It is therefore gleaned from the above that there is a certain hierarchy of firm preferences regarding financing of their investments. Undoubtedly, firms would prefer internal sources of funding to expensive external finance (Myers and Majluf, 1984). This "pecking order" theory would thus predict that companies with few investment opportunities and substantial free cash flow will have low (or even negative) debt ratios because the cash will be used to pay down the debt. It also suggests that high-growth firms with lower operating cash flows will have high debt ratios because of their unwillingness to raise new equity.

2.3.5.2 Signalling theory

Signalling theory is one of the most important theories in corporate finance literature that is based on the idea that managers have superior information than outside investors on the

performance of the firm, and would thus communicate this potential to investors by increasing leverage. However, in contrast to market timing, where securities offerings are seen as an attempt to raise "cheap" capital, the signalling model assumes that financing decisions are designed basically to convey managers' confidence in the firm's future prospects to outside investors (Barclay and Smith, 2005). Most often, this is done to raise the value of shares when managers think they are undervalued. Debt mandates firms to make a fixed set of cash payments to debt-holders over the term of the debt security. Firms could be forced into bankruptcy if they default in honouring their debt obligations. Also, bankruptcy is costly to managers as they could lose their jobs.

Managers are not unaware of this and would therefore do everything possible to avoid it in order to maintain their positions, all things being equal. Nonetheless, dividend payments are not obligatory and managers have more judgment over their payments and can reduce or omit them in times of financial difficulty (Barclay and Smith, 2005). For these reasons, adding more debt to the company's capital structure can serve as a credible signal of higher expected future cash flows (Ross, 1977). In this vein, increasing leverage has been suggested as one potentially effective signalling device.

Different academic writers have suggested different signalling models in which they demonstrated what determines more debt use by firms. However, we must appreciate that they all reviewed the models within the framework of information asymmetry. These models are reviewed in turn.

According to Akerlof (1970), and Ross (1977), managers with an informational advantage have the motivation to signal their private information through their choice of leverage levels. He argues that, firms with higher expected cash flows would have the incentive to take on higher debt levels relative to firms with lower debt levels because of the probability of bankruptcy and its associated costs.

Leland and Pyle (1977), also provide another fundamental signalling model to demonstrate what motivates managers to use more debt in their operations. In their model, the authors contend that a high value firm signals their kind by retaining a high proportion of ownership and would thus use higher levels of debt relative to their low-quality counterparts. Thus as in Ross (1977), the authors go ahead to predict a positive correlation between firm quality and financial leverage in their model.

Furthermore, Heinkel (1982) has also developed a debt signalling model in which the information asymmetry is about the mean and variance of the returns. In his model, the assumed positive correlation between the means and variance drives a signalling equilibrium in which higher-value firms signal their quality with higher debt levels. He goes on to argue that higher-value firms are relatively more risky than their low-value counterparts. This finding is in consonance with Ross (1977) that higher-value firms have a greater probability of default.

Another signalling model that is worth discussing is that of Blazenko (1987). In this model, Blazenko observe that risk-averse managers would generally pass up risky but profitable

investment opportunities thus decreasing the value of the firm. Consequently, these managers may avoid debt as they believe this would increase their probability of bankruptcy. However, managers of high-value firms would show their sort by higher debt use. Nonetheless, this is not to say that managers of higher-value firms are always risk-lovers. The implication of this model just like those reviewed above suggests a positive relationship between leverage and firm quality.

To add to the above, some authors have also identified another important variable that can also effectively signal firm quality in addition to debt. According to Ravid and Sarig (1991), debt usage and payment of dividends to shareholders can significantly convey firm quality to investors. Thus, this model also suggests a positive correlation between high-value firms on one side and dividend payments on the other side. Finally, some group of academics has endeavoured to model the motivation of firms to repurchase shares. Basically, share repurchase involves buying back a company's shares from investors when managers think that their shares are undervalued. When firms repurchase shares, it increases their debt positions in the capital structure thus these models also predicted positive relationship between increase debt use and firm value.

To sum up, the lesson learnt from the signalling theory of asymmetry information is that higher-value firms would use more debt in their capital structure to signal this value relative to their low-value counterparts. This is premised on the fact that inefficient firms cannot manage debt and any attempt to use more debt would jeopardize the financial health of the firm due to bankruptcy and its associated costs.

2.4 Determinants of Capital Structure

It is worth considering what determines a company's capital structure. The discussions of previous studies on determinants of capital structure are as follows;

2.4.1 Asset Tangibility

The relationship between tangible assets and intangible assets are very crucial due to the bankruptcy cost. If the company tangible assets are higher than the intangible assets, it will enable the company to use its assets as guarantee against debt which may result in low cost of debt and other loan covenants. According to Titman (1984) firms with lower tangible assets will pay high cost of debt as compared to a firm with high fixed assets. The capital of a company equal to the company's assets plus the liabilities, therefore empirical and theoretical studies have confirmed that the assets of a company correlate with its capital. Harris and Raviv (1990), Rajan and Zingales (1995) and Wald (1999), and Friend and Lang (1988) generally state that tangible asset is positively correlated to leverage from studies on developed countries. On the other hand, Booth et al, (2001) research was on developing countries and he found out that tangible asset is negatively related to leverage. Moreover, Bevan and Danbolt (2000) suggest positive correlation between assets and long-term debt. Alternatively, the relationship between tangible asset and short-term debt is negatively correlated.

2.4.2 Profitability

The profitability is the returns from the operation of the companies; these returns are determined by the amount of investment, type of investment, macro-economic environment

and gearing of the company. Empirical and theoretical studies on this area have given mixed reaction about the relationship between profitability to leverage. Kester (1986), Rajan and Zingales (1995), and Titman and Wessels (1988) suggest profit to be correlated negatively to leverage. Their research was based on the theory of supply and demand. Work of Bradley et al. (1984), Titman and Wessels (1988), Rajan and Zingales (1995), Antoniou et al. (2002) and Bevan and Danbolt (2002) in developed countries and Booth et al. (2001), Pandey (2001), in developing countries suggest profit to correlate negatively with leverage. According to Wald (1999) “profitability has the largest single effect on debt to asset ratios.”

2.4.3 Share Price

The share price is the amount in which the company share is trading in the registered stock exchange. This is an important determinant of capital structure because it determines the amount of equity capital that is available to the management. The trading at the stock market is influenced by factors such as the state of the economy, inflation, interest rate, consumer disposable income and wars. Barclay and Smith (1995) suggest that a firm with high intangible assets will borrow debt with high cost and firm with high tangible assets can use the assets as collateral hence borrow debt at cheaper cost.

2.4.4 Company Size

The size of a company is determined by the turnover and the number of the employees. The larger firms tend to choose long-term debt and the small companies choose short-term debt (Marsh, 1982). The size of a firm plays a vital role in negotiation for debt, the larger firms can negotiate for long-term debt because they can have influence on the creditors. Also large firms are more diversified than small firm and have a more stable cash flow. The previous

studies into size in relation to capital structure have given mix reactions. Rajan and Zingales (1995) “the effect of size on equilibrium leverage is more ambiguous. Larger firms tend to be more diversified and fail less often, so size may be an inverse proxy for the probability of bankruptcy”(Rajan and Zingales, 1995). Fama and Jensen (1983) and Friend and Lang (1988) argue that a large firm tends to provide more information to lenders than small firm. Managers prefer to finance investment by equity capital because of asymmetric information cost and this in effects makes leverage negatively correlate to size of company.

2.4.5 Growth Opportunities

A firm is said to grow if the market price of the company's share have appreciate. Empirical studies confirmed that growth opportunities are negatively correlated with gearing (Titman and Wessels, 1988). Growth opportunities brings demand for more capital but when the demand is more than the supply the company would have to look for alternative sources of financing. Once the retain profit would be insufficient to finance to the growth opportunities and additional issue of new shares would bring additional cost because of the asymmetric information, the only alternative is debt financing. In this context, financing the investment will transfer the wealth from shareholders to debt holders. The empirical and theoretical studies from Booth et al. (2001), Rajan and Zingales (1995), and Wald (1999), confirmed that growth opportunities correlate to gearing negatively.

2.5 Measures of leverage

The term leverage is used interchangeably with gearing, more often in the USA. The term gearing in a financial context refers to the amount of debt finance a company uses relative to its equity finance (Watson and Head, 2007). According to Watson and Head 2007 the

gearing of a company can be measured using a number of financial ratios. These include debt/equity ratio (long-term debt/shareholders's funds) and capital gearing ratio (long-term debt/capital employed). Salehi (2009) explained that there are various measures of leverage, which can be classified as accounting based measures, market-value measures and quasi-market value measures. When choosing a measure of leverage, it is useful to keep in mind that the theoretical framework for the relationship between leverage and performance is based on market values of leverage. Since market values of leverage may be difficult to obtain, accounting based measures are often applied as proxies. Rajan and Zingales (1995) discuss various accounting based measures of leverage and their informational content. They suggest that the choice of measure should be based on the objective of the analysis. For instance, the ratio of total liabilities to total assets can be considered as a proxy for what is left for shareholders after liquidation, but is not a good indication of the firm's risk of default in the near future. Also, since total liabilities include such balance sheet items as accounts payable, which are used for transactions purposes rather than for financing, it may overstate the amount of leverage.

This measure can be improved by subtracting accounts payable and other liabilities from total assets. There is still one issue of concern since the measure contains liabilities that are not related to financing, e.g., pension liabilities, thereby underestimating the size of leverage. The ratio of total debt to capital, where capital is defined as total debt plus equity, is assumed to solve this problem and can be seen as the best accounting based proxy for leverage (Rajan and Zingales, 1995).

2.6 Performance Measures

One of the major cornerstones of determining the wealth of shareholders is financial ratio. Financial ratios are commonly used to measure firm performance. Financial ratios represent an attempt to standardize financial information to facilitate meaningful comparisons. It provides the basis for answering some very important questions concerning the financial well being of the firm. Its objectives are to determine the firm's financial strengths and to identify its weaknesses (Salehi, 2009).

2.6.1 Liquidity ratios

Liquidity refers to the firm's ability to meet maturing obligations and to convert assets into cash. It relates to the ease and quickness with which a firm can convert its non-cash assets into cash, as well as the size of the firm's investment in non-cash assets vis-a-vis its short term liabilities. The asset should be converted into cash without a significant price concession. The true test of liquidity is whether a company has the ability to pay its bills on time. This is obviously an important factor to the firm's creditors. Liquidity ratios are financial ratios used to assess the ability of a firm to pay its bills on time. They indicate the firm's ability to meet its short-run obligations (Salehi, 2009). These ratios measure the firm's ability to fulfill its short-term commitments out of current or liquid assets and therefore focus on current assets and current liabilities.

2.6.2 Return on investment (ROI)

Salehi (2009) explained that this ratio indicates the ability of the firm to earn a satisfactory return on all assets it employs. This ratio tells us how effective the firm is in terms of generating income, given its asset base. It determines the yield on the firm's assets by

relating net income to total assets. It is therefore an important measure of the efficiency of management. This ratio is also called return on total assets. Total assets are used in an attempt to measure total investment. The higher the ratio is the better, because this provides some indication of future growth prospects. ROE is calculated by taking the net result over shareholders' equity for each specified year. ROE represents what return the company is making on the shareholders' funds invested in the company. ROE assesses leadership's ability to get the job done. A business that has a high return on equity is said to be one that is capable of generating cash internally. ROE, along with Return on Assets (ROA), is one of the all-time favourites and perhaps most widely used overall measure of corporate financial performance (Rappaport, 1986). This was confirmed by Monteiro (2006) who stated that ROE is perhaps the most important ratio an investor should consider. The fact that ROE represents the end result of structured financial ratio analysis, also called Du Pont analysis contributes towards its popularity among analysts, financial managers and shareholders alike.

2.6.3 Leverage ratios or gearing

These ratios deal with the amount of debt in the firm's capital structure and its ability to service (or meet) its legal obligations. It tells us the relative proportion of capital contribution by creditors and by owners. These ratios focus on the liabilities and stockholders' equity from the balance sheet and on the income statement and also whether the firm can afford the level of fixed charges associated with its use of non-own-supplied funds. For emerging market countries, ownership structure plays a very important role in corporate finance (LaPorta et al., 1999), perhaps more so than in developed countries. For example, Claessens et al. (2000) specifically examine corporate ownership for East Asian firms and find that

owners exert significant control over the firms they own, which is not surprising given that managers and owners are often the same people. In addition, due to the relatively undeveloped market structure of emerging markets, the degree of information asymmetry among participants is relatively high, which allows influential manager-owners greater latitude to engage in and act upon their desires.

2.7 Empirical evidence relating capital structure measures and firm performance

According to Salehi (2009), Ajmv(adjusted market value), Mv(market value) and Bv(book value) of capital structure respectively have the most correlation with financial performance measures; $r_{Pr,AjMV} > r_{Pr,MV} > r_{Pr,BV}$. Tests on coefficient of correlation by Salehi (2009) demonstrated that there is a meaningful link between capital structure and performance except the link between return on stock and book value of capital structure.

Salehi (2009) find out that except the link between return on stock in which the correlation between return on stock and market value of capital structure is statistically stronger, in the other correlations, adjusted value has the strongest relationship with performance measures. Market value and adjusted value measures of capital structure in comparison with book value measures have stronger link with performance and concluded that market value should be taken more into consideration in evaluating capital structure. Many measures of firm performance, such as a firm's profitability, are negatively correlated with financial leverage (Salehi, 2009).

2.7.1 Empirical evidence of negative association between leverage and performance

Harris and Raviv (1991) contended that numerous attempts to explain the influence of debt policy on firm profitability have proved inconclusive. However, empirical evidence from some previous studies seems to be consistent with the pecking order theory. Most studies found a negative relationship between profitability and leverage. Within this framework, Titman and Wessels. (1988) contend that firms with high profit levels, all things being equal, would maintain relatively lower debt levels since they can realize such funds from internal sources. Furthermore, Cassar and Holmes (2003) find a negative relationship between profitability and both long-term debt and short-term debt ratios. Furthermore, Friend and Lang (1988) and Kester (1986) find a significantly negative relation between profitability and debt/asset ratios. Rajan and Zingales (1995) and Wald (1999) also confirm a significantly negative correlation between profitability and leverage in their works. According to Fama and French (1998), debt usage does not necessarily grant tax benefits; high leverage may rather generate agency problems among shareholders and debt holders that predict negative relationships between leverage and profitability. In the banking sector, Amidu (2007) devised a study to investigate the determinants of capital structure of banks in Ghana and found a significantly negative relation between total debt and profitability. Basically, the implication of the above empirical results is that, profitable firms use less debt relative to equity in funding their operations.

2.7.2 Empirical evidence of positive association between leverage and firm performance

Despite the above empirical works supporting the pecking order theory, some authors are of a different opinion. These authors observed a positive relationship between profitability and

debt levels in their studies. For example, Petersen and Rajan (1994) found a significantly positive association between profitability and debt ratios in a study designed to investigate the relationship. Furthermore, Ooi (1999) argues that profitable firms are more attractive to financial institutions as lending prospects. The reason is that, those firms are expected to have higher tax shields and low bankruptcy cost. According to Champion (1999) companies can use more debt to enhance their financial performance because of debts' capability to cause managers to improve productivity to avoid bankruptcy.

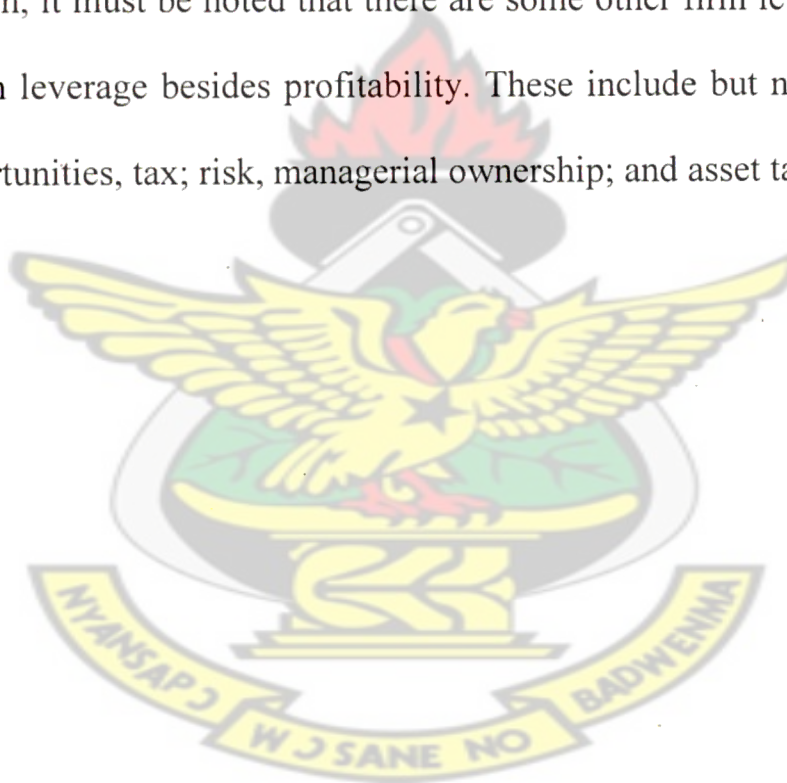
The point here is that, debt must be repaid while dividend payment is not obligatory and can even be postponed if the firm is financially 'hard up'. In another vein, Roden and Lewellen (1995), observed a significantly positive association between profitability and total debt in a study developed to find the percentage of total debt in leverage buyouts. In a study designed to examine the effect of capital structure on profitability of listed firms on the Ghana Stock Exchange, Abor (2005) has reported a significantly positive relationship between the ratio of short-term debt to total assets and profitability but a negative association between the ratio of long term debt to total assets and profitability. However on the average, Abor (2005) found a significantly positive relationship between total debt and profitability thus supporting the above previous works. There also exists a positive association between debt and return on equity of firms provided that, the earnings power of the firm's assets outweighs the average interest cost of the debt (Hutchinson, 1995). To add to the above, scholarly publications by some celebrated researchers have also supported the notion that there exists a significantly positive relation between profitability and firm leverage (see Ross, 1977; Heinkel, 1982).

The conclusion drawn from these empirical works suggests that 'blue chip' companies use more debt relative to equity in funding their operations.

From the foregoing discussions based on the available empirical literature, it is crystal clear that results from investigations into the relationship between capital structure and profitability are inconclusive, and requires more empirical work.

KNUST

To conclude this section, it must be noted that there are some other firm level characteristics that are correlated with leverage besides profitability. These include but not limited to firm age, size; growth opportunities, tax; risk, managerial ownership; and asset tangibility.



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The study evaluates the relationship between debt and the financial performance of companies listed on the Ghana Stock Exchange (GSE) using data from 2002 to 2007. The validity and reliability of every research is dependent to a large extent on the methodology adopted for the study. The methodology for the research must therefore be scientific. That is to say, the process must be systematic and unbiased. This chapter therefore presents a detail and systematic process that the researcher adopted in order to achieve the objectives of the study. The main discussions in this chapter include; the study population, the sample size, data sources, Pearson's coefficient of correlation, and overview of the Ghana stock exchange.

3.2 The Study Population

The population of a study is the collection of all possible individuals, objects or measurement of interest (Mason et al, 1999). From Saunders et al 2007 population of study is the full set of cases from which a sample is taken. For this study, the population consists of all companies on the Ghana Stock Exchange. The target population excludes companies that are not listed on the stock exchange. In this sense, the target population therefore consists of the 34 companies listed on the exchange.

3.3 The Sample Size

It is often impossible and generally accepted that the entire population for the study cannot be studied. This is normally due to the difficulty on the part of the researcher in getting

access to the whole target population normally due to time constraints and the cost involved. This normally is not much of a problem where the study population itself is small and also not very scattered. To address the challenge of access to the complete population, representative samples are thus prescribed in any scientific study. Sample refers to subgroup or part of a larger population (Saunders et al, 2007). Sample also refers to a set of people or objects chosen from a larger population in order to represent that population to a greater extent, Mason et al. (1999). Therefore, the size of the study sample and the way in which it is chosen will certainly have implications for the confidence in the data and the extent to which generalizations can be made, Saunders et al. (2007). For this research, the starting point of the study is all non-financial firms listed at the Ghana Stock Exchange. The 15 respondent firms in Ghana Stock Exchange constituted the sample in our empirical test of the theoretical model. For these firms we collect data for the five-year period 2002 - 2007 from publicly available sources. Companies, for which performance data between 2002 and 2007 was incomplete, were however excluded from this sample.

Moreover, financial firms were excluded due to the peculiarity in terms of operations, structure of assets and liabilities that would hinder analysis and inter-company comparisons. Also the capital structure of financial institutions is highly regulated. The proposed study period is 6 years.

3.4 Data Sources

The research was based on secondary data collection. The secondary data would be supplemented with the use of desk study. The desk study was a review of relevant literature

of previous studies about the subject matter such capital structure of companies, financial performance appraisal of companies, capital structure measures and performance measures. It also consisted of reviewing financial directorates, financial journals, articles and financial statements of companies on the GSE. Secondary data was used in order to estimate the value of the dependent variable as well as the values of the independent explanatory variables.

3.5 Data analysis

Data was processed by descriptive statistics containing Mean, S.D and inferential statistics containing Pearson Correlation, using Statistical Package for Social Sciences (SPSS). After gathering necessary data, they were analyzed by Excel and the variables were calculated. Then the variables entered in SPSS software and then correlation between dependent and independent variables were measured by using Pearson correlation coefficient. For computing the market value of leverage, we use market value and the number of issued stock at the end of each term.

To test the hypotheses, correlation matrix between capital structure and performance is used. Also to show the meaningfulness of the correlation between variables, instead of critical value of student's T test, significance level has been used when significance level is less than %5, H_0 (null hypothesis) is rejected. In H_0 , it is assumed that there is not a link between two variables.

3.6 Pearson's Coefficient Correlation

Pearson's correlation coefficient is also known as Karl Pearson's correlation coefficient. Pearson's correlation coefficient is a method of measuring the correlation between variables. This method was developed by Karl Pearson and is therefore named Pearson's correlation coefficient. Pearson's correlation coefficient is known as the best method of measuring the correlation, because it is based on the method of covariance. Pearson's correlation coefficient gives information about the degree of correlation as well as the direction of the correlation.

3.6.1 Assumptions in calculating the Pearson's correlation coefficient:

1. **Independent of case:** In Pearson's correlation of coefficient, cases should be independent to each other.
2. **Distribution:** In Pearson's correlation coefficient, variables of the correlation should be normally distributed.
3. **Cause and effect relationship:** In Pearson's correlation coefficient, there should be a cause and effect relationship between the correlation variables.
4. **Linear relationship:** In Pearson's correlation coefficient, two variables should be linearly related to each other, or if we plot the value of variables on a scatter diagram, it should yield a straight line.

3.6.2 Properties in Pearson's correlation coefficient:

The following are the properties of Pearson's correlation coefficient:

1. **Limit of the Pearson correlation coefficient:** Karl Pearson's correlation coefficient value lies between +1 to -1.

2. **Pure number:** Pearson's correlation coefficient is a pure number and it is independent of the unit of measurement. For example, if one variable's unit of measurement is in inches and the second variable is in quintals, even then, Pearson's correlation coefficient value does not change.
3. **Symmetric:** Pearson's correlation of the coefficient between two variables is symmetric. This means that if we calculate the Pearson's correlation coefficient between X and Y or Y and X, the value of Pearson's correlation coefficient will remain the same.

KNUST

3.6.3 Degree of correlation:

1. **Perfect correlation:** If Pearson's correlation coefficient value is near ± 1 , then it said to be a perfect correlation.
2. **High degree of correlation:** If Pearson's correlation coefficient value lies between ± 0.75 and ± 1 , then it is said to be a high degree of correlation.
3. **Moderate degree of correlation:** If Pearson's correlation coefficient value lies between ± 0.25 and ± 0.75 , then it is said to be moderate degree of correlation.
4. **Low degree of correlation:** When Pearson's correlation coefficient value lies between 0 and ± 0.25 , then it is said to be a low degree of correlation.
5. **No correlation:** When Pearson's correlation coefficient value lies around zero, then there is no correlation.

(Source: www.statisticssolutions.com/pearson-s-coefficient-correlation)

3.7 Capital Structure Variables

For computing the market value of leverage, the study used market value and the number of issued stock at the end of each term. Shareholders fund was used to represent book value of capital. Total liabilities ratio (TL) was used as the main measure of leverage and all the others were employed for robustness checks. Total liabilities ratio is regarded a more appropriate measure for capital structure because of the following reasons: firstly, when a firm wants to obtain more debt, the creditor will consider not only how much the firm's long-term debt is, but also how much the firm's current debt and total liabilities are. So the portion of other liabilities will affect the debt capacity of a firm. Second, current debt is a quite steady part of total assets.

3.8 Overview of Ghana Stock Exchange

The idea of establishing a Stock Exchange in Ghana lay on the drawing board for almost two decades prior to its implementation. In February 1989, the issue of establishing a stock exchange moved a higher gear when a 10 - member National Committee, under the Chairmanship of Dr. G.K. Agama, then Governor of the Bank of Ghana, was set up by the Government. The work of the committee was to consolidate all previous work connected to the Stock Exchange project and to fashion out modalities towards the actual establishment of the Exchange. As a result of the work of the committee, the Stock Exchange was established in July 1989 as a private company limited by guarantee under the Companies Code of 1963. It was given recognition as an authorized Stock Exchange under the Stock Exchange Act of 1971 (Act 384) in October 1990. The Council of the Exchange was inaugurated on

November 12, 1990 and trading commenced on its floor the same day. The Exchange changed its status to a public company limited by guarantee in April 1994.

The objectives of the Exchange are:

- To provide the facilities and framework to the public for the purchase and sales of bonds, shares and other securities;
- To control the granting of quotations on the securities market in respect of bonds, shares and other securities of any company, corporation, government, municipality, local authority or other body corporate;
- To regulate the dealings of members with their clients and other members;
- To co-ordinate the stock dealing activities of members and facilitate the exchange of information including prices of securities listed for their mutual advantages and for the benefit of their clients;
- To co-operate with associations of stockbrokers and Stock Exchanges in other countries, and to obtain and make available to members information and facilities likely to be useful to them or to their clients.

(Source: www.gse.com.gh)

CHAPTER FOUR

EMPIRICAL ANALYSIS

4.0 Introduction

This chapter analyses and reports the findings of the research. The analyses and findings are based on the methodology as discussed in the previous chapter. This chapter looks at the descriptive statistics of the variables reported in Table 1, the results of the capital structure trend of the sampled companies (Figure 1-3 & Table 4.2 – 4.3) and the results of the Pearson correlation coefficient as reported in Table 4.4.

4.1 Descriptive statistics

Descriptive statistics describe (and compare) variables numerically. Basically, it utilizes numerical and or graphical methods to look for patterns in a data set. Statistics to describe a variable focus on two aspects: the central tendency and dispersion (Saunders et al, 2007). Normally, it gives a summary of the information in a data set by revealing the average indicators of the variable used in a study and presents that information in a convenient way (McClave et al 2000). As discussed in the previous chapter, 15 companies were selected for the study. The list of the companies is presented in Appendix A. In all 11 variables were included in the study. Table 4.1 below shows the descriptive statistics of the variables used in the study.

Table 4.1: Descriptive Statistics of the Variables

Variable	Minimum	Maximum	Mean	Std. Deviation
ROE	-.58	.53	.1274	.20920
ROI	-.17	.27	.0625	.08633
EBTS	-.20	.29	.0587	.08461

OPRS	- .21	.21	.0424	.08085
STA	.37	13.20	2.0477	2.47338
NPM	- .20	.24	.0421	.07207
MKTVAL	.04	.89	.4009	.19981
BKVAL	.06	.91	.5410	.18547
STD	.06	.82	.4714	.17313
LTD	.00	.57	.0696	.11236
LQD	.09	1.34	.5603	.25112

Source: Researcher's Table

Where:

- ROE (Return on Equity) = Profit after tax/Networth
- ROI (Return on Investment) = Profit after tax/ Total asset
- EBTS (Earnings before Tax to Sales Ratio) = Profit before tax / Sales
- OPRS (Operational Profit to Sales Ratio) = Operational Profit/Sales
- STA (Sales to Total Assets) = Sales/Total Asset
- NPM (Net Profit Margin) = Net Profit/Sale
- MKTVAL (Market Value of Capital Structure) = Total Debt/Total Market Capital
- BKVAL (Book Value of Capital Structure) = Total Debt/Total Capital
- STD (Short Term Debt to Total Capital) = Short Term Debt/Total Capital
- LTD (Long Term Debt to Total Capital) = Long Term Debt/Total Capital
- LQD (Quick Ratio) = (Current Assets-Stocks)/Current liabilities

The descriptive statistics from table 4.1 above shows that performance ratios measured by Return on Equity (ROE), Return on Investment (ROI), Earnings before Tax to Sales Ratio (EBTS), Operational Profit to Sales Ratio (OPRS), Sales to Total Assets(STA) and Net Profit Margin (NPM) averaged 12.74%, 6.25%, 5.87%, 4.24%, 2.0477 times and 4.21%

respectively. With the exception of ROE, the variations within and among the companies is quite moderate as can be seen from the minimum and maximum values shown above. Averagely, OPRS of 4.24%, EBTS of 5.87% and NPM of 4.21% are on the low side looking at the average sales to total assets of 2.0477 times. This suggests that companies in Ghana are able to utilize their assets effectively by turning them into sales. However, the sales they make are not translated into high profits due to operational lapses resulting in high operational cost.

The capital structure measures ratios present interesting results. During the period understudy, the ratio of total debt to total market value of capital structure averaged 40.09% signifying lowly geared companies. However, the ratio of total debt to total book value of capital structure averaged 54.10% indicating highly geared companies. Looking at the figures closely, it can be deduced that either the market performance of the share prices has been good leading to increase in value of the equity of the sampled companies or some of the companies have experience loss leading to a reduction in the book value of equity capital thereby resulting in a leverage of 40.09% below 54.10% for that of book value.

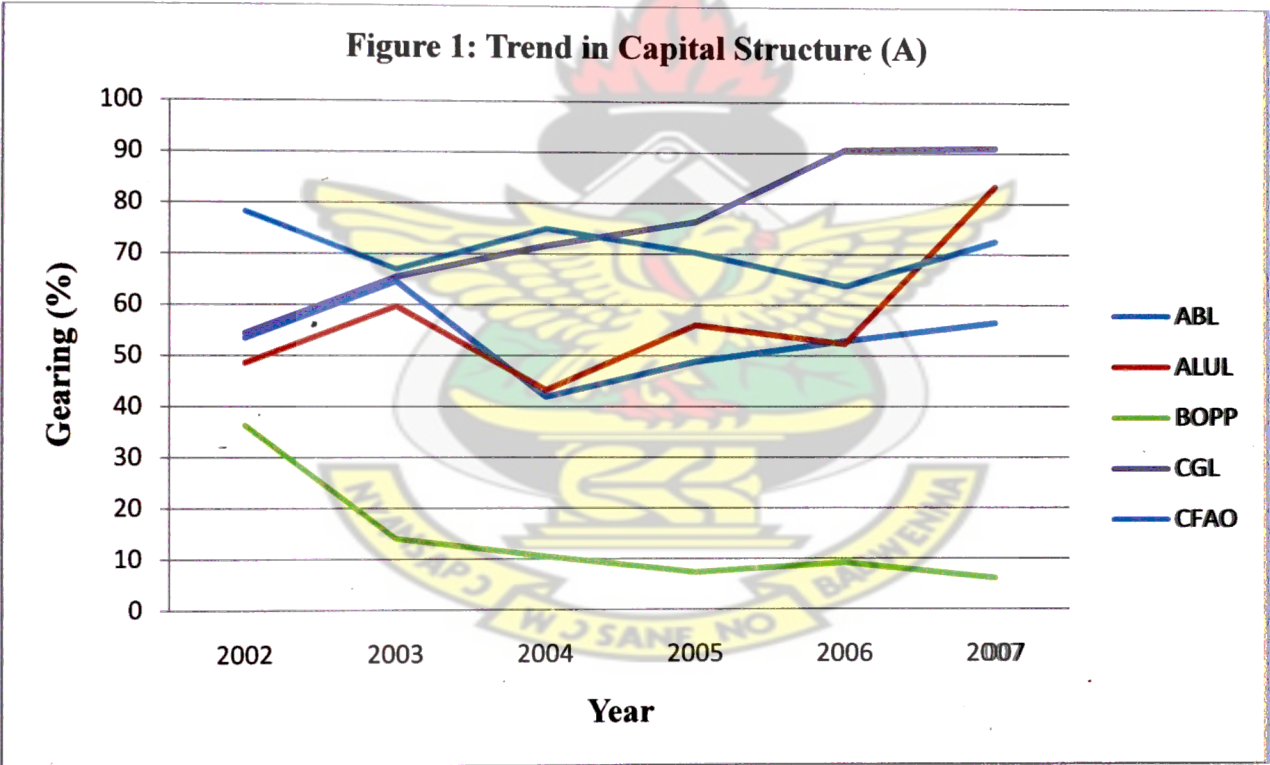
The descriptive statistics of STD, LTD and LQD are explained below in line with the analysis of the capital structure trend in Ghana.

4.2 Capital Structure Trend among Ghanaian Companies

The debt ratio variables present interesting results. During the period under review, the ratio of total debt to total capital averaged 54.10%. The ratio of long-term debt to total capital

stood at 6.96% while that of short-term debt to total capital stood at 47.14%. This is an indication that approximately 54.10% of total asset among the sampled companies are represented by debt making the companies highly geared. Interestingly, over 47% of these are short-term debts, attesting to the fact that Ghanaian companies depend on short-term debt for financing their operations relative to long-term instruments.

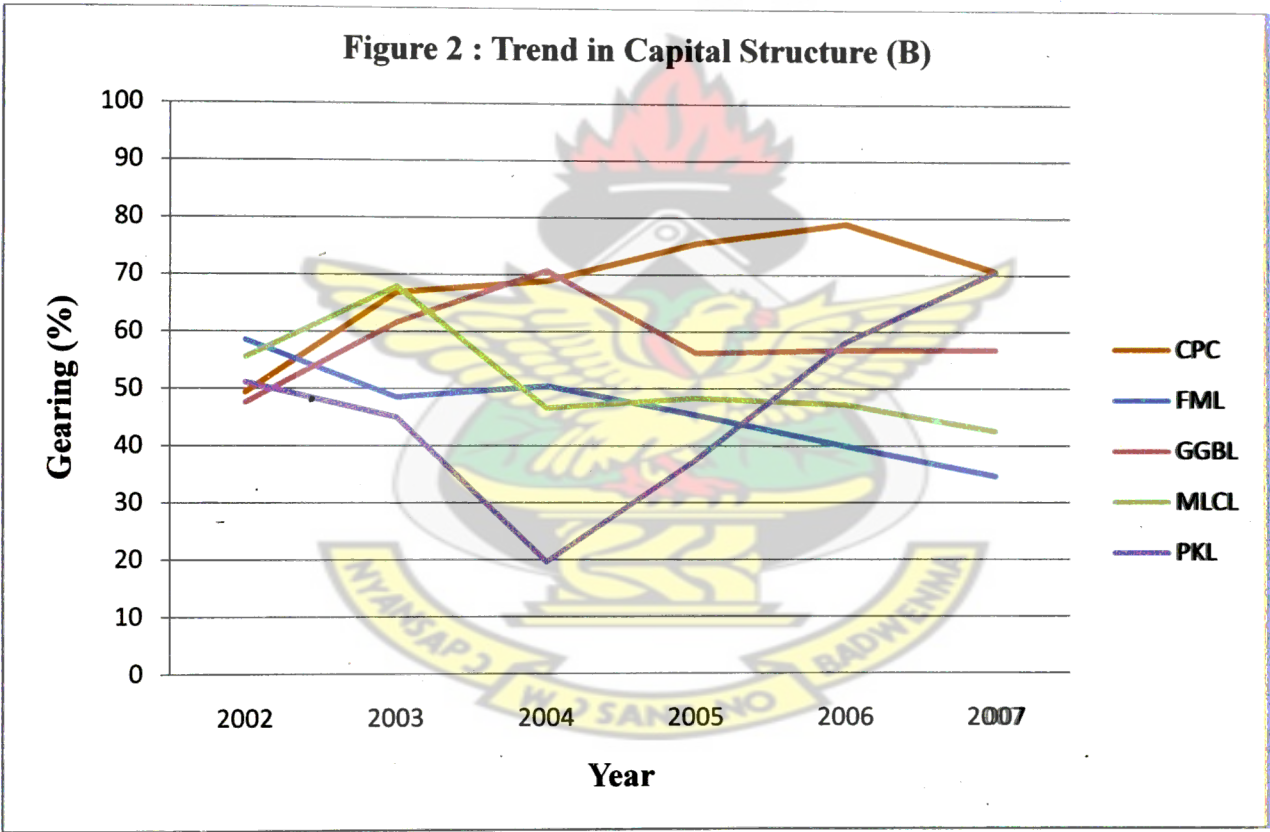
The graphs below provide detailed information on the capital structure trend among Ghanaian companies. For ease of visibility, three graphs show casing five companies on each are use to demonstrate the capital structure trend among the companies.



Source: Researcher's Graph

From Figure 1, with the exception of BOPP that saw a decline in its gearing from 2002 to 2007 and ABL that experienced a constant rise in its gearing from 2002 to 2007, the rest of

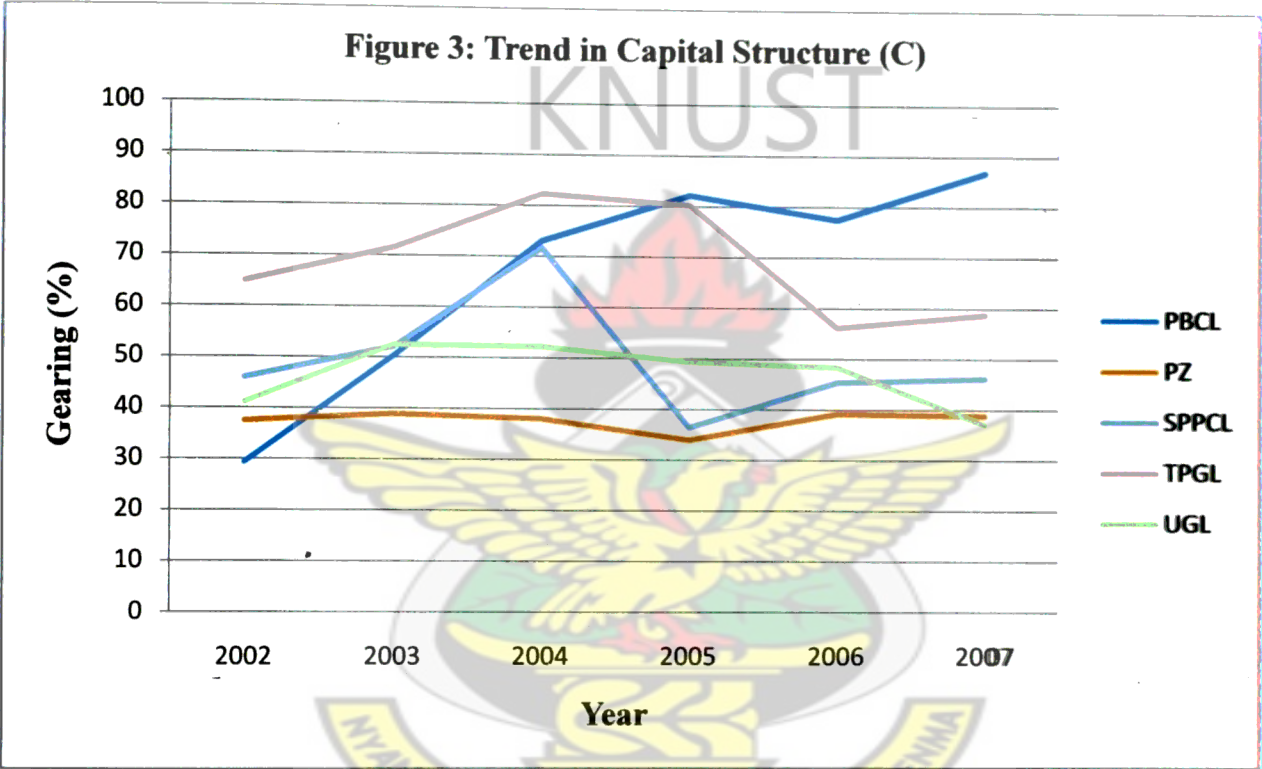
the companies experienced high volatility (up and down movements) in their gearing. Interestingly, all the companies in figure 1, with the exception of BOPP ended year 2007 with a gearing exceeding 50%. BOPP ended year 2007 with a low gearing of less than 10%. Thus the fluctuations in the capital structure of the companies above indicate a mixed movement in the capital structure trend of the companies involved. The figure above also shows that most of the company has been highly geared with an average gearing exceeding 50%. This presupposes that debts are significant in the financing decisions of companies in Ghana.



Source: Researcher's Graph

Figure 2 also above provides a mixed trend in capital structure and high volatility particularly, in the first three years (2002-2004). Three companies notably CPC, MLCL and

PKL experience a sharp decrease in their gearing at the end of 2007. GGBL from 2005 – 2007 has seen a relatively constant gearing. However, PKL has experienced a sharp increase in gearing from 19.63% in 2004 to 70.59% in 2007. Interestingly, out of the five companies presented above, two companies have seen their gearing falling below 50% while three are highly geared with gearing above 50%. Ones again, it can be deduce that debt financing among Ghanaian companies can is very significant and volatile.



Source: Researcher's Graph

Figure 3 above shows the capital structure trend among the last five companies in the study sample. At the end of 2002, PBCL, PZ, UGL and SPPCL were lowly geared with gearing ratios of 29.41%, 37.58%, 41.20%, and 45.98% respectively. The four companies earlier mentioned experience arise in debt at the end of 2003 with PBCL, UGL and SPPL becoming

highly geared with gearing of 50.32%, 52.55% and 52.13% respectively. However, PZ remained lowly geared with a ratio of 38.93%. TPL at the end of 2002 had a gearing of 64.91%. TPL experienced slight increases in its leverage in 2003 and 2004, but a slight decrease in the use of debt at the end of 2005. After 2005, the company had a dramatic decrease of its leverage from 80.23% to 56.17% in 2006 and ended up with a gearing of 58.78% in 2007. With the exception of PBCL that experience a relative increase in trend in the use debt in its capital structure over the six year period, the rest saw a rise in its capital structure in the early stages but a experienced sharp decline in the use of debt. At one extreme they were inclined in using debt but at another they preferred internally generated funds to debt.

Looking at the fifteen companies in totality, it can be deduced that most of the companies have been highly geared over the period under study. However, BOPP and PZ have constantly been lowly geared over the years. This signifies the integral part debt financing plays in the operations of the companies in Ghana. At one extreme some companies have experience a considerable rise in the use of debt financing while others have seen a reduction in debt financing. The capital trend among Ghanaian companies can therefore be seen as a mixed one between these extremes.

To further enhance the analysis of the capital structure trend in Ghana, a critical examination of the short-term and long-term gearing of these companies has been conducted. Table 4.2 and 4.3 provide a platform for analyzing the capital structure trend in Ghana in relation to the use of short-term and long-term debts.

Table 4.2: Short-Term Debts to Total Capital

	2002	2003	2004	2005	2006	2007
ABL	47.50	54.83	38.04	44.67	50.51	54.44
ALUL	35.41	51.39	35.95	53.33	43.53	58.19
BOPP	36.33	14.09	10.55	7.32	9.22	6.13
CGL	54.43	65.48	71.61	38.01	33.13	41.51
CFAO	78.24	67.00	75.01	69.44	62.87	72.49
CPC	49.43	65.98	46.78	40.68	52.66	28.69
FML	58.56	48.54	50.49	42.24	34.97	31.76
GGBL	41.27	57.02	51.28	46.25	53.87	35.59
MLCL	55.62	53.36	38.22	42.62	38.53	36.88
PKL	42.67	36.86	18.51	36.44	57.26	69.42
PBCL	29.41	46.90	73.06	82.22	77.49	79.12
PZ	33.14	34.84	33.66	29.20	33.50	33.93
SPPCL	20.16	52.13	52.60	29.72	37.88	46.15
TPGL	64.79	69.91	81.88	80.08	56.13	59.40
UGL	38.91	50.64	49.50	46.19	45.50	31.62

Source: Researcher's Table

Table 4.3 Long-Term Debts to Total Capital

	2002	2003	2004	2005	2006	2007
ABL	5.98	9.77	3.86	4.19	2.41	2.11
ALUL	13.18	8.37	7.32	2.76	8.79	25.18
BOPP	0.00	0.00	0.00	0.00	0.00	0.00
CGL	0.00	0.00	0.00	38.38	57.48	49.51
CFAO	0.00	0.00	0.00	0.89	0.88	0.00
CPC	0.00	0.93	22.14	34.86	26.33	42.00
FML	0.00	0.00	0.00	3.17	4.97	2.88
GGBL	6.36	4.60	19.41	10.03	2.95	21.19
MLCL	0.00	14.59	8.39	5.76	8.69	5.67
PKL	8.46	8.16	1.13	1.08	0.95	1.17
PBCL	0.00	3.43	0.00	0.00	0.00	7.68
PZ	4.44	4.10	4.43	4.81	5.72	4.99
SPPCL	25.82	0.00	19.05	6.70	7.48	0.00
TPGL	0.13	1.64	0.41	0.16	0.05	0.00
UGL	2.29	1.91	2.79	3.24	2.92	5.53

Source: Researcher's Table

Comparing table 4.2 to 4.3 above, it can be deduced that the short-term gearing of the companies for almost all the period under review exceeded that of the long-term gearing. The exceptions were CGL (2005, 2006 & 2007), CPC (2007), and SPPCL (2002) which for the years indicated against their names had their long-term gearing exceeding the short-term gearing. For some of the periods, eight companies did not have long-term debt as part of their sources of funds while short-term source of fund played an integral part of the financing activities of all the companies. Further observation of the balance sheets of the companies revealed that the long-term debts of ALUL, CGL, CFA, FML, MLCL and PBCL were actual long-term borrowing reflecting in all the years, 3yrs, 2yrs, 5yrs and 2yrs respectively. The rest of the long-term debts were in the form of deferred liabilities. Evidently, short-term debt financing is very predominant among Ghanaian companies and this attest to the fact that Ghanaian firms largely depend on short-term debt for financing their operations relative to long-term instruments. This is also the same with companies in the banking sector (Amidu,2007). This trend of short-term debt being the major source of debt financing is eminent as a result of :

- The under-developed nature of the Ghanaian long-term debt market, which makes it difficult for most Ghanaian companies to access long-term debt.
- An easy avenue for reducing funding cost: Interest costs on short-term funds are typically lower than on long-term borrowings. The time period is short, therefore there is low interest rate which means that the cost of the loan is low as compare to long-term debt instruments.
- Easily availability of short-term unsecured advances: The banking system in Ghana provides easy access to short-term unsecured advances to corporates who normally

have good credit risk profiles. The major advantage to the bank is that there is low liquidity risk, so it makes it easier for companies to get short term finances as compare to long term finances.

- The ease with which short-term debt gets off the balance sheets faster than long-term debt, meaning that companies with no long term debt and only short term debt can be said to be managing liabilities well, though it cannot be assumed that they will clear all of their short term debt.

Considering that short-term debt is normally cheaper than long-term debt, meeting long-term funding requirements and growth plans through short-term debt has emerged as a superficially attractive strategy in many financing activities. For these reasons, short-term debt has proved an attractive route for funding fixed assets and operations for corporates in Ghana.

The analysis of the capital structure trend in Ghana led me into looking at the likely problems Ghanaian companies are likely to face as a result of their excessive dependence on short-term debt. Cross examination of their liquidity (quick ratio) ratios revealed that companies in Ghana are illiquid. The mean liquidity ratio of the companies is 0.56:1. This means on the average, these companies do not have enough short-term assets to meet their short-term obligations as when and they fall due. Table 4.6 in appendix B throws more lights on the liquidity problems faced by the individual companies. It can be seen that the companies have been illiquid (ratio less than 1:1) for almost all the period under review. The only exceptions were ABL (2004), BOPP (2002), PBCL (2002) and UGL (2007) which for the years indicated against their names were liquid. The implications are that companies in Ghana will

find it extremely difficult attracting long-term debt and are likely to have problems paying their short-term obligations which may also lead to difficulties in getting the short-term debts they are used to as the major source debt finance.

4.3 Correlation between Capital Structure Measures and Performance

In this section, the correlation of the data that were run is discussed. Correlation analysis is used to assess the strength of relationship between pairs of variables. Correlation has been used to assess the relationship between capital structure measures and company performance in Ghana, measured by ROE, ROI, EPTS, OPRS, NPM and STA. The results are presented in table 4.4 below.

Table 4.4: The Results of Correlations

VARIABLE		ROE	ROI	EBTS	OPRS	STA	NPM
MKTVAL	Pearson Correlation	-.169	-.285**	-.228*	-.287**	-.260*	-.246*
	Sig. (2-tailed)	.112	.007	.030	.006	.013	.019
BKVAL	Pearson Correlation	-.104	-.224*	-.242*	-.221*	.199	-.221*
	Sig. (2-tailed)	.328	.034	.022	.036	.060	.037
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

Source: Researcher's Table

4.3.1 Capital Structure Measures and Return on Equity (ROE)

From table 4.4 above, the correlation between market value of capital structure and return on equity is -0.169. This coefficient shows that there is a weak negative relationship between the

market value of capital structure and return on equity. However, the correlation coefficient is not significant at 0.05 (5%). The relationship therefore is statistically insignificant. With regards to the correlation between the book value of capital structure and return on equity, the correlation coefficient is -0.104. This depicts a weak negative relationship between the book value of capital structure and return on equity. Also the significant level shows that statistically, the correlation is insignificant. Thus there is statistically insignificant negative relationship between market value and ROE ($r = -0.169$, $p > 0.05$). (-0.104 , $p > 0.5$) portrays a statistical insignificant relationship between book value and ROE. The negative relationship is consistent with the findings of Salehi (2009) but its significance is inconsistent. The hypothesis that there is a meaningful relationship between capital structure and return on equity is rejected. This means that debt-return on equity hypotheses do not exist among companies on the stock exchange at least for the period under review. It is crucial for us to note that whether debt would have a significant effect on return on equity depends to a large extent on what the debt is used for. To add to the above, debt does not influence return on equity significantly among the sampled companies as dividend payout ratios are small or in most cases nil. The evidence in Ghana is that, the levels of retained earnings continue to soar on the books of most companies thus depriving shareholders of dividends at least in the short-run. Also, the increasing cost of doing business in Ghana reduces profits which could have gone to shareholders.

4.3.2 Capital Structure Measures and Return on Investment

As seen from table 4.4, the correlation coefficient between market value of capital structure and return on investment is -0.285^{**} . As per the range given in chapter three, this depicts a

negative moderate relationship between the market value of capital structure and return on investment. The relationship between the two variables is moderate because the Pearson's correlation coefficient value lies between ± 0.25 and ± 0.75 . The correlation coefficient is significant at 0.01 (1%). This correlation is therefore statistically significant. This means that market value of capital structure and return on investment are moderately related and that, as the value of gearing increases the performance measure of return on investment decreases. In respect of the relationship between book value of gearing and return on investment, the correlation coefficient is -0.224^* also depicting an inverse relationship between the two variables. However, the correlation between them is low because Pearson's correlation coefficient value lies between 0 and ± 0.25 . It can be deduced that the relationship is statistically significant at 0.05 (5%). Thus there is a statistically significant negative relationship between market value and ROI ($r = -0.285^{**}$, $p < 0.01$). (-0.224 , $p < 0.5$) portray a statistical significant relationship between book value and ROI. The negative relationship and the significance of the relationship are consistent with the findings of Salehi (2009). The test of hypothesis then reveals that there is a meaningful relationship between capital structure measures and return on investment so the null is rejected.

4.3.3 Capital Structure Measures and Earnings before Interest and Tax to Sales Ratio

The correlation coefficient between market value of capital structure and Earnings before Interest and Tax to Sales Ratio is -0.228^* at a two tailed significance of 0.03. As per the range given in chapter three, this shows a negative low relationship between the market value of capital structure and Earnings before Interest and Tax to Sales Ratio. The relationship between the two variables is low because the Pearson's correlation coefficient value lies

between 0 and ± 0.25 . The correlation is statistically significant at 0.05 (5%). This means that market value of capital structure and Earnings before Interest and Tax to Sales Ratio are lowly related and its significance suggests that as the value of leverage increases the performance measure of Earnings before Interest and Tax to Sales Ratio decreases and vice versa. The correlation coefficient between book value of gearing and Earnings before Interest and Tax to Sales Ratio is -0.242^* at a significant level of 0.05 also depicting an inverse relationship between the two variables. However, the correlation between them is low because the Pearson's correlation coefficient value lies between 0 and ± 0.25 . Thus there is a statistically significant negative relationship between market value and Earnings before Interest and Tax to Sales Ratio ($r = -0.228, p < 0.05$). ($-0.242, p < 0.05$) portrays a statistical significant relationship between book value and Earnings before Interest and Tax to Sales Ratio. The negative relationship and the significance of the relationship are consistent with the findings of Salehi (2009). The test of hypothesis then reveals that there is a meaningful relationship between capital structure measures and Earnings before Interest and Tax to Sales Ratio so the null is rejected.

4.3.4 Capital Structure Measures and Operational Profit to Sales Ratio

The correlation coefficient between market value of capital structure and operational profit to sales ratio is -0.287^{**} . As per the parameters given in chapter three, this shows a negative moderate relationship between the market value of capital structure and operational profit to sales ratio. The relationship between the two variables is considered moderate because the Pearson's correlation coefficient value lies between ± 0.25 and ± 0.75 . The significant level which depicts the probability of this correlation coefficient occurring by chance alone is less

than 0.01 (1%). The correlation is therefore statistically significant. This means that market value of capital structure and operational profit to sales ratio is moderately related and that, as the value of leverage increases the performance measure of operational profit to sales ratio decreases. In respect of the relationship between book value of gearing and operational profit to sales ratio the correlation coefficient is -0.221^* also depicting an inverse relationship between the two variables. However, the correlation between them is low because the Pearson's correlation coefficient value lies between 0 and ± 0.25 . From the 4.4 it can be deduced that the relationship is significant at 0.05 (5%). Thus there is a statistically significant negative relationship between market value and operational profit to sales ratio ($r = -.287^{**}$, $p < 0.01$). ($r = -0.221^*$, $p < 0.5$) portrays a statistical significant relationship between book value and operational profit to sales ratio. The negative relationship and the significance of the relationship are consistent with the findings of Salehi (2009). The test of hypothesis then reveals that there is a meaningful relationship between capital structure measures and operational profit to sales ratio so the null is rejected.

4.3.5 Capital Structure Measures and Net Profit Margin

The correlation coefficient between market value of capital structure and net profit margin is -0.246^* as depicted by table 4.4. This shows a negative weak relationship between the market value of capital structure and net profit margin. However, 5% significant level depicts a statistically significant correlation between market value of capital structure and net profit margin. This means that market value of capital structure and net profit margin is inversely related and that, as the value of leverage increases the performance measure of net profit margin decreases. In respect of the relationship between book value of gearing and net profit

margin the correlation coefficient is -0.221^* also depicting a weak inverse relationship between the two variables. From table 4.4 it can be deduced that the relationship is significant at 0.05 (5%). There is a statistically significant negative relationship between market value and net profit margin ($r = -0.246^*$, $p < 0.05$). ($r = -0.221^*$, $p < 0.5$) portrays a statistical significant relationship between book value and net profit margin. So as firms increase the use of debt, their net profit margins fall. The test of hypothesis then reveals that there is a meaningful relationship between capital structure measures and net profit margin so the null is rejected.

4.3.6 Capital Structure Measures and Sales to Total Assets

The correlation coefficient between market value of capital structure and net profit margin is -0.260^* at a significant level of 5%. This shows a negative relationship between the market value of capital structure and sales to total assets. The relationship between the two variables is moderate because the Pearson's correlation coefficient value lies between ± 0.25 and ± 0.75 . Also, the correlation between market value of capital structure and sales to total assets is statistically significant. This means that market value of capital structure and sales to total assets are inversely related and that, as the value of leverage increases the performance measure of sales to total assets decreases. In respect of the relationship between book value of gearing and sales to total assets, the correlation coefficient is 0.199 depicting a positive relationship between the two variables. However, the correlation between them is weak because the Pearson's correlation coefficient value lies between 0 and ± 0.25 . From table 4.4 it can be deduced that the relationship is insignificant at 0.05 (5%). The significant level thus shows a statistically insignificant relationship between the two variables. Thus, there is a

statistically significant negative relationship between market value and sales to total asset ($r = -0.260^*$, $p0.013 < 0.05$). ($r = 0.199$, $p0.06 > 0.05$) portrays a statistical insignificant relationship between book value and sales to total asset. The test of hypothesis then reveals that there is a meaningful relationship between market value of capital structure and sales to total asset so the null is rejected. However, the relationship between the book value and the performance variable is insignificant so the null is accepted.

The study reveals that capital structure measures are inversely related to performance except the relationship between book value and sales to total assets which is positive. The relationship between the later is however insignificant. Many measures of firm performance, such as profitability, are negatively related with financial leverage. This deviate from that of Abor (2005). In a study designed to examine the effect of capital structure on profitability of listed firms on the Ghana Stock Exchange, Abor (2005) reported a significantly positive relationship between the ratio of short-term debt to total assets and profitability but a negative association between the ratio of long term debt to total assets and profitability. However on the average, Abor (2005) found a significantly positive relationship between total debt and profitability.

4.3.5 Capital Structure Measures and Performance

With the exception of ROE, almost all the financial performance measures have a significant relationship with the two capital structure measures. The table below depicts and confirms most of the hypothesis drawn in chapter one and their meaningful variables respectively.

Table 4.5: The Results from tests on hypothesis

Hypotheses	Relationship between leverage	Result	A	Meaningful variables (respectively)
1	ROE	Unconfirmed	%5	-
2	ROI	Confirmed	%5	$MKV_{it,1} - BV_{it,2}$
3	EBTS	Confirmed	%5	$BV_{it,1} - MKV_{it,2}$
4	OPRS	Confirmed	%5	$MKV_{it,1} - BV_{it,2}$
5	STA	Confirmed	%5	$MKV_{it,1}$
6	NPM	Confirmed	%5	$MKV_{it,1} - BV_{it,2}$

From tables 4.2 and 4.3, it is clear that capital structure measures have significant relationship with the financial performance measures. Return on equity was the only variable that had insignificant relationship with the two capital structure measures. Also, statistically there was an insignificant relationship between the book value of capital structure and sales to total assets. The aim of this research was to determine which of the capital structure measure has a more significant relationship with financial performance. From the explanations on the capital structure measures against the individual performance indicators, it can be deduced that market value of capital structure has a more significant relationship with performance.

Looking at the capital structure measures and ROI, the significance of the relationship between market and book value of capital structure and ROI is 1% and 5% respectively. This shows that market value of capital structure has a more significant relationship with

performance than that of the book value. The significant level of the relationship between capital structure measures and operational profit to sales ratio is the same as the one between capital structure measures and ROI. This depicts a more significant relationship between market value of capital structure and performance than that of book value. The relationships between the capital structure measures and earnings before interest and tax to sales ratio are both significant at 5%. However, looking at the significant figures closely, that of market value is 0.03 and book value is 0.022. The value of the book value is closer to the significant level of 1% than that of the market value. In this regards, book value of capital structure has a more significant relationship with EBTS than that of the market value. The strength of the relationship between capital structure measures and net profit margin is at a significant level of 5%. A closer look at their significant figures shows that market value of capital structure (Sig. 2-tailed test of 0.019 closer to 1%) has a more significant relationship with net profit margin than book value (Sig. 2-tailed test of 0.037 closer to 5%). Finally, the strength of the relationship between market value of capital structure and sales to total assets is significant at a level of 5% while the relationship between book value is insignificant.

It can be deduced from table 4.3 and the explanation above that out of the five performance measures with significant relationship capital structure, the market value of capital structure has the highest strength of four while book value has one. According to obtained results, market value of capital structure has a more significant relationship with performance than book value of capital structure: $r_{Pr,MV} > r_{Pr,BV}$

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter summarizes the main findings arising from the empirical analysis, makes appropriate recommendations for better financial decision making by stakeholders of Ghanaian companies. The study is concluded at the last section of this chapter.

5.2 Summary of Findings

One crucial decision companies face is the debt-equity choice. Among others, this choice is vital for the financial performance determination of firms. What this means is that firms that are able to make their financing decision prudently would have a competitive advantage in the industry they operates. Nonetheless, it is essential for us to recognize that this decision can only be wisely taken if and only if firms know how debt policy influences their financial performance. It is also crucial for firms to know whether to use the market value or book value of capital structure as the correct measure of leverage in assessing their performance.

This study looked at the relationship between capital structure measures and financial performance in Ghana. The study covered 15 companies over the period 2002-2007. Pearson coefficient of correlation and significant level were employed for data analysis and the major findings of the study are summarized below:

Firstly, it was observed that on the average 54.10% of the total capital of firms in Ghana is made up of debt. Of this, 47.14% constitute short-term debts while 6.96% is made up of

long-term debts. Further observation into the debt structure of the individual firms depicted highly geared companies and also highlighted the importance of short-term debts over long-term debts in firm financing in Ghana. This finding agrees with previous studies such as Abor (2005) and Amidu (2007) in stressing the importance of short-term debt in firm financing in Ghana. The capital structure trend among Ghanaian companies depicted mixed trends. At one extreme you observe a rise in the use of debt and at the other end a fall. However, for most of the periods under study, these companies were highly geared. The gearing of these companies were at a results of extensive dependence on short-term debts. Among the reasons gathered for this dependency is the high lending rates in the banking sector of Ghana which is deterring many firms from using loan facilities. Another reason is the under-developed nature of the Ghanaian long-term debt market, which makes it difficult for most Ghanaian companies to access long-term debt. Also, firms going for short-term debts because of easy avenue for reducing funding cost: Interest costs on short-term funds are typically lower than on long-term borrowings. The time period is short, therefore, there is low interest rate which means that the cost of the loan is low as compare to other finances. Further more, short-term unsecured advances are easily available: The banking system provides easy access to short-term unsecured advances to corporates normally with good credit risk profiles. To banks, there is low liquidity risk, therefore, it is easier to get short term finances as compare to long term finances. Another interesting reason is the ease with which short-term debt gets off the balance sheets faster than long-term debt, meaning that companies with no long term debt and only short term debt can be said to be managing liabilities well, though it cannot be assumed that they will clear all of their short term debt.

Lastly, the companies are illiquid judging from their quick ratios. Their inability to meet their short-term obligations make it difficult for them to attract long-term debts.

With regards to the relationship between capital structure measures and financial performance, the tests on coefficient of correlation demonstrated that there is a meaningful link between 2 variables of capital structure and six variables of financial performance except the link between capital structure measures and return on equity as well as book value of capital structure and sales to total assets which were not meaningful in significance level of 95%.

KNUST

The study also revealed that capital structure measures were inversely related to performance except the relationship between book value and sales to total assets which was positive. The relationship between the later was however insignificant. Many measures of firm performance, such as profitability, are negatively related with financial leverage. This means that high leverages companies would have less profitability. In other words, debt level is over than optimized and in comparison to advantages of tax shield, incurrence of financial distress costs has more significance. This finding suggests that profitable companies or companies that perform well financially in Ghana use less debt or depend more on internally generated funds rather than external funds as their main financing option. This result is consistent with the results of Salehi, Rajan and Zingales and support the pecking order theory of firm financing. Results of the study demonstrated that market value of capital structure in comparison with book value measures has a stronger link with financial performance. This means market value should be taken more into consideration in evaluating capital structure. This finding agrees with the empirical work of Salehi (2009).

5.3 Recommendations

Based on the empirical findings of the study, the following recommendations are offered to policy makers, stakeholders and management of companies in Ghana.

1. The government, through the stakeholders in the financial sector, must develop our bond market so that companies can raise a lot of long-term debt so as to curtail the liquidity problem associated with over dependence on short-term debts.
2. The Bank of Ghana (BoG) in conjunction with the banking sector must set realistic and affordable lending rates that will attract companies to access long-term loans. Further more, banks policy that aims at always demanding huge collaterals and strict documents from companies before loans are granted must be reviewed to rope in more companies.
3. Results of this study demonstrated that market value of capital structure in comparison with book value of capital structure has a stronger link with performance. It is therefore recommended that market value should be taken more into consideration in evaluating capital structure.

5.4 Direction for future research

The study recommends the following for future empirical studies:

1. Future research should investigate the determinants of capital structure of Ghanaian companies over a longer period of time and over a number of economic cycles.
2. Future researchers should explore other factors that influence financial performance of companies in Ghana besides debt policy.
3. Further investigation into the capital structure trend and over dependence on short-term debts could be done.

4. Finally, the analysis could be improved by differentiating between types of debt such as long-term and short-term debt.

5.5 Conclusion

This study empirically examined the relationship between capital structure measures and financial performance using Pearson's coefficient of correlation and significant level instead of student's T test. The study covered the period 2002-2007. Specifically, the study looked at which of the capital structure measures has a more significant relationship with performance. The capital structure trends of Ghanaian companies were also investigated. This study is of great importance because of its contribution to the literature as it unfolds the capital structure practices of companies operating in Ghana and serves as a pivot for further research in the area. Findings of this study may help stakeholders to recognize the link between capital structure and financial performance and choosing appropriate measures to evaluate and analyze the companies' financial status. The findings of this study suggest that companies depend more on short-term debt than long-term debt. This is probably due to the absence of a well developed bonds market in Ghana, where companies can raise enough long-term debt. Many measures of firm performance, such as a firm's profitability, were negatively correlated with financial leverage. This means that companies that have high profitability and good performance in Ghana have less debt and depend more on internal sources of financing thus supporting the pecking order theory. Finally, market value of capital structure should be taken more into consideration in evaluating capital structure as it has a stronger link to financial performance than the book value.

REFERENCES

- Abor, J. (2005), "The Effect of Capital Structure on Profitability: An Empirical Analysis of Listed Firms in Ghana", *The Journal of Risk Finance*, Vol. 6 No. 5. pp 438-445.
- Abor, J. (2008), "Determinants of the Capital Structure of Ghanaian Firms", Research Paper No. 176. African Economic Research Consortium, Nairobi.
- Akerlof, G. (1970), "The Market for Lemons: Qualitative Uncertainty and the Market Mechanism", *Quarterly Journal of Economics*, Vol. 84, pp. 288-300.
- Amidu, M. (2007) "Determinant of Capital Structure of Banks in Ghana: An Empirical Approach". *Baltic Journal of Management*, Vol. 2 No. 1, pp. 66-79.
- Antoniou, A., Guney, Y. and Paudyal, K. (2002) "Determinants of Corporate Capital Structure: Evidence from European Countries", working paper, University of Durham.
- Arshadi, N. (1989), "Capital Structure, Agency Problems, and Deposit Insurance in Banking Firms", *The Financial Review*, Vol.24 No.1, pp.31-52.
- Barclay, M. and Smith, C. (2005), "The Capital Structure Puzzle: The Evidence Revisited", *Journal of Applied Corporate Finance* Vol. 17 No.1.
- Barnea, A., Haugen, R.A. and Senbet, L.W. (1980), "A Rationale for Debt Maturity and Call Provision in the Agency Theoretic Framework". *The Journal of Finance*, Vol.35 No.5, pp.1223-34.
- Berle, A. S. Jr. and Means, G. C. (1932), *The Modern Corporation and Property*, Macmillan, New York.
- Bevan, A. A. and Danbolt, J. (2002), "Capital Structure and its Determinants in the UK- A Decompositional Analysis", *Applied Financial Economics* 12, 159-170.
- Bevan, A. A. and Danbolt, J. (2000), Dynamics in the Determinants of Capital Structure in UK, *working paper*, University of Glasgow.

Blazenko, G.W. (1987), "Managerial Preference, Asymmetric Information, and Financial Structure", *Journal of Finance*, Vol. 42, pp. 839-862

Booth, L., Varouji, A., Deminguc-Kunt, A. and Vojislav, M. (2001), "Capital Structure in Developing Countries", *Journal of Finance* 56, 87-130.

Bradley, M., Jarrel, G. A. and Han Kim, E. (1984), "On the Existence of an Optimal Capital Structure: Theory and Evidence". *The Journal of Finance*, Vol. 39, pp. 857-80

Brealey, R. A. and Myers, S.C. (2000), *Principles of Corporate Finance*, 6th ed, McGraw-Hill, Boston, MA.

Brealey, R. A. and Myers, S.C. (2003), *Principles of Corporate Finance*, International Ed, McGraw-Hill, Boston, MA.

Brounen, D. and Eichholtz, M.A (2001), "Capital Structure Theory: Evidence from European Property Companies' Capital Offerings" *Real Estate Economics*, Vol. 29 No. 4, pp. 615-632.

Cassar, G. and Holmes, S. (2003), "Capital Structure and Financing of SMEs: Australian Evidence", *Accounting and Finance*, Vol. 43, pp. 123-47

Champion, D. (1999), "Finance: The Joy of Leverage", *Harvard Business Review*, Vol. 77 No. 4, pp. 19-22.

Claessens, S., Djankov, S., & Lang, L.H.P. (2000). The Separation of Ownership and Control in East Asian Corporations. *Journal of Financial Economics*, Vol. 58, pp. 81-112

DeAngelo, H. and Masulis, R.W. (1980), "Optimal Capital Structure under Corporate and Personal Taxes", *Journal of Financial Economics*, Vol. 8, pp. 3-29.

Donaldson, G. (1961), *Corporate Debt Capacity*. Harvard University Press, Boston.

Fama, E. and Miller, M. (1972), *The Theory of Finance*, Holt, Rinehart, and Winston, New York.

Fama, E. F., and French, K. R. (1998), "Taxes, Financing Decisions and Firm Value", *Journal of Finance*, Vol. 53, pp. 819-43.

Fama, E. F., and French K. R. (2002). "Testing Trade-Off and Pecking Order Predictions about Dividends and Debt", *The Review of Financial Studies*, Vol. 15, No.1, pp. 1-33.

Fama, E. F. and Jensen, M. (1983), "Agency Problem and Residual Claims", *Journal of Law and Economics* 26, 327-349.

Friend, I. and Lang, H.P, (1988), "An Empirical Test of the Impact of Managerial Self-interest on Corporate Capital Structure", *Journal of Finance* 43, 271-281.

Grossman, S. J. and Hart, O. (1982), "Corporate Financial Structure and Management Incentives", In: *The Economics of Information and Uncertainty* (ed. McCall, J. J.), pp. 107-140. University of Chicago Press, Chicago.

Harris, M. and Raviv, A. (1990), "Capital Structure and the Informational Role of Debt", *Journal of Finance*, 45(2) 321-349.

Harris, M. and Raviv, A. (1991), "The Theory of Capital Structure Choice", *Journal of Finance*, 45(2) 321-349.

Haugen, R. A., and Senbet, L.W. (1978), "The Insignificance of Bankruptcy Costs to the Theory of Optimal Capital Structure", *Journal of Finance*, Vol. 33, pp. 383-393.

Heinkel, R. (1982). "A Theory of Capital Structure Relevance under Imperfect Information", *Journal of Finance*, Vol. 37, pp. 1141-1150.

Hutchinson, R. W. (1995), "The Capital Structure and Investment Decisions of the Small Owner-managed Firm: Some Explanatory Issues", *Small Business Economics*, Vol. 7, pp.231.

Jensen, M. and Meckling, W. (1976). "Theory of the firm: Managerial Behavior, Agency Costs and Ownership Structure". *Journal of Financial Economics*, Vol. 3, pp. 305-360.

Jensen, M.C. (1986). Agency Costs of Free Cash Flow, Corporate Finance and Takeovers. *American Economic Review*, Vol. 26(May), pp. 323

Kester, W. (1986), "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Corporations", *Financial Management*, Vol. 15, pp. 5-16.

- Klein, L. S., O'Brien, T. J. and Peters, S.R. (2002), "Debt vs. Equity and Asymmetric Information: A Review", *The Financial Review*, Vol. 37, pp. 317-350.
- Korajczyk, R. A., Lucas, D.J. and McDonald, R. L. (1992), "Equity Issues with Time Varying Asymmetric Information", *Journal of Financial and Quantitative Analysis*, Vol. 27, pp. 397-417.
- LaPorta, R., Lopez-De-Silanes, F., and Shleifer, A., (1999). "Corporate Ownership around the World", *Journal of Finance*, Vol. 54, pp. 471-517.
- Leland, H. E. and Pyle, D. H. (1977), "Information Asymmetries, Financial Structure, and Financial Intermediation", *Journal of Finance*, Vol. 32, pp. 371-378.
- Lucas, D. J. and McDonald, R. L. (1990), "Equity Issues and Stock Price Dynamics", *Journal of Finance*, Vol. 45, pp. 1019-1043.
- Marsh, P. (1982), "The Choice between Equity and Debt: An Empirical Study", *Journal of Finance*, Vol.37 No.1. pp. 121-44.
- Mason, R. D. et al. (1999), *Statistical Technique in Business and Economics*, McGraw-Hill. Boston, MA.
- Miller, M. H. (1977), "Debt and Taxes", *Journal of Finance*, Vol. 32, pp. 261-76.
- Modigliani, F. and Miller, M. H. (1958), "The Cost of Capital, Corporation Finance and the Theory of Investment", *American Economic Review*, June, pp. 261-297.
- Modigliani, F. and Miller, M. H. (1963), "Corporate Income Taxes and the Cost of Capital", *American Economic Review*, 53(3), 433-443.
- Monteiro, A. (2006). A Quick Guide to Financial Ratios, *The Citizen*, Money Web Business Insert, 6 May, 3.
- Myers, S. C. (1977), "Determinants of Corporate Borrowing", *Journal of Financial Economics*, Vol. 5 No.5, pp. 147-75.

Myers, S. C. (1984). "The Capital Structure Puzzle", *The Journal of Finance*, Vol. 39, No. 3, pp. 575-592.

Myers, S. C. and Majluf, N. S. (1984), "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have", *Journal of financial Economics*, Vol. 13, pp. 187-221.

Myers, S.c. (2001), "Capital Structure", *Journal of Economic Perspectives*, V01.15 No.2, pp. 81-102.

Narendar V. R., Al-Yahyaee K. H. M., and Lateef A. M. S. (2007), "Capital Structure and Financial Performance: Evidence from Oman", *Indian Journal of Economics and Business*, June, 2007.

Ooi, J. (1999), "The Determinants of Capital Structure: Evidence on UK Property Companies", *Journal of Property Investment & Finance*, Vol. 17 No. 5, pp. 464-480.

Pandey, M., (2001), "Capital Structure and Firm Characteristics: Evidence from An Emerging Market", Working Paper, Indian Institute of Management.

Petersen, M. and Rajan, R. (1994), "The Benefits of Lending Relationships: Evidence from Small Business Data", *Journal of Finance* Vol. 47, pp. 3-37.

Rajan, R. G. and Zingales, L. (1995 .). "What Do We Know About Capital Structure? Some Evidence from International Data", *Journal of Finance*, Vol. 50, pp. 1421-60.

Rajan, R. G. and Zingales, L. (2003), "The Great Reversals: The Politics of Financial Development in the 20th Century", *Journal of Financial Economics*, Vol. 69 No.1, pp. 5-50.

Rappaport, A. (1986). *Creating Shareholder Value*, New York: The Free Press.

Ravid, A. S. and Sarig, A. H. (1991). "Financial Signalling by Committing to Cash Outflows", *Journal of Financial and Quantitative Analysis*, Vol. 26, pp. 165-180.

Roden, D. M. and Lewellen, W. G. (1995), "Corporate Capital Structure Decisions: Evidence form Leveraged Buyouts", *Financial Management*, Vol. 24, pp. 76-87.

Ross, S. (1977), "The Determination of Financial Structure: The Incentive Signalling Approach", *Bell Journal of Economics* Vol. 8, pp. 23-40.

Salehi M., (2009), "Study of the Relationship between Capital Structure Measures and Performance: Evidence from Iran", *International Journal of Business and Management*, Vol 4. No. 1 pp 97-103.

Saunders, M., Lewis, P. and Thornhill, A. (2007), *Research Methods for Business Students*, 4th ed. Prentice Hall, UK

Titman, S. (1984), "The Effect of Capital Structure on a Firm's Liquidation Decisions", *Journal of Financial Economics*. Vol. 13. pp. 137-51.

Titman, S. and Wessels, R. (1988), "The Determinant of Capital Structure Choice", *Journal of Financial*, Vol. 43. No. 1 pp. 1-19.

Wald, J. K. (1999), "How Firm Characteristic Affect Capital Structure: An International Comparison", *Journal of Financial Research*, Summer 22 (2) 161-187.

Warner, J. B. (1977), "Bankruptcy Costs: Some Evidence", *The Journal of Finance*, Vol. 32 No.2, pp. 337-47.

Watson, D. and Head, A. (2007), *Corporate Finance, Principles & Practice*, 4th ed., Prentice Hall, UK.

Weston, J. F. and Brigham, E. F. (1992), *Essentials of Managerial Finance*, The Dryden Press, Hinsdale, IL.

www.statisticssolutions.com/pearson's-coefficient-correlation

www.gse.com.gh

APPENDICES

APPENDIX A

Companies covered in the study

Companies	Number of Years Financial Data is obtained
Accra Brewery Ltd	6 years – (2002 – 2007)
Aluworks Ltd	6 years – (2002 – 2007)
Benso oil Palm Plantation	6 years – (2002 – 2007)
Camelot Ghana Limited	6 years – (2002 – 2007)
CFAO (Ghana) Ltd	6 years – (2002 – 2007)
Cocoa Processing Co	6 years – (2002 – 2007)
Fan Milk Ltd	6 years – (2002 – 2007)
Guinness Ghana Breweries Limited	6 years – (2002 – 2007)
Mechanical Lloyd Company Ltd	6 years – (2002 – 2007)
Pioneer Kitchenware Ltd	6 years – (2002 – 2007)
Produce Buying Company Ltd	6 years – (2002 – 2007)
PZ Cussons Ghana Ltd	6 years – (2002 – 2007)
Super Paper Products Co. Ltd	6 years – (2002 – 2007)
Total Petroluem Ghana Ltd	6 years – (2002 – 2007)
Unilever Ghana Ltd	6 years – (2002 – 2007)

APPENDIX B

LIQUIDITY RATIOS

Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	0.59	0.70	0.79	1.24	0.59	0.73
Aluworks Ltd	0.44	0.80	0.42	0.78	0.51	0.84
Benso oil Palm Plantation	0.34	0.39	0.28	0.11	0.62	1.34
Camelot Ghana Limited	0.66	0.85	0.79	0.33	0.38	0.36
CFAO (Ghana) Ltd	0.63	0.68	0.60	0.50	0.77	0.69
Cocoa Processing Co Ltd	0.94	0.20	0.56	0.44	0.36	0.68
Fan Milk Ltd	0.89	0.53	0.19	0.11	0.48	0.27
Guinness Ghana Breweries Limited	0.50	0.31	0.36	0.26	0.42	0.62
Mechanical Lloyd Company Ltd	0.69	0.70	0.59	0.82	0.45	0.60
Pioneer Kitchenware Ltd	0.09	0.09	0.19	0.38	0.37	0.48
Produce Buying Company Ltd	0.95	0.63	0.48	0.37	0.87	1.07
PZ Cussons Ghana Ltd	0.61	0.63	0.60	0.43	0.89	0.64
Super Paper Products Co. Ltd	0.17	0.17	0.31	0.37	0.43	0.59
Total Petroluem Ghana Ltd	0.86	0.85	0.71	0.59	0.64	0.74
Unilever Ghana Ltd	1.05	0.52	0.41	0.46	0.50	0.50



APPENDIX C

RETURN ON EQUITY

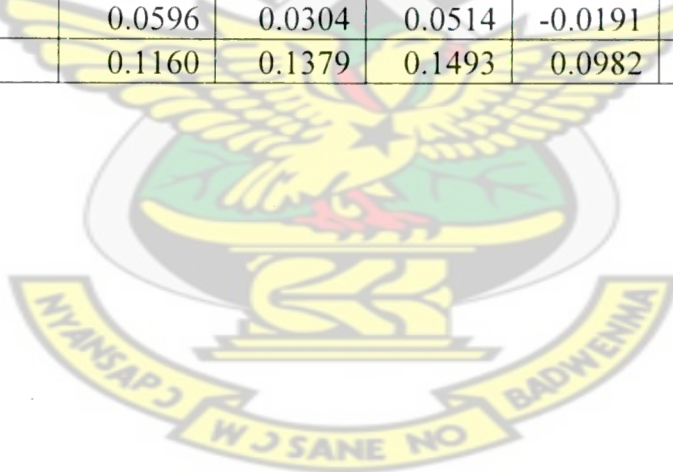
Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	3.2004	-2.42	13.16	14.45	18.5	13.34
Aluworks Ltd	-45.919	15.1	19.4	17.9	16.3	26.4
Benso oil Palm Plantation	4.4603	4.68	0.14	4.5	12.72	34.2
Camelot Ghana Limited	20.123	8.72	3.73	21.59	14.6	7.27
CFAO (Ghana) Ltd	31.339	25.75	5.64	14.5	42.23	-12.08
Cocoa Processing Co	2.0704	4.76	4.56	2.88	-2.74	5.44
Fan Milk Ltd	28.1012	29.8	40.84	46.65	51.56	53.02
Guinness Ghana Breweries Limited	24.557	28.9	24.7	47.1	47.5	41.3
Mechanical Lloyd Company Ltd	8.9606	9.1	10.35	7.84	11.73	9.98
Pioneer Kitchenware Ltd	-29.3238	-23.1	-26.8	2.5	13.2	11.4
Produce Buying Company Ltd	9.532	-25.7	-57.99	44.72	45.07	13.29
PZ Cussons Ghana Ltd	18.9733	15.25	8.08	12.38	21.34	21.76
Super Paper Products Co. Ltd	3.3196	-29.75	-18.24	-9.21	-24.98	-6.05
Total Petroluem Ghana Ltd	14.4546	7	26	-11	28	20
Unilever Ghana Ltd	22.0499	31	34.2	23.4	39.7	29.9



APPENDIX D

RETURN ON INVESTMENT

Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	0.0139	-0.0114	0.0673	0.0840	0.0655	0.0621
Aluworks Ltd	-0.0764	0.0719	0.0853	0.1015	0.0658	0.1358
Benso oil Palm Plantation	0.0419	0.0425	0.0013	0.0402	0.1093	0.2178
Camelot Ghana Limited	0.0220	0.0082	0.0088	0.0613	0.0504	0.0696
CFAO (Ghana) Ltd	0.0862	0.0933	0.0167	0.0362	0.1394	-0.0263
Cocoa Processing Co	0.0061	0.0100	0.0112	0.0090	-0.0091	0.0275
Fan Milk Ltd	0.1837	0.1790	0.2230	0.2310	0.2653	0.2197
Guinness Ghana Breweries Limited	0.1061	0.1248	0.1079	0.1381	0.1825	0.2162
Mechanical Lloyd Company Ltd	0.0515	0.0480	0.0535	0.0419	0.0440	0.0443
Pioneer Kitchenware Ltd	-0.0862	-0.0966	-0.1676	0.0197	0.0727	0.0559
Produce Buying Company Ltd	0.0126	-0.0578	-0.1031	0.1205	0.2239	0.0938
PZ Cussons Ghana Ltd	0.1159	0.0927	0.0533	0.0767	0.1303	0.1358
Super Paper Products Co. Ltd	0.0179	-0.1317	-0.1160	-0.0261	-0.0924	-0.0327
Total Petroluem Ghana Ltd	0.0596	0.0304	0.0514	-0.0191	0.0798	0.0700
Unilever Ghana Ltd	0.1160	0.1379	0.1493	0.0982	0.1691	0.1693



APPENDIX E

EARNINGS BEFORE INTEREST AND TAX TO SALES RATIO

Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	0.0133	-0.0273	0.0943	0.1044	0.0828	0.0727
Aluworks Ltd	-0.0649	0.0510	0.0593	0.0552	0.0674	0.1159
Benso oil Palm Plantation	0.0568	0.0741	0.0021	0.0627	0.2322	0.2879
Camelot Ghana Limited	0.0423	0.0122	0.0258	0.0640	0.0684	0.0477
CFAO (Ghana) Ltd	0.0588	0.0473	0.0396	0.0339	0.1320	-0.0147
Cocoa Processing Co	0.0134	0.0281	0.0272	0.0191	-0.0101	0.0405
Fan Milk Ltd	0.1462	0.1376	0.1555	0.1515	0.1719	0.1487
Guinness Ghana Breweries Limited	0.1235	0.1819	0.1699	0.1466	0.1800	0.1875
Mechanical Lloyd Company Ltd	0.0640	0.0703	0.0900	0.0637	0.0797	0.0650
Pioneer Kitchenware Ltd	-0.0661	-0.1238	-0.1990	0.0268	0.0404	0.0316
Produce Buying Company Ltd	0.0037	-0.0051	-0.0134	0.0249	0.0258	0.0144
PZ Cussons Ghana Ltd	0.1464	0.1551	0.0820	0.1241	0.1471	0.1904
Super Paper Products Co. Ltd	0.0212	-0.2044	-0.1845	-0.0116	-0.0442	-0.0168
Total Petroluem Ghana Ltd	0.0263	0.0288	0.0113	-0.0056	0.0202	0.0166
Unilever Ghana Ltd	0.0895	0.0824	0.0963	0.0910	0.1379	0.1757

APENDIX F

OPERATIONAL PROFITS TO SALES RATIO

Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	0.0098	-0.0382	0.0824	0.1044	0.0816	0.0424
Aluworks Ltd	-0.0434	0.0548	0.0687	0.0647	0.0844	0.1125
Benso oil Palm Plantation	0.0439	0.0421	-0.0371	0.0088	0.1676	0.2077
Camelot Ghana Limited	-0.0375	0.0086	0.0103	0.0456	0.0607	0.0468
CFAO (Ghana) Ltd	0.0500	0.0258	0.0197	0.0339	-0.0271	-0.0292
Cocoa Processing Co	0.0053	0.0197	0.0188	0.0105	-0.1198	0.0150
Fan Milk Ltd	0.1400	0.1300	0.1502	0.1449	0.1687	0.1465
Guinness Ghana Breweries Limited	0.1142	0.1745	0.1676	0.1301	0.1700	0.1824
Mechanical Lloyd Company Ltd	0.0300	0.0368	0.0489	0.0449	0.1032	0.0151
Pioneer Kitchenware Ltd	-0.0025	-0.0617	-0.1496	0.0193	0.0322	0.0267
Produce Buying Company Ltd	-0.0047	-0.0117	-0.0222	0.0190	0.0196	0.0062
PZ Cussons Ghana Ltd	0.1101	0.1030	0.0734	0.1184	0.1261	0.1631
Super Paper Products Co. Ltd	-0.0685	-0.2122	-0.1845	-0.1527	-0.0172	-0.0171
Total Petroluem Ghana Ltd	0.0178	0.0187	-0.0015	-0.0037	0.0113	0.0052
Unilever Ghana Ltd	0.0878	0.0952	0.0651	0.0514	0.1061	0.1351

APPENDIX G

TOTAL DEBT / MARKET VALUE CAPITAL

Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	0.3232	0.2854	0.2127	0.3109	0.4631	0.3901
Aluworks Ltd	0.5608	0.3324	0.4160	0.1735	0.5014	0.4052
Benso oil Palm Plantation	0.0601	0.0556	0.0440	0.2841	0.5417	0.5920
Camelot Ghana Limited	0.7382	0.7603	0.5078	0.5521	0.6292	0.4976
CFAO (Ghana) Ltd	0.6182	0.3951	0.3948	0.6120	0.7280	0.8647
Cocoa Processing Co	0.5637	0.5753	0.4926	0.2927	0.3735	0.2336
Fan Milk Ltd	0.1480	0.1703	0.1867	0.1319	0.3193	0.4689
Guinness Ghana Breweries Limited	0.1741	0.2967	0.2150	0.1812	0.5809	0.3858
Mechanical Lloyd Company Ltd	0.4734	0.4125	0.3657	0.2855	0.8916	0.8158
Pioneer Kitchenware Ltd	0.6204	0.5698	0.4279	0.2913	0.2211	0.2558
Produce Buying Company Ltd	0.2124	0.0987	0.1472	0.1180	0.2406	0.0839
PZ Cussons Ghana Ltd	0.3595	0.3411	0.2755	0.4358	0.4382	0.3785
Super Paper Products Co. Ltd	0.7231	0.7820	0.6495	0.5619	0.4084	0.3727
Total Petroluem Ghana Ltd	0.5123	0.4836	0.5292	0.5119	0.6778	0.5935
Unilever Ghana Ltd	0.1840	0.2222	0.2142	0.1762	0.2694	0.4043

APPENDIX H

TOTAL DEBT / BOOK VALUE CAPITAL

Companies	2007	2006	2005	2004	2003	2002
Accra Brewery Ltd	0.5655	0.5292	0.4886	0.4190	0.6460	0.5348
Aluworks Ltd	0.8337	0.5232	0.5609	0.4327	0.5975	0.4859
Benso oil Palm Plantation	0.0613	0.0922	0.0732	0.1055	0.1409	0.3633
Camelot Ghana Limited	0.9103	0.9062	0.7639	0.7161	0.6548	0.5443
CFAO (Ghana) Ltd	0.7249	0.6374	0.7033	0.7501	0.6700	0.7824
Cocoa Processing Co	0.7068	0.7899	0.7554	0.6892	0.6691	0.4943
Fan Milk Ltd	0.3464	0.3994	0.4541	0.5049	0.4854	0.5856
Guinness Ghana Breweries Limited	0.5678	0.5682	0.5627	0.7069	0.6162	0.4762
Mechanical Lloyd Company Ltd	0.4256	0.4723	0.4838	0.4661	0.6795	0.5562
Pioneer Kitchenware Ltd	0.7059	0.5821	0.3752	0.1964	0.4502	0.5114
Produce Buying Company Ltd	0.8680	0.7749	0.8222	0.7306	0.5033	0.2941
PZ Cussons Ghana Ltd	0.3892	0.3922	0.3401	0.3809	0.3893	0.3758
Super Paper Products Co. Ltd	0.4615	0.4536	0.3643	0.7165	0.5213	0.4598
Total Petroluem Ghana Ltd	0.5880	0.5617	0.8023	0.8229	0.7155	0.6491
Unilever Ghana Ltd	0.3715	0.4841	0.4943	0.5229	0.5255	0.4120

