UNIVERSITY OF CAPE COAST

EFFECT OF CAPITAL STRUCTURE ON FIRM VALUE: A CASE STUDY OF LISTED MANUFACTURING FIRMS IN GHANA

BY

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DECLARATION

CANDIDATE'S DECLARATION

I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this University or elsewhere.

Candidate's Signature……
Date……..

Name: ……

Certification

I hereby certify that the presentation of the thesis was supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Supervisor's Signature …….
Date……

Name: ……

ABSTRACT

Previous empirical literature demonstrates conflicting results on the effect of capital structure on firm value. Building on extant literature on the effect of capital structure on firm value, this study was undertaken to examine the effect of capital structure on the firm value of manufacturing companies listed on the Ghana Stock Exchange (GSE). In particular, the study analyzed the effect of Equity and Long Term Debt as components of capital structure on the firm value of listed manufacturing companies in Ghana.

To achieve the research objectives, a panel data of firms spanning the period 2008 to 2012 were collected from the annual published financial statements of 8 sampled firms. The study employed a multiple regression technique to estimate the impact of capital structure on firm value. The outcome of the study shows that both Equity and Long Term Debt have positive impact on the value of listed manufacturing firms. However, the study found that the effect of debt capital on firm value is pronounced relative to equity.

From the financial management perspective, the findings of the study provide enough grounds for the utilization of both equity and debt capital in the financing activities of listed manufacturing firms. But it is recommended from the findings of the study that firms employ more debt capital than equity capital to finance business activities because of its greater impact on firm value vis-a –vis equity. The study culminates by outlining suggestions for further research. It is suggested that future research studies conduct longitudinal studies to measure the stability or otherwise in research findings.

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I would like to express my sincere gratitude to my supervisor, Mr. Daniel Osabutey, for his profound and useful guidance throughout the conduct of this work.

DEDICATION

This work is dedicated to my lovely wife and sons.

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CHAPTER ONE

INTRODUCTION

For most firms, forming an optimal capital structure (equity and debt) is key to business survival and continuity. Previous studies on the effect of these two components of capital structure have produced mix findings. For some studies, the effect of capital structure on firm value have been found negative whereas in other studies, the effect of capital structure on firm value has been found positive. Also, other empirical literature on the effect of capital structure on firm value suggests that the effect is felt beyond and below certain thresholds. This study extends this line of research by testing the effect of capital structure on the firm value of listed manufacturing firms in Ghana. Given the contentious nature of the relationship between capital structure and firm value in the finance literature, the research problem was primarily on how capital structure affects firm value of listed manufacturing companies in Ghana. The outcome of the study would contribute to both theory and practice of knowledge. The findings of the study contribute to the extant literature on the effect of capital structure on firm value and future studies may find it useful. The practical implication of the study consists in the fact that firms would find knowledge of the effect of capital structure on the value of firm beneficial which ultimately will help in the financing decision of firms.

Background to Study

In their seminal works, Modigliani and Miller (1958 & 1963) as cited in Ogbulu and Emeni (2012), demonstrate that in a frictionless world, financial

leverage is unrelated to firm value but in a world with tax-deductible interest payments, firm value and capital structure are positively related. Miller (1997) extended this line of thinking by incorporating personal taxes in the analysis and consequently demonstrates that optimal debt usage occurs on a macro level but does not exist at the firm level. Interest deductibility at the firm level is offset at the investor level. Modigliani and Miller (1963) as cited in Ogbulu and Emeni (2012) in addition made two propositions under a perfect capital market condition. The first proposition is that the value of a firm is independent of its capital structure. Their second proposition states that the cost of equity for a leverage firm is analogous to the cost of equity for an unleveraged firm plus an added premium for financial risk.

Yet, other theories such as the trade-off theory (Myers, 1984), pecking order theory (Myers & Majluf, 1984) and agency cost theory (Jensen & Meckling, 1976) argue that if capital structure decision is irrelevant in a perfect market, then imperfection which exists in the real world may be adduced for its relevance. Such imperfections include bankruptcy costs (Kim, 1998), agency cost (Jensen & Meckling, 1976), gains from leverage-induced tax shields (De Angelo & Masulis, 1980) and information asymmetry (Myers, 1984). Consistent with this line of argument, Pandey (2004) contends that the capital structure decision of a firm influences its shareholders, return and risk. As a result, the market value of its shares may be affected by the capital structure decision. Obviously, the objective of a firm should therefore be directed towards the maximization of its value by

examining its capital structure or financial leverage decision from the point of its impact on the firm value.

Against this background, the proposed research study will seek to examine how the various components of capital structure namely the amount of equity and the amount of debt used by a firm affects its market value drawing on the case study of listed manufacturing companies in Ghana.

Statement of the Problem

There is a general lack of consensus on the nature of the relationship between capital structure and firm value. Hatfield, Cheng and Davidson (1994) underscore the contentious nature of the relationship between capital structure and firm value in the finance literature. According to them, throughout the literature, debates have focused on whether there is an optimum capital structure for an individual firm or whether the proportion or level of debt usage is irrelevant or relevant to the firm value. From the perspective of Jensen (1986), Myers (1993), and Stulz (1988), debt can have positive or negative effect on the value of the firm depending on the firm's future investment opportunities. The pecking order theory by Myers and Majhuf (1984) states that there is a correlation between capital structure and firm's value.

From the observations above, it stands out to contend that the link between capital structure and firm value is not determinate. Therefore, any universal application of a particular research finding on the nexus between capital structure and firm value may be misleading. Yet, Pandey (2004) maintains that given that

capital structure decision can affect a firm's value, then firms would generally like to have a capital structure which maximizes their value. The aim of a firm should centre therefore on the maximization of its value through capital structure decisions. However, there exist conflicting theories on the relationship between capital structure and firm's value that it becomes necessary to understand the nature of the relationship within a particular industry.

Previous studies in Ghana on capital structure however have not adequately explored the relationship between capital structure and firm value. The empirical study of Awunyo-Vitor and Badu (2012) for instance focused on the effect of capital structure on performance of listed firms in Ghana. Similarly, the work of Abor (2005) also examined the link between corporate governance and capital structure and that of Amidu (2007) only examined the determinants of capital structure of banks in Ghana. The objective of the present study therefore is to fill the gap in scholarly literature by ascertaining the linkages between capital structure and the value of the firm within the context of listed manufacturing companies in Ghana.

Research Objectives

The study sought to achieve the following objectives.

1. To examine the impact of Equity capital on the firm value of listed manufacturing companies.
2. To determine the relationship between Long Term Debt and firm value of listed manufacturing companies.

3. To analyze the effect of Firm size on the firm value of listed manufacturing firms.

Research Questions

The following research questions were posed to achieve the research objectives.

1. What is the relationship between Equity and firm value of listed manufacturing companies?
2. What is the relationship between Long Term Debt and firm value of listed manufacturing companies?
3. What is the impact of Firm Size on the firm value of listed manufacturing firms?

Hypothesis.

The following hypotheses were formulated for validation by the study.

1. Equity Capital has no significant impact on firm value of manufacturing companies
2. Long Term Debt has no significant impact on the firm value of listed manufacturing companies.
3. Firm Size has no significant effect on the firm value of listed manufacturing firms.

Significance of the Study

The study will be significant for several reasons.

First, the outcome of the study and subsequent recommendations will provide useful insights into the linkages between the various components of capital structure and the value of the firm. Such knowledge base will be useful in financial decision making of the firms.

In addition the study will contribute to the extant literature on the effect of capital structure on firm value. The outcome will be useful to researchers who intend to conduct related studies in the near future.

Other firms may also find the outcome of the study beneficial since capital structure affect the operations of all firms. In effect, the study will have a ripple effect in the economy such as helping firms address the problem of financial distress.

Delimitations of the Study

To make the study precise and within definable boundary, the study is delimited both in concept and population. The study emphasizes on the impact of capital structure on firm value. Other factors which impact on firm value were not included. Again, the study covers only listed manufacturing companies. Moreover, the selection of the years for the sampled data is not be exhaustive as far as the years of inception of the sampled companies are concerned

Limitations of the study

Owing to time and other resource constraints, a sample of listed manufacturing companies was drawn from the entire listed manufacturing

company's population. This limits the study's ability to generalize findings because the sample may not reflect the same attributes of non-sampled companies. In other words, the external validity of the study is limited in scope. In addition, other determinants of firms' value financial performance such as bank size, ownership structure, taxation and regulations; legal as well as institutional indices were not included and may have effect on the results of the study. The study is also limited longitudinally. The findings derived may not be stable given subsequent years to come. Time and the need to meet deadlines did not allow for the study of sampled firms over a period of time to measure stability or otherwise in research findings.

Definition of terms

Capital Structure

The capital structure is how a firm finances its overall operations and growth by using different sources of funds. Generally, capital structure is a mix of a company's long-term debt, specific short-term debt, common equity and preferred equity

Firm Value

The sum of the values of all securities of the firm (Pandey, 2004).

Equity

The sum of paid-up share capital, share premium, reserves and surplus or retained earnings.

Long Term Debt

Amount owed for a period exceeding 12 months from the date of the balance sheet of a firm. It could be in the form of a bank loan, mortgage bonds, debenture, or other obligations not due for one year.

Organization of the study

The research study is presented in five chapters as follows:

Chapter one deals with the general background and introduction to the study, the problem statement, the objectives of the study and related research questions, significance of the study as well as the scope and limitations of the study.

Chapter two presents the literature review of key relevance to the study. Both theoretical and empirical frameworks were considered.

Chapter three explains the methodology employed in the study. This involves research design, population and sampling technique, sources of data and mode of data collection. The tools of data analysis and the analytical technique will also be outlined.

Chapter four presents the analysis and discussion of results in accordance with the objectives of the study. The analysis and discussions are done descriptively and inferentially.

The last chapter, chapter five presents a summary of findings, conclusion and recommendations as well as suggestions for future research studies.

CHAPTER TWO

LITERATURE REVIEW

Overview

This chapter presents the review of prior studies which are of significance to the current study. The chapter seeks to situate the study in a theoretical perspective. To do so, the chapter commences with the concept of capital structure, theoretical review and then proceeds to look at the empirical review. Finally conclusions are drawn based on the review of extant literature on the current research problem.

Theoretical review

The Concept of Capital structure

The term capital structure according to Kennon (2010) refers to the percentage of capital (money) at work in a business by type. There are two forms of capital: equity capital and debt capital. Alfred (2007) stated that a firm's capital structure implies the proportion of debt and equity in the total capital structure of the firm. Pandey (1999) differentiated between capital structure and financial structure of a firm by affirming that the various means used to raise funds represent the firm's financial structure, while the capital structure represents the proportionate relationship between long-term debt and equity. The capital structure of a firm as discussed by Inanga and Ajayi (1999) does not include short term credit, but means the composite of a firm's long-term funds obtained from various sources. Therefore, a firm's capital structure is described as the capital

mix of both equity and debt capital in financing its assets. However, whether or not an optimal capital structure exists is one of the most important and complex issues in corporate finance.

Capital structure, preferred stock and common equity are mostly used by firms to raise needed funds; capital structure policy seeks a trade-off between risk and expected return. The firm must consider its business risk, tax positions, financial flexibility and managerial conservatism or aggressiveness, while these factors are crucial in determining the target capital structure, operating conditions may cause the actual capital structure to differ from the optimal capital structure. A critical decision for any business organization is a decision for an appropriate capital structure, the decision is not only because of the need to maximize returns to various organizational constituencies, but on an organization's ability to deal with its competitive environment. The prevailing argument, originally developed by Modigliani and Miller (1958), is that an optimal capital structure exists which balances the risk of bankruptcy with the tax savings of debt. Once established, this capital structure should provide greater returns to stock holders than they would receive from an all-equity firm. In theory, modern financial techniques would allow top managers to calculate accurately optimal trade-off between equity and debt for each firm. However, in practice; many studies found that most firms do not have an optimal capital structure. This is due to the fact that the managers do not have an incentive to maximize firm's performance because their compensation is not generally linked to it. Moreover, since managers do not share firm's profits with shareholders, they are very likely to increase company's

expenditures by purchasing everything they like and surrounding themselves of luxury and amenities. Hence, the main concern of shareholders is ensuring that managers do not waste firm's resources and run the firm in order to maximize its value, which entails finding a way to solve the principal-agent problem. Capital structure is the combination of the debt and equity structure of a company. It can also be referred to as the way a corporation finances its assets through some combination of equity, debt or hybrid securities; that is the combination of both equity and debt. A firm's capital structure is then the composition of its liabilities. The various components of a firm's capital structure according to Inanga and Ajayi (1999) may be classified into equity capital, preference capital and long-term loan (debt) capital. Equity capital refers to the contributed capital; money originally invested in the business in exchange for shares of stock; and retained profits; profits from past years that have been kept by the company to strengthen the balance sheet, growth, acquisition and expansion of the business. Preference capital refers to a hybrid that combines the features of debentures and equity shares except the benefits while debt capital refers to the long term bonds used by the firm in financing its investment decisions while coming up with its principal and also paying back interest.

Theories of capital structure

A number of theories have been used in examining the relationship between the capital structure and value of a firm, these theories includes the Trade- off theory, the Net Income Approach, the Net Operating Income

Approach, the Modigliani and Miller Hypothesis, the Pecking Order theory, the Asymmetric Information Approach and the Market timing theory (Lawal, 2014)

Modigliani and Miller Hypothesis (1958)

This was among the pioneer works in the theory of capital structure of a firm; the hypothesis is a behavioural justification of the net operating income approach. It argues that without taxes, the cost of capital and market value of the firm remain constant throughout all levels of leverage. They offered two strong propositions to support their hypothesis. They explained that for firms in the same risk class, the total market value is independent of the capital structure and is given by capitalizing the expected net operating income by the rate appropriate to that risk class. If this proposition does not hold, then an investor could buy and sell stocks and bonds in a way to exchange one income stream for another stream, identical in all respects by selling at a lower price –arbitrage. Based on the arbitrage process, they concluded that the cost of capital (or market value of the firm) is not affected by any degree of leverage. This implies that the capital structure (or financing decision) is irrelevant. The second proposition of the M-M hypothesis explain that for firms in the same risk-class, the cost of equity is equal to the constant average cost of capital plus a premium for financial risk which is equal to debt-equity ratio times the spread between the constant average cost of capital and the cost of the debt.

The Net Income Approach

This approach explains that the value of the firm can increase or decrease its overall cost of capital by reducing or increasing the proportion of debt security in the capital structure. It argues that leverage significantly affects the overall cost of capital and that the value of the firm varies with its leverage. This approach is based on the argument that debt can be substituted for equity by issuing new debt and retiring existing equity. Under this approach, as equity is replaced by more, lower debt, the overall cost of capital declines (Lawal, 2014).

Net Operating Income Approach

This approach argues that the market value of the firm is not affected by the capital structure changes because the market value of the firm depends on the Net Operating Income and cost of capital, which is expected to be constant. The Net Operating Income submission rules out the possibility of leverage having any effect on the overall cost of capital.

The Trade-off theory

This theory explains that by holding a firm's investment plans and assets constant, its optimal leverage ratio is obtained by trading off between the tax benefits and the consequences of using debt instruments. According to this theory, debt financing is attractive, in that, the benefits of tax saving from debt payments shields a number of cost debt financing, thus high profit firms will have higher benefits from debt financing accompanied with lower level of financial distress costs, this makes higher leverage attractive to higher profit making firms.

The Pecking Order theory

This theory provides an analytical description of the sequence of firm's financing decisions where retained earnings have a preference over debt and debt is favoured over equity. According to Tongkong (2012) as cited in Lawal (2014), under pecking order hypothesis, firms prefer internal financing to external alternatives such that if the firm issue securities, the firm favours debt over equity. The implication is that profitability would be expected to explain the firm leverage level such that more profit will connote lesser use of debt instruments. This contradicts the trade-off theory submission that more profit attracts more leverage.

The Market Timing theory

This theory introduces the impact of timing on firm's financial decision making process. It explains that the choice between the use of capital or equity is a function of manager's ability to time the equity market, as firms will prefer using equity so long as the relative cost of equity is low, and if otherwise preference will be on the use of debt instruments. Under this approach, the stock market condition play crucial role in explaining the firm's leverage condition, for instance, during bullish equity market, firms prefer equity issuance over debt financing.

Empirical Review

Awunyo-Vito and Badu (2012) empirically investigated the relationship between capital structure or leverage and performance of listed banks in Ghana

from 2000 to 2010. Data was collected from Ghana stock exchange and annual report of the listed banks. Panel regression methodology was used to analyse the data. The result suggests that the banks listed on the Ghana Stock Exchange are highly geared and this is negatively related to the banks performance. The study shows that there is high level gearing among listed banks. The authors attribute this finding to the sampled firms' over dependency on short term debt as a result of the relatively high Bank of Ghana Lending rate and low level of bond market activities. The regression result also revealed that capital Structure is inversely related to performance of the listed bank in terms of return on Equity and Tobin's q ratio, a proxy measure of firm assets in relation to a firm's market value. Whilst admitting that this study by Awunyo-Vitor and Badu provides useful insights into the link between capital structure and performance of firms, the use of samples from firms identified with the banking sector limits the external validity of the study. Put differently findings may not become generalizable to other population settings.

Antwi and Mills (2012) conducted a study on all the 34 companies quoted on the Ghana Stock Exchange (GSE) for the year ended 31st December 2010. The ordinary least squares method of regression was employed in carrying out this analysis. The result of the study reveals that in an emerging economy like Ghana, equity capital as a component of capital structure is relevant to the value of a firm, and Long-term-debt was also found to be the major determinant of a firm's value. Following from the findings of this study, the authors recommend that corporate financial decision makers employ more of long-term-debt than equity capital in

financing their operations since it impacts more on a firm's value. This study did not focus on sector specifics and it will be misleading to assume uniformity in the effect of capital structure on firm value across various sectors and industries.

Mathanika, Vnothini, and Pavithira (2015) empirically tested the impact of capital structure on firms' value drawing on a sample listed manufacturing companies on Colombo Stock Exchange in Sri Lanka. The authors adapted secondary data from a sample of 15 manufacturing companies using random sampling method. The analytical techniques employed in this study were a combination of correlation and multiple regression techniques. The outcome of the study showed that debt to equity ratio has a significant influence on firm value but debt to total assets did not have any significant effect on the value of the firm.

Hoque, Hossain and Hossain (2014) examined the determinants of the capital structure policy as well as the impact of capital structure on the value of the firm. Both qualitative and quantitative research designs were employed in their study to analyze data. The sample of data analyzed was collected from firms listed under Dhakar Stock Exchange for a period of five years covering 2008 - 2012. The outcome of the study indicates that the most important determinants of capital structure policy as rated by respondents are financial risk, profitability, availability of fund, productivity, liquidity, operating risk, growth rate, proper timing, corporate tax and stability of sales or investment. The independent variables in the study in their study namely debt to equity, debt to assets, fixed assets to total assets otherwise known as tangibility of the firm, earnings before interest and taxes to interest charges, financial leverage multiplier were all found

to have a significant impact on the value of the firm. This study by Hoque et al. enriches our understanding of capital structure comprehensively because it did not only examine the impact of capital structure on firm value but it also explored what influences the capital structure policy of firms, an area which have not been adequately explored in scholarly literature by most previous studies.

Lavorskyi (2013) investigated the relationship between capital structure and firm performance. His study was premised by the hypothetical assumption that financial leverage positively affects firm's activity through disciplining managers, tax shield and signaling effects. Based on the analysis of data of 16.5 thousand Ukrainean firms sampled over the period 2001-2010, they concluded that the relationship between leverage and firm performance was actually negative. From a theoretical perspective, the result from this study is inconsistent with the trade-off theories of capital structure. The outcome of the study however reinforces the validity of the pecking-order theory.

Dalal (2013) examined the relationship between capital structure and value of firm and found the significance of differences in capital structures of different companies – inter and intra industry. Two hypotheses were framed and tested. Bivariate correlation technique was used to find the nature of relationship between capital structure and cost of capital, cost of capital and value of the firm and capital structure and value of the firm. Then, t-test was applied to test the significance of coefficient of correlation. F-test was applied to test the significance of difference in capital structure. 30 companies listed on Bangladesh Stock Exchange (BSE) Index were selected in the sample. The difference in

capital structure of different companies whether they belong to the same industry group or different groups was found to be statistically significant. This is because of the fact that qualitative values of the determinants of capital structure and their effect on value of the firm vary from company to company. Co-efficient of correlation between cost of capital and capital structure was found to be negative.

Sohail et al. (2013) studied a sample of 83 companies selected from Karachi Stock Exchange 100 index for their analysis and they suggested that financial performance of firms is significantly affected by their capital structure and their relationship is negative in nature. Moreover capital structure of a firm is negatively related to its market value and also increases its risk level as the share of debt increases in the capital mix.

Khalaf (2013) employed a sample of 45 manufacturing companies listed on the Amman Stock Exchange spanning a period of five (5) years from 2005-2009. Multiple regression analysis was applied on performance indicators such as Return on Asset (ROA) and Profit Margin (PM) as well as Short-Term Debt to Total assets (STDTA), Long term debt to Total assets (LTDTA) and Total debt to Equity (TDE) as capitals structure variables. The results show that there is a negative and insignificant relationship between STDTA and LTDTA, and ROA and PM; while TDE is positively related with ROA and negatively related with PM. STDTA is significant using ROA while LTDTA is significant using PM. The study concludes that statistically, capital structure is not a major determinant of firm performance. It recommends that managers of manufacturing companies

should exercise caution while choosing the amount of debt to use in their capital structure as it affects their performance negatively.

Umar et al. (2012) examined the impact of capital structure on firms' financial performance in Pakistani top 100 consecutive companies in Karachi Stock Exchange from 2006 to 2009. The results show that all the three variables of capital structure, Current Liabilities to Total Asset, Long Term Liabilities to Total Asset, Total Liabilities to Total Assets, negatively impact the Earnings before Interest and Taxes, Return on Assets, Earning per Share and Net Profit Margin whereas Price Earnings ratio shows negative relationship with Current Liabilities to Total Asset and positive relationship is found with Long Term Liabilities to Total Asset however the relationship is insignificant with Total Liabilities to Total Assets.

Ogbulu et al. (2012) adopted a sample of 124 companies quoted on the Nigerian Stock Exchange (NSE) for the year ended 31st December 2007. The ordinary least squares method of regression was employed in carrying out this analysis. The result of the study suggests that in an emerging economy like Nigeria, equity capital as a component of capital structure is irrelevant to the value of a firm, while Long-term-debt was found to be the major determinant of a firm's value. Following from the findings of this study, the authors advocate that corporate financial decision makers employ more of long-term-debt than equity capital in financing their operations since it results in a positive firm value.

Ali (2011) investigated capital structure of non-financial firms registered on Karachi Stock Exchange (Pakistan) from 2003 to 2008 to find out which independent variables determine the capital structure of Pakistani firms. He found statistically significant coefficients for profitability, size, tangibility, growth, dividend and inflation. The negative relationships between profitability and leverage; positive relationships between growth and long term debt and dividend and total debt of firms confirm the presence of pecking order theory in determining the financing behavior of Pakistani firms.

Ali and Hossain (2011) attempted to explore the impact of firm specific factors on capital structure decision for a sample of 39-firms listed on Dhaka Stock Exchange (DSE) during 2003-2007 using Ordinary Least Square (OLS) regression method and found that profitability, tangibility, liquidity, and managerial ownership have significant and negative impact on leverage and positive and significant impact of growth opportunity and non-debt tax shield on leverage was found in this study. On the other hand, size, earnings volatility, and dividend payment were not found to be significant explanatory variables of leverage.

Masulis (2011) developed a model based on current corporate finance theories which explains stock returns associated with the announcement of issuer exchange offers. The major independent variables are changes in leverage multiplied by senior security claims outstanding and changes in debt tax shields. Parameter estimates are statistically significant and consistent in sign and relative magnitude with model predictions. Overall, 55 percent of the variance in stock

announcement period returns is explained. The evidence conforms to the tax based theories of optimal capital structure, a positive debt level information effect, and leverage-induced wealth transfers across security classes.

Chowdbury and Chowdbury (2010) examined the influence of debt-equity structure on the value of shares given different sizes, industries and growth opportunities with the companies incorporated in Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE) of Bangladesh. A strong positively correlated association is evident from the empirical findings when stratified by industry.

Shah and Hijazi (2004) studied non-financial firms listed on Karachi Stock Exchange using tangibility, size, profitability and growth as determinants. They found positive impact of tangibility and size on growth but and negative impact of profitability on growth.

Raheel-Mumtaz et al. (2013) studied on a total number of 83 companies are selected from KSE 100 index for their analysis and they suggested that financial performance of firms is significantly affected by their capital structure and their relationship is negative in nature. Moreover capital structure of a firm is negatively related to its market value and also increases its risk level as the share of debt increases in the capital mix.

Akeem, Terer, Kiyanjui, and Kayode (2014) assessed the impact of capital structure on the performance of a sample of manufacturing companies in Nigeria. Descriptive and inferential statistics such as correlation and regression were used to estimate the impact of capital structure on firm performance. Specifically they

assessed the effect of two aspects of capital structure namely debt ratio and equity ratio on firm performance. The outcome of the study showed that debt ratio has a negative impact on firm performance. However, the effect of equity ratio on firm performance was found positive per the outcome of their study. Consequently they recommend that manufacturing firms in Nigeria firms employ more equity than debt in their financial mix.

Chandrasekharan (2012) conducted a study using 87 firms out of the population of 216 firms listed on the Nigeria stock exchange for a period of five years (2007-2011) from static trade-off, agency and pecking order theory point of view. He employed the panel multiple regression analysis and the study reveals that for the Nigerian listed firms; firms' size, growth and age are significant with the debt ratio of the firm, whereas, profitability and tangibility are not.

Babalola (2014) used a sample of 31 manufacturing firms with audited financial statements for a period of fourteen years (1999-2012) to examine the effect of capital structure on firm performance from static trade-off point of view. He employed the triangulation analysis and the study revealed that capital structure is a trade-off between the costs and benefits of debt, and it has been refuted that large firms are more inclined to retain higher performance than middle firms under the same level debt ratio.

Akinyomi (2013), using three manufacturing companies selected randomly from the food and beverage categories and a period of five years (2007-2011) using the static trade-off and the pecking order theory point of view. He adopted the use of correlation analysis method and revealed that each of debt to

capital, debt to common equity, short term debt to total debt and the age of the firms' is significantly and positively related to return on asset and return on equity but long term debt to capital is significantly and relatively related to return on asset and return on return on equity. His hypothesis also tested that there is significant relationship between capital structure and financial performance using both return on asset and return on equity.

Taiwo (2012), also examined the link between capital structure and firm performance using ten firms listed on the Nigerian Stock Exchange for a period of five years (2006-2010) from the static trade-off, pecking order and agency theory point of view. In his findings, he employed the Pesaran and shine unit root test and Panel Least Square test and revealed that the sampled firms were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms' performance.

Bassey, Aniekan, Ikpe and Udo (2013), analyzed the determinants of capital structure using a sample of 60 unquoted agro-based firms in Nigeria within a period of six years (2005-2010) from the agency cost theory point of view. They employed the Ordinary Least Square regression and descriptive statistics and revealed that only growth and educational level of firms owners were significant determinants of both long and short term debt ratios; assets structure, age of the firms, gender of owners and export status impacted significantly on long term debt ratios, while business risk, size and profitability of firms were major determinants of short term debt ratio for the firms under investigation.

Simon-Oke and Afolabi (2011), using a study of five quoted firms within a period of nine years (1999-2007) from the static trade-off and agency cost theory point of view. They employed the panel data regression model and revealed in their study a positive relationship between firms' performance and equity financing as well as between firms' performance and debt-equity ratio. There is also a negative relationship that exists between firms' performance and debt financing due to high cost of borrowing in the country.

Semiu and Collins (2011), using a sample size of 150 respondents and 90 firms were selected for both primary data and secondary data respectively for a period of five years (2005-2009) from the relevance, pecking order, the free cash flow, the agency cost and the trade-off theory point of view. They employed the descriptive statistics and Chi square analysis and suggested that a positively significant relationship exists between a firm's choice of capital structure and its market value in Nigeria.

Ong and Teh (2011) investigated the link between capital structure and firms performance of construction companies for a period of four years (2005-2008) in Malaysia. Long term debt to capital, debt to asset, debt to equity market value, debt to common equity, long term debt to common equity were used as proxies as the independent variables (capital structure) while returns on capital, return on equity, earnings per share, operating margin, net margin were used to proxy the corporate performance. The result shows that there is a significant relationship between capital structure and corporate performance for all indicators of capital structure used in the study.

Zeitun and Tian (2007) conducted a study on capital structure and corporate performance on 167 Jordanian firms between 1989-2003. They found a significantly negative relationship between capital structure and corporate performance. Many variables such as return on assets, return on equity, profitablitity, Tobin's Q were used to measure performance while leverage, growth, size and tangibility were proxies for capital structure.

In Sri Lanka, Puwanenthire (2011) carried out an investigation on capital structure and financial performance of some selected companies in Colombo Stock Exchange between 2005-2009. Capital structure was proximate by debt while performance was proxy by gross profit, net profit, return on investment / capital employed and returns on assets. The results shown the relationship between the capital structure and financial performance is negative.

The attributes of capital structure

Flexibility:

The consideration of flexibility gives the finance manager the ability to alter the firm's. Capital structure with a minimum cost and delay, if warranted by the changed environment. It should also be possible for the company to provide funds whenever needed to finance its Profitable activities (Mathanika et al., 2015)

Profitability:

A sound capital structure should permit the maximum use of leverage at a minimum cost so as to provide better profitability and thus maximizing earnings per share (Mathanika et al., 2015)

Solvency:

Extensive debt threatens the solvency and credit rating of the company. The debt financing should be only to the extent that it can be serviced fully and also be paid back (if required).

Conservatism:

No company should exceed its debt capacity. As already explained that the Interest is to be paid on debt and the principal sum is also to be paid. These payments depend on future cash flows. If future cash flows are not sufficient then the cash insolvency can lead to legal insolvency (Mathanika et al., 2015).

Control:

The capital structure should not lead to loss of control in the company.

Internal & External factors that affect capital structure

Capital structure of the firm is determined by various internal and external factors. The micro variables of the economy of a country like the policy of government, inflation rate, capital market condition, are the major external factors that affect the capital structure of the firm. The characteristics of an individual firm, which are termed here as macro factors (internal), also affect the capital structure of enterprises (Mathanika et al., 2015).

Profitability

The factors of profitability also play an important role in capital structure decisions. The firms which get high rate of return on investment don't use high debt but they use relatively little debt. High rate of return on investment make them able to do financing with internally generated funds.

Growth Rate

Factors affecting capital structure of a company are the growth rate of finance. The financial requirements of growing firms are high and cannot be met from internal sources. They have to depend heavily on external financing. Thus, such firms rely more on debt capital.

Size of a Firm

There is a positive relation between the capital structure and size of a firm. The large firms are more diversified, have easy access to the capital market, receive higher credit ratings for debt issues, and pay lower interest rate on debt capital. Further, larger firms are less prone to bankruptcy and this implies the less probability of bankruptcy and lower bankruptcy costs. Therefore, larger firms tend to use more debt capital than smaller firms. Small companies depend more on owned funds rather borrowed funds. As it finds difficult to obtain long-term loans from financial institutions and banks due to lack of adequate security (Mathanika et al.,2015).

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Nature of Industry

Capital structure of a firm also depends on the nature of industry in which it operates. If there were no barriers in industry for the entry of new competing firms, the profit margin of existing firms in the industry would be adversely affected. As a result, the firm may find a more risky to use fixed charge bearing securities (Mathanika et al., 2015).

Risk factor

There is negative relation between the capital structure and business risk. The chance of business failure is greater if the firm has less stable earnings. Similarly, as the probability of bankruptcy increases the agency problems related to debt become more aggravating. Thus, as business risk increases, the debt level in capital structure of the enterprises should decrease (Mathanika et al., 2015).

Summary of Literature

The review of literature shows that capital structure of firms is underpinned by several theoretical postulations and consideration each theory having unique set of assumptions and tenets. The empirical review demonstrates conflicting results pertaining to the nexus between capital structure and the value or otherwise performance of firms. It appears that most studies demonstrate significant effect of capital structure on the value of the firm. The differences in empirical results on the relationship between capital structure and value of the firm may be attributed to factors such as the differences in sample sizes, different

methodological constructs and the existence of variations in economic environments.

CHAPTER THREE

RESEARCH METHODS

Research Design

The two main approaches to conducting research are quantitative and qualitative (Yates, 2004). The quantitative approach operates by developing testable hypothesis and theories which lend themselves to generalization. It is usually applied in the natural sciences and useful for data of numeric nature. Questionnaires, surveys, personality tests and other standardised research instruments are some of the data collection techniques used under this approach (Burell & Morgan, 1979).

The qualitative approach on the other hand bases research on systematic protocols. Its techniques, findings, interpretations and conclusions usually reflect the subjective opinion of the researcher. It is suitable where insightful understanding of a situation is needed. Data collection techniques adopted under this approach include observation, case studies, interview guides and reviews of literature (Crotty, 1998).The choice of the approach to be adopted for a particular study will largely depend on the purpose of that study (Boohene, 2006).

Both quantitative and qualitative approaches have their strengths and weaknesses. The quantitative approach is a scientific, fast, easier alternative, enabling statistical analyses of data, generalisation of findings, drawing of logical conclusions based on numerical values and comparability of studies (Crotty, 1998; Amaratunga, Baldry, Sarshar & Newton, 2002). Criticism however lies with its rigidity, artificial nature and ineffectiveness in gauging human behavior

(Crotty, 1998). The qualitative approach enhances rigour and understanding of complex phenomena while ensuring firm control over the scope and pace of research (Yates, 2004). It is however time consuming and expensive with its reliance on small samples rendering findings non-generalisable (Crotty, 1998).

To overcome the challenge of choice, some researchers have suggested a combination of both approaches (Amaratunga et. al, 2002; McNeil & Chapman, 2005). This method, known as mixed methods ensures a balance of the strengths of both approaches. Others suggest, choice should be at the researcher's discretion, depending on the nature of a particular study (Boohene, 2006). Given the particular purpose of this study, the nature and interactions between the variables being examined as well as the need to test hypothesis, the quantitative approach was deemed the most appropriate and therefore adopted. This would aid in drawing inferences and conclusions about the relationships between and among the variables under consideration.

Harwell (2011) contends that quantitative research methods attempt to maximize objectivity, replicability and generalizability of findings and are typically interested in prediction. In the context of quantitative research design, Cresswell (1994) observes that the quantitative research approach is best suited to analyzing and explaining a phenomenon by collecting numerical data that are analyzed using mathematically based methods, particularly those drawn from statistical fields. Given the objectives that underpin the current study on the impact of capital structure on the value of the firm, quantitative research design was deemed appropriate. This is particularly reinforcing given the fact that the

variables of the study namely Firm Value, Equity and Long Term Debt are financial indices which are quantitative in nature. Kothari (2008) sheds more light on quantitative research design. According to him, quantitative approach of research design addresses the objective of a study which investigates the relationship between the variables of a study.

Population of the study

Population is generally conceived of as the entire group of individuals or objects having similar observable characteristics. The population of this study comprises all listed manufacturing companies across various sectors in Ghana. The populations of manufacturing companies were taken as all firms across various sectors which produce manufactured products. These population units comprise traditional manufacturing firms, pharmaceutical manufacturing firms, manufacturers of food and beverages and other consumer goods. The population size is 12 companies

Institutional Profile of the Ghana Stock Exchange

The Ghana Stock Exchange (GSE) currently has 42 listed companies and two corporate bonds. In October 2006, two and three years fixed rate Government of Ghana bonds were also listed. The two year bonds have coupons ranging between 15.8 and 17 percent per annum whilst the three year bonds carry coupon rates between 16 and 17.5 percent**.** Listed companies fall within the manufacturing, financial, mining, oil sectors amongst others. There are listing requirements which include capital adequacy, profitability, spread of shares, year

of existence and management efficiency. The GSE performance is mainly monitored by the GSE all-shares-index (GSI), which is a weighted index. Although, non-resident investors can deal in securities listed on the exchange without obtaining prior exchange control permission, there are some restrictions on portfolio investors not resident in Ghana. The Securities and Exchange Commission is the regulator of the exchange. Indeed, the exchange was adjudged as the world's best –performing market at the end of the first quarter of 2004 with a year return of 144 percent, in United States dollar terms, compared to 30 percent by Morgan Stanley Capital International Global Index, 26 percent Standard and Poor in the USA, and 32 percent in Europe(Databank Group, 2004).

According to Anthony and Kwame (2008) as cited in Owusu and Ayimah (2012), this remarkable performance is attributed to a relatively stable and good macroeconomic performance during the period and a subsequent pick-up in investor and economic activity. Within the period, a number of new public offers were also introduced with the divestiture of shares existing (SOE) on the exchange. However, since 2005, the GSE has witnessed an abysmal performance and assumed a bearish outlook in spite of the sustained macroeconomic stability and gains in the country. In the view of Owusu and Ayimah (2012), this poor performance can be attributed to several factors including the fact that the market may be correcting itself due to overvaluation of equities during the 2004 bull runs. Owusu and Ayimah further maintain that the petroleum price increases fueled inflation expectations which resulted in large diversions of funds away from shares in the stock market to short-term instruments in money markets. Anthony

and Kwame (2008) further contend these reasons notwithstanding, the poor performance of the GSE continue to be puzzling. Current trends in market indicator though show that the market appears to be picking up slightly in performance with a year-to –date change in the GSE GSI at 0.76 percent and a market capitalization at GH₵11.27 billion as at January 2007. They indicated, in general, that the factors that have been identified as being responsible for the performance of the GSE include macroeconomic factors such as inflation rate, interest rate and Gross Domestic product (GDP) growth. The GSE – Composite Index (GSE-CI) recorded a year to date gain of 78.81% ending the year 2013 with 2,145.20 point while the GSE Financial Stock Index (GSE-FSI) also recorded a return of 71.81% ending the year 2013 with 1,784.05points. The return on index recorded on the Ghana Stock Exchange for the year 2013 makes the Exchange one of the best performing stock market in Sub-Saharan Africa. The GSE-CI and the GSE-FSI recorded a return of 23.81% and 20.94% in December 2012.Market capitalization of listed securities at the end of December 2013 was GH¢61,158.29million compared to the December 2012 end figure of GH¢57,264.22million, an increase of 6.80%. Domestic Market capitalization recorded a 76.68% increase ending December 2014 with GH¢11,694.93 compared to GH¢6,753.14 recorded for the same period in 2012. This clearly shows that there were more price increases in the primary listings on the market**.**

Table 1: Population of GSE and Trading Names of Companies by Sector

Sector	Trading Names
Banking	
CAL Bank Limited	CAL
Ecobank Ghana Limited	EBG
Ecobank Transnational Incorporated	ETI
Ghana Commercial Bank	GCB
HFC Bank	HFC
SG-SSB Limited	SG-SSB
Standard Chartered Bank	SCB
Trust Bank [The Gambia]	TBL
Insurance	
Enterprise Insurance Limited	EIC
SIC Insurance Company	SIC
Consumer Goods	
Pz Cussons Ghana	PZ
Super Paper Company Limited / African Champion Industry	SPL / ACI
Unilever Ghana	UNIL

Energy

Ghana Oil Limited	GOIL
Total Petroleum Ghana Limited	TOTAL
Tullow Oil	Tullow

Trading

CFAO Ghana	CFAO
Mechanical Llyod	MLC
Produce Buying Company	PBC

Food & Beverages

Accra Brewery Company	ABL
Fan Milk	FML
Guinness Ghana Breweries	GGBL

Manufacturing

Aluworks	ALW
Camelot Ghana Limited	CMLT
Cocoa Processing Company	CPC
Pioneer Kitchenware Limted	PKL
Sam Woode Limted	SWL

Mining	
AngloGold Ashanti	AGA
AngloGold Ashanti Depository Shares	AADS
Golden Star Resources Limited	GSR
Information & Comm. Technology	
Clydestone Ghana Limited	CLYD
Transactions Solutions Limited	TRANSOL
Health Care/Pharmaceuticals	
Ayrton Pharmaceuticals	AYRTN
Starwin Pharmaceuticals	SWL
Agri-Business	
Benso Oil Palm Plantation	BOPP
Golden Web	GWEB
Preference Shares	
Standard Chartered Bank	SCB

Source: Ghana Stock Exchange official website: Accessed on 04/12/15

Sample and Sample Techniques

A sample generally refers to part of a population which the researcher employs as a representative unit of the entire population universe to make inference from sample to population. Put differently, a sample is used to infer from the specific unit to the general unit of a population. Mugenda and Mugenda

(2008) highlight the unavoidability of the use of sample in research studies. According to them, due to the large sizes of populations, researchers often cannot test every individual in the population because it is too expensive and time consuming. Convenience sampling technique was used to select the sample of the study. Convenience sampling also known as judgmental sampling is where the sample of a study is selected based on the extent to which units in the target population meets a certain set criteria and more so where data could be relatively easily accessed. The sample size was eight (8) listed manufacturing companies. To be selected as part of the sample, a manufacturing company needs to have operated, listed and being in existence for at least five years. This criterion is justified by the fact that the study relies on a panel data which involves the pooling of cross sectional observations that run several years from several firms. Because some manufacturing companies are in their nascent stages, the sample size was limited in number. This notwithstanding, the sample is considered representative. The representativeness of the sample is also strengthened by the fact that the sample manufacturing firms were taken from across different sectors namely traditional manufacturing firms, pharmaceutical manufacturing firms, manufacturers of food and beverages, and manufacturers of other consumer goods.

Data type, sources and collection

Panel data in the context of the financial indices of sampled firms was adapted in the study. Panel data set from the perspective of Hsiao (2003) is a type of data that follows a given sample of individuals over time and thus provides

multiple observations on each individual in the sample. According to Hsiao, panel data does not only allow researchers to construct and test more complicated behavioral models than time series data but the use of panel data also provides a means of resolving or reducing the magnitude of a key econometric problem that often arises in empirical studies namely the often heard contention that the real reason one finds or does not find certain effects in the presence of an omitted or unobserved variables that are correlated with explanatory variables. Baltagi (2005) also highlights the benefits of panel data. According to him, panel data involves the pooling of cross sectional units of observations over several time dimensions and produces estimate that are more robust than employing cross sectional or time series estimation technique alone.

Data on financial indices was adapted from the published financial statements of sampled firms from the official website of the Ghana Stock Exchange (GSE). The data sampled covers a period of five years from 2008 to 2012. The data was all obtained from secondary sources. Data on the literature was obtained from secondary sources including related published and unpublished material from the internet, journals, handbooks, reports and text books. The data on the variables of the study namely equity, long term debt, firm value and firm size were accessed electronically from the annual published financial statements of the sampled firms.

Description of Variables

Equity

Equity unlike long-term debt includes paid-up share capital, share-premium, reserves and surplus or retained earnings. Igben (2004) defines paid-up capital as the portion of the called-up capital which has been paid-up by the shareholders. He also describes reserves as amounts set aside out of profits earned by the company, which are not designed to meet any liability, contingency, commitment or diminution in value of assets known to exist at the balance sheet date. Reserves may be voluntarily created by directors or statutorily required by law. Share premium is the excess amount derived from the issue of shares at a price that is above its par value. And lastly, retain earnings are profit plough back in to a company in order to create more resources for operations and invariably increase in the value of the firm

Firm Size

This is considered as control variable because the fact that larger companies normally enjoy economies of scale which reduces their long-run average cost. Large firms have high bargaining power to obtain inputs and raw materials at wholesale prices and are able to negotiate favorable credit terms relative to smaller firms. All of these factors impact positively on the value of the firm a priori. The firm size is measured by the natural logarithm of sales, consistent with previous researchers like Deloof (2003), Pedachi (2006), Lazaridis and Tryfonidis (2006).

Long Term Debt

A category of debts on a company's balance that do not need to be repaid during the upcoming twelve months, but that instead need to be repaid in a year or more.

Firm Value

This measures the value of the assets that produce the company's product or service. In other words, it as an economic value that includes the equity capital (market capitalization) and debt capital (liabilities) of the enterprise. Firm value is estimated as number of shares multiplied by stock price also known as market capitalization plus all debt (preferred shares, minority interest, etc) less cash.

Data Processing and Analysis

Kothari (2008) posits that data analysis encompasses inspecting, cleaning, transforming and modeling data for providing useful information, suggesting conclusions, and supporting decision making. This study employs quantitative method to determine the relationship between the variables using the data obtained. This model of analysis examines the effect of the independent variables on the dependent variable. Data analysis is supported with descriptive statistics such as Tables, percentages, standard deviation, mean, maximum and minimum values. The analytical models used in the study were the Pearson Correlation Method and Linear Regression Models. According to Khan and Satar, (2014), a correlation is a number within the range of -1 and +1 that measures the degree of association between two variables say X and Y. In the context of this study, X is

analogous to capital structure that is equity capital or debt capital and Y is comparable to firm value. The association between these two variables could be positive or negative (If the correlation coefficient is positive, it suggests a direct relationship between the variables meaning they all move in the same direction. On the contrary, if the correlation coefficient is negative, it indicates an inverse relationship between the two variables meaning they move in opposite direction.

Regression analysis is used to determine both the direction and strength of association between two or more variables. Specifically, multiple regression statistical technique was used to determine the relationship between the independent variables Equity and Long Term Debt and the dependent variable Firm Value with the help of STATA. The baseline regression equation was estimated as:

$$\mathbf{FV_{it} = C + B_1EQUITY_{it} + B_2LTD_{it} + B_3FS_{it} + \varepsilon_{it}}$$

Where

FV= Firm Value

EQUITY= EQUITY CAPITAL

LTD= LONG TERM DEBT

FS= FIRM SIZE, A CONTROL VARIABLE

B_1 and B_2 are Beta Coefficients

i and t are firm specific and time respectively

ε= Error Term

To achieve validity and reliability of data collection and analysis, data was collected from authentic sources. The data collected was from the published annual reports of sampled companies which are fully responsible for data compilation and validity. The Analysis of Variance (ANOVA) test was used to check the validity of the regression model used in the study. Validity generally measures the extent to which an instrument accurately measures the actual thing it is intended to measure. According to Curwin, Eadson, and Roger (2013), the ANOVA tests the validity of a regression model. The ANOVA therefore was deemed appropriate in establishing the validity of the regression model in the study.

Further the regression model was built on the following theoretical assumptions.

(a). Each independent variable is linearly related to the dependent variable, economic growth.

(b).The independent variables are not related in the model

(c). The residual errors are normally distributed.

(d).The mean of the residual errors is zero

(e).The residual errors are independent and;

(f). The standard deviation of the residual errors is constant (Curwin, Eadson, & Roger, 2013).

Again, the correlation technique was underpinned by the following assumptions:

1. That there is a linear relationship between any pair of variables which means that straight line would be obtained if the observed data were plotted on a graph.
2. That any pair of two variables are casually related which means that one of the variables is independent and the other is dependent.
3. That a large number of independent causes are operating in both the variables so as to produce a normal distribution (Kothari, 2008).

This chapter primarily explains the research method employed to investigate the current research problem namely the effect of capital structure on firm value. The chapter basically outlined that the quantitative research design guided the study. The use of only the quantitative research design in the study poses some limitations to the study. First, the quantitative design does not allow for a thorough understanding of the research problem but its relevance is limited to the context of estimating relationship between and among variables. For example, the quantitative approach does not allow the study to explore what reasons might underlie firms' choices of particular capital structure policies. Second, the quantitative method does not allow for the inclusion of firm finance managers for their views on various capital structure policies.

CHAPTER FOUR

RESULTS AND DISCUSSION

Overview

The primary objective of the current study was to examine the impact of capital structure on the value of the firm using listed manufacturing firms in Ghana as a case study. Components of capital structure were defined as equity capital and long term debt capital. Thus the specific objectives sought in the study were the effect of equity and long term debt on the firm value of listed manufacturing firms in Ghana. The study uses the quantitative research method to estimate the impact of capital structure on firm value. The estimation was done by correlation and multiple regression statistical techniques. A sample of 8 firms listed on the Ghana Stock Exchange and which have traded continuously between the periods 2008 to 2012 were adopted for the study. The panel data collected was made up of 40 observations. This chapter of the study presents the analysis and discussions of the research findings. The analysis and discussions are made with key reference to the research objectives and research questions specified in chapter one, the introductory part of the study. The analysis entails the use of both descriptive and inferential statistics. The descriptive statistics gives a detailed discussion of the attributes of the variables whereas the inferential statistics estimate the relationships between the independent variables Equity, Long Term Debt and Firm size, a control variable and the dependent variable, firm value.

RESULTS

Table 2: Descriptive Statistics

	Firm Value	Equity	Long Term Debt	Firm Size
Observations(N)	40	40	40	40
Mean	16.5960	15.2270	.2566	17.5187
Std. Deviation	2.16075	2.20302	.20369	1.76593
Minimum	11.80	10.72	.00	14.53
Maximum	19.48	18.25	.68	20.99

Source: Estimated from STATA 11

Table 2 shows the descriptive statistics of the variables used in the model employed in the study. Table 2 shows that the number of observations collected are 40 spanning the period 2008 to 2012. Thus the panel data employed in the study contain 40 observations of data set as illustrated by N from Table 2. The mean of the dependent variable, Firm Value is 16.5960 units. The mean of the independent variables Equity and Long Term Debt as well as the control variable Firm Size are 15.2270, .2566 and 17.5187 units respectively. Firm Size has the greatest mean of 17.5187 among the variables used in the study whereas Long Term Debt has the least mean of .2566. The standard deviations of the variables Firm Value, Equity, Long Term Debt, and Firm Size are 2.16075, 2.20302, .20369, and 1.76593 respectively. The greatest variability among the variables employed in the study is witnessed in the behavior of the independent variable

Equity with a standard deviation of 2.20302 whiles the variable with the least variability in sample size is Long Term Debt.

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.889[a]	.790	.773	1.03008

a. Predictors: (Constant), Firm Size, Equity, Long-term Debt

Source: Estimated from STATA 11

Table 3 provides a summary of the model. From the Table 3, the R which represents the correlation coefficient is .889. The corresponding Adjusted R Square is .773 which illustrates that about 77.3% of the total variation in the dependent variable Firm Value is explained by the independent variables in the model namely Equity and Long Term Debt

Table 4: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.887	3	47.962	45.202	.000[a]
	Residual	38.199	36	1.061		
	Total	182.085	39			

a. Predictors: (Constant), Firm Size, Equity, Long Term Debt

b. Dependent Variable: Firm Value

Source: Estimated from STATA 11

Table 4 shows the result of the Analysis of Variance (ANOVA) test. The ANOVA according to Curwin, Eadson and Roger (2013) tells whether the overall regression model results in a significantly better prediction of the dependent variable compared to using the mean of the variables for prediction. Kothari (2008) highlights the relevance of the ANOVA test. According to him, the F-test from the ANOVA is used to judge whether the difference between the two variances that is between and within variances is significant or just due to fluctuations of sampling. From Table 4, the p value of .000 suggests the regression model significantly predicts the dependent variable. One disadvantage of the ANOVA however is its failure to tell about the contribution of the individual independent variables, something which the t values/t test) are/is able to fulfill.

Table 5: Correlation matrix

		Firm Value	Equity	Long Term Debt	Firm Size
Firm Value	Pearson Correlation	1	.824	.437	.287
	Sig. (2-tailed)		.000	.005	.073
	N				
Equity	Pearson Correlation	.024	1	.128	.160
	N				
Long Term Debt	Pearson Correlation	.437	.128	1	.465
	Sig. (2-tailed)				
	N				
Firm Size	Pearson Correlation	.287	.160	.465	1
	Sig. (2-tailed)				

Source: Estimated from STATA 11

Table 5 shows the correlation between the dependent and the independent variables. From Table 5, the coefficient of correlation between Firm Value and Equity is .024, between Firm Value and Long Term Debt is .437 and the correlation between Firm Value and Firm Size is .287. The low values of the correlation coefficients suggest that there is no problem of multicollinearity among the variables.

Table 6: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.880	1.990		1.950	.059
	Equity	.765	.076	.780	10.067	.000
	Long Term Debt	3.534	.916	.333	3.857	.000
	Firm Size	.009	.106	.007	.086	.932

a. Dependent Variable: Firm Value

Source: Estimated from STATA 11

DISCUSSIONS

Effect of Equity on Firm Value

From Table 6, the regression coefficient of Equity is .765. The positive coefficient suggests a positive relationship between firm value and equity capital. This means as equity capital increases, firm value also increases. Specifically from the Table 6, a unit increase in Equity will lead to a corresponding increase in firm value by .765 units. Also a unit decrease in Equity will lead to a corresponding decrease in firm value by .765 units. This means that Equity is positively related to the Firm value of listed manufacturing firms in Ghana. The p value of .000 for Equity from Table 6 is also significant and consequently the effect of Equity on Firm Value of manufacturing firms is established as

statistically significant and cannot be said to be due to chance. Theoretically, the evidence of a positive effect of equity on firm value reveals the presence of the market timing theory in the financing behavior of firms. Perhaps, listed manufacturing firms prefer using equity under certain times so long as the relative cost of equity is low as postulated by the Market timing theory. In general the evidence of the study compares with the study by Antwi and Mills (2012) in the context of the positive effect of both Equity and Long Term Debt on Firm Value. Specifically, the finding of the study regarding the pronounced effect of Equity on Firm value relative to Long Term Debt contrasts with the finding by Antwi and Mills (2012) who established in their study that Long Term Debt has a greater effect on Firm value compared to Equity capital. Differences in sample sizes and sampling periods may partly explain the variations in the research findings. Antwi and Mills (2012) for instance employed all the 34 listed firms on the Ghana Stock Exchange as of 2012 in their analysis of the link between capital structure and firm value. Additionally their study also cut across several industries thus an industry wide study. However, this study uses a sample of 8 firms and more so is made up of sector specific firms' namely manufacturing firms. The positive significant effect of Equity in this study however corroborates the finding by Mathanika, Vnothini, and Pavithira (2015) who also established a positive significant impact of Equity on firm value.

Impact of Long Term Debt on Firm Value

From Table 6, the regression coefficient of Long Term Debt is 3.534. The positive coefficient suggests a positive relationship between firm value and debt

capital. This means as debt capital increases, firm value also increases. The implication also holds that as debt capital decreases, firm value also decreases. Specifically from the Table 6, a unit increase in debt will lead to a corresponding increase in firm value by 3.534 units. Also a unit decrease in debt will lead to a corresponding decrease in firm value by 3.534 units. This means that debt is positively related to the Firm value of listed manufacturing firms in Ghana. The p value of .000 for debt from Table 6 is also significant and consequently the effect of Equity on Firm Value of manufacturing firms is established as statistically significant and cannot be said to be due to chance. From a theoretical perspective, the positive effect of debt capital on firm value conflicts the pecking order theory which is premised by the assumption that firm value is independent of debt instrument. Put differently, the significant effect of debt on firm value in this study conflicts with the pecking order theory which suggests that debt has no significant effect on the value of the firm. Further the positive significant effect of debt capital in the current study conflicts with the theoretical thinking of the net operating income theory which posits that the firm is not affected by debt financing. The significant effect of debt capital is however consistent with the trade-off theory which maintains that debt financing is attractive to firms and firms may consequently trade -off between tax benefits and the consequences of using debt instruments. The result again contradicts with the M-M theory of capital structure which discounts any significant effect of capital structure on firm value. The result of the study regarding the positive impact of debt on firm value conflicts with the previous finding by Awunyo-Vito and Badu (2012) who

established that leverage has a negative effect on firm performance in their study on all the 34 listed companies in Ghana. The finding also conflicts with the finding by Sohail et al. (2013) who found that debt is inversely related to firm value.

Effect of Firm Size on Firm Value

Firm size defined in the context of the study as the natural logarithm of sales was employed in the regression model of the study as a control variable. From the regression coefficient Table 6, the coefficient of Firm size is 0.009. The positive coefficient indicates that firm size and Firm value are positively related. A unit increase in Firm size results in an increase in Firm value by 0.009 units. Also a unit decrease in Firm size brings about a corresponding decrease in Firm value by 0.009 units. However, the p value of Firm size is .0932 and this indicates that the effect of Firm size on the firm value of listed manufacturing firms is not statistically significant and may be due to chance. The insignificant effect of firm size on firm value is inconsistent with previous findings in the empirical studies by Chowdhury and Chowdhury (2010) and Shah and Hijazi (2004) who found significant effect of firm size on value of shares and significant effect of firm size on firm growth in Dhaka and Karachi stock markets respectively. The result also does not conform to the finding in the empirical study by Ali (2011) who established a significant effect of firm size on firm growth.

Table 7: Hypothetical Results

Hypothesis	Result
H1: Equity has no significant impact on the firm value of listed manufacturing firms	Rejected
H2: Long Term Debt has no significant impact on the firm value of listed manufacturing firms	Rejected
H3: Firm Size has no significant impact on the firm value of listed manufacturing firms	Accepted

Source: Self devised

Table 6 provides the hypothetical results of the study. Based on the outcome of the study, two hypotheses are rejected whereas one hypothesis is accepted.

The study sets out with the formulation of three hypotheses for validation by the study.

First it was hypothesized that Equity has no significant impact on firm value. Based on the outcome of the study, the hypothesis that Equity has no significant impact on firm value is rejected. The hypothetical result of a positive association between equity and firm value confirms the research finding by Chowdbury and Chowdbury (2010) in their cross country study of firms listed on

the Dhaka Stock Exchange and Bangladesh Stock Exchange who also found that equity is positively related to firm value.

Secondly, the study hypothesized that Long Term Debt has no significant effect on firm value. Based on the results of the study, the hypothesis is rejected. This hypothetical result corroborates the research finding by Chowdbury and Chowdbury that debt capital has a positive impact on firm's value. However, it conflicts with the research finding by Raheel-Mumtaz et al. (2013) who found in their study that debt impacts negatively on the firm value of firms listed on the Karachi Stock Exchange.

Lastly, it was hypothesized that Firm size has no significant impact on the value of manufacturing firms. Based on the outcome of the study, the hypothesis that firm size has no significant effect on firm value is accepted. The hypothetical result of the insignificant relationship between firm value and size contrasts with the research finding by Shai and Hijazi (2013) who found the effect of firm size on growth positively significant in their study of firms listed on the Karachi Stock Exchange.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter of the study presents the summary of findings, conclusions and recommendations following the findings of the study. The chapter concludes by providing suggestions for areas of further research.

Summary of findings

The study had the objective to examine the impact of capital structure on the firm value of listed manufacturing firms in Ghana. Specific objectives pursued in the study were the determination of the impact of Equity and Long Term Debt on firm value of listed manufacturing firms in Ghana with the inclusion of Firm size as a control variable informed by theoretical considerations. These aspects of capital structure in the case of Equity and Debt capital were clearly defined and consequently established to comprise total equity and debt exceeding a period of year as found on published financial statements of sampled firms. Firm size was operationalized and defined as the natural logarithm of sales consistent with its measurement in previous empirical literature. Again firm value was defined as the sum of the market capitalization and retained earnings as well as minority interest shares. These objectives were achieved by a descriptive and inferential analysis of a set of panel data adapted from the annual published financial statements of sampled listed manufacturing Companies. Specifically, the model was estimated by a multivariate regression statistical technique. The results of the study showed

that both Equity and debt capital have a significant positive effect on firm value. However, the study establishes that Firm size has no significant impact on the value of the firm.

Conclusion

The objective of this study was to analyze the effect of debt capital and equity capital on the firm value of listed manufacturing companies in Ghana. The study concludes that Equity has a positive significant impact on the firm value of listed manufacturing firms. The positive effect of equity on firm value is attributed to the market timing theory of capital structure which suggests that firms may prefer equity to debt financing under so long as cost of equity is low certain circumstances. Additionally, the study concludes that Long Term Debt has a significant positive impact on the value of listed manufacturing firms. This finding of the significant impact of debt on firm value is attributed to the Tradeoff and the Net Income approach theories of capital structure. Moreover, firm size has no significant impact on the value of firms listed on the GSE. Overall, the lack of agreement between some of the findings of this study and some previous studies may be due to the variations in sample sizes, sampling periods, industry characteristics and differences in methodologies.

Recommendations

1. Because of the positive effect of both Equity and Debt capital on firm value, it is recommended that manufacturing firms listed on the Ghana

Stock Exchange market employ both debt capital and equity capital to finance their business operations.

2. It is additionally recommended that manufacturing firms employ more Debt capital than Equity because of the greater positive effect of Equity capital on firm value.

3. Manufacturing firms are required to employ proper utilization and management of debt capital since their ability to attract huge inflows of debt capital may be contingent on their ability to manage debt properly to boost their creditworthiness.
4. Firms should time the equity market to determine when equity capital becomes cheaper as compared to debt capital. The study establishes that equity capital has a positive effect on the value of the firm. However, as suggested by the market timing theory, equity capital may only be beneficial in some periods. Consequently, firms may find timing of the equity market extremely beneficial.
5. Again, it is recommended that professional and qualified personnel should be charged with the financing decision of firms in Ghana since an optimal capital structure is a must for firms in Ghana if they must compete effectively and survive especially in times of financial and economic distresses, and attaining an optimal capital structure requires an effective and strategic financial planning.

Suggestions for Further Research

The findings of the study derive from a sample of listed manufacturing companies in Ghana. Future research studies can consider a sample of other manufacturing companies or other samples from different sectors to estimate the effect of capital structure on firm value.

It is suggested that future research studies employ macroeconomic variables in the models of estimating the impact of capital structure on the value of the firm. Such approach can increase the applicability and validity of research findings.

Further, other models can also be employed to investigate these linkages among the variables. Wittingham et.al (2006) avers that, basing inference or conclusions on a single model may be misleading, therefore, because a rather different model may fit the data nearly as well.

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APPENDICES

Appendix A: Raw Data

FIRMS	YEARS	LONG TERM FIN. DEBT	F. VALUE	SALES	FIRM SIZE
ALUWORKS GHANA LIMITED	2008	0.286634	69256000	57127000	17.86079
ALUWORKS GHANA LIMITED	2009	0.488331	50003000	34271000	17.34981
ALUWORKS GHANA LIMITED	2010	0.276717	50003000	25167000	17.04104
ALUWORKS GHANA LIMITED	2011	0.303002	38589000	49716000	17.72184
ALUWORKS GHANA LIMITED	2012	0.42762	50675000	49681000	17.72113
AYRTON DRUG	2008	0	3295288	11902564	16.29226
AYRTON DRUG	2009	0	3572339	15513573	16.55723
AYRTON DRUG	2010	0	3107310	12455486	16.33767
AYRTON DRUG	2011	0	3929962	20052755	16.81388
AYRTON DRUG	2012	0	4505802	22996295	16.95084
CAMELOT GHANA	2008	0.194968	182031935	2048667	14.5327
CAMELOT GHANA	2009	0.157412	197059573	2579322	14.76304
CAMELOT GHANA	2010	0.13364	187651883	3788241	15.14741
CAMELOT GHANA	2011	0.166635	24849139	3491624	15.06588
CAMELOT GHANA	2012	0.111214	139154084	3648398	15.1098
COCOA PRO COM	2008	0.469613	132627	59394197	17.89971
COCOA PRO COM	2009	0.632403	249824	45541422	17.63413
COCOA PRO COM	2010	0.677978	215992	84127817	18.24785
COCOA PRO COM	2011	0.511319	223632	89164530	18.30599
COCOA PRO COM	2012	0.457916	286804	104768846	18.46727
GUINNESS	2008	0.173742	29188106	137475000	18.73895
GUINNESS	2009	0.127165	28319090	200968000	19.11866
GUINNESS	2010	0.299369	26949894	206499000	19.14581
GUINNESS	2011	0.256519	35336234	244293000	19.49335
GUINNESS	2012	0.073396	81678410	292318000	
SAM WOODE LTD	2008	0.131818	68251852	25894929	17.06956
SAM WOODE LTD	2009	0.165305	1025413426	22162249	16.9139
SAM WOODE LTD	2010	0.149276	176413426	25455287	17.05243
SAM WOODE LTD	2011	0.050747	275933303	33864804	17.33789
SAM WOODE LTD	2012	0.011422	289272175	46951448	17.66462
PIONEER KITCHENWARE	2008	0	38360544	42775342	
PIONEER KITCHENWARE	2009	0.015354	38426283	44643160	17.61421
PIONEER KITCHENWARE	2010	0.021713	41917077	54806798	17.81932
PIONEER KITCHENWARE	2011	0.024837	56945744	66184295	18.00795

PIONEER KITCHENWARE	2012	0.040794	62278366	82322463	18.22615
STARWIN	2008	0.178229	3387033	2468314	14.71905
STARWIN	2009	0.198178	3939285	3085508	14.94223
STARWIN	2010	0.267931	3859995	3761572	15.14035
STARWIN	2011	0.080409	4090198	4245918	15.26147
STARWIN	2012	0	5000436	4808858	15.38597

Appendix B: Pool Panel Regression Data

Firm Value	Equity	Long Term Debt	Firm Size
18.05332	16.92085	0.286634	17.86079
17.72759	16.52236	0.488331	17.34981
17.46847	17.12462	0.276717	17.04104
17.33449	16.98771	0.303002	17.72184
17.74094	16.87581	0.42762	17.72113
15.00800	12.80319	0.194968	14.5327
15.08873	12.91283	0.157412	14.76304
14.94926	13.14986	0.13364	15.14741
15.18414	13.43170	0.166635	15.06588
15.32087	14.27194	0.111214	15.1098
19.01969	18.24686	0.469613	17.89971
16.65222	17.03845	0.632403	17.63413
19.05009	13.14986	0.677978	18.24785
19.33091	15.09895	0.511319	18.30599
18.75109	13.11770	0.457916	18.46727
11.79529	11.07277	0.173742	18.73895
12.42851	11.06277	0.127165	19.11866
12.28299	10.71803	0.299369	19.14581
12.31775	10.72976	0.256519	19.31388
12.56655	11.84191	0.073396	19.49335
17.18927	16.42007	0.131818	17.06956

17.15904	16.47195	0.165305	16.9139
17.10948	16.49620	0.149276	17.05243
17.38041	16.67659	0.050747	17.33789
18.21830	17.50873	0.011422	17.66462
18.03871	15.81067	0.54732	19.31872
18.44577	16.24174	0.497018	19.89637
18.98834	16.97779	0.614697	20.26583
19.43566	17.67357	0.592771	20.987
19.48287	17.70563	0.450272	20.87421
17.46253	16.85864	0	17.57147
17.46425	16.88095	0.015354	17.61421
17.55120	17.04487	0.021713	17.81932
17.85760	17.25582	0.024837	18.00795
17.94712	17.26001	0.040794	18.22615
15.03546	14.47596	0.178229	14.71905
15.18650	14.39280	0.198178	14.94223
15.16617	14.43838	0.267931	15.14035
15.22410	14.66630	0.080409	15.26147
15.42503	14.74489	0	15.38597