THE IMPACT OF LEVERAGE ON FIRMS PROFITABILITY;

EVIDENCE FROM QUOTED BANKS ON THE GHANA STOCK EXCHANGE

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STATEMENT OF AUTHENTICITY

We have read the University regulations relating to plagiarism and certify that this Report is all our own work and does not contain any unacknowledged work from any other source. We also declare that we have been under supervision for this report here in submitted.

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Supervisor's Declaration

I hereby declare that the Preparation and Presentation of the Dissertation Were Supervised In Accordance With the Guidelines on Supervision Laid down by Christian Service University College.

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ABSTRACT

The study investigated the relationship between leverage and firm performance in Ghana over the period 2004 to 2008. Using time series data, the study covered the 8 listed banks over the period 2004-2008.

The study observed that short term debt (STD), long term debt (LTD), and Equity respectively accounted for 31% of the variations of return on equity, 22% of the variations of return on assets and 22% of the variation of operating profit during the study period.

Leverage was found to be significant (at 0.05) in influencing or determining the operating profit, returns on equity and return on assets of listed banks in Ghana.

The study also showed that over the period under study, the performance of listed banks measured by returns on equity (ROE), return on assets (ROA) and operating profit margin (OPM), were 45%, 5% and 5% respectively. This suggests an average performance of listed banks in Ghana during the study period.

An important observed was that 87% of the total capital of listed banks was made up of debt. Of this, 82% constitute short-term debts while 5% was made up of long-term debts. This is so because the market for long term debt in Ghana is not well developed. It also shows that most assets of listed banks are financed by short term debts.

This has reemphasized the fact that listed companies are highly levered, and also highlights the importance of short-term debts over long-term debts in the financing of banks in Ghana.

The study agreed with previous studies such as Abor (2005) and Amidu (2007) in stressing the importance of short-term debt in firm financing in Ghana.

DEDICATION

This thesis work is dedicated to our parents, who have been a constant source of support and encouragement during the challenges of graduate school and life and to Dr. Kwaku Ahenkora, Mr Eric Appiahgyei Dankah and Mr. Stephen Alewabah who have always loved us unconditionally and whose good examples have taught us to work hard for the things that we aspire to achieve.

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To our group mates who willingly helped us gather the necessary data and information needed for this compilation and to all who through diverse ways helped in the data collection processes

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CHAPTER ONE

1.1 INTRODUCTION

One of the most important reference theories in enterprises financing policy is the theory of capital structure. The capital structure of an enterprise is the mix of debt including preference stock and equity; this is referred to as the firms' long term financing mix, Watson and Head (2007).

Capital structure decision is fundamental for any business organization because of the need to maximize return to the various stake holders and also because of the fact that such decision has great impact on the firms' ability to deal with competitive environment. One crucial issue confronting managers today is how to choose the combination of debt and equity to achieve optimum capital structure that would minimize the firm's cost of capital and improves return to owners of the business. Even though generally firms have a choice as to how to combine debt and equity, managers attempt to ascertain a particular combination that will maximize profitability and the firm's market value.

The kind of combination of debt and equity that will minimize the firms cost of capital and hence maximizes

1.2 PROBLEM STATEMENT

A study on capital structure was the path breaking contribution of Modigliani and Miller (1958) under the perfect capital market assumption .Modigliani and miller (1958) assumed that under condition of perfect market firm's value is independent of its capital structure. Other studies conducted by Bos and Fetherston, (1993), concluded that, capital structure affects both performance or profitability and riskiness of firms. This believes has been held

by earlier researchers such as Miller and Modigliani (1963) and Titman and Wessel (1988). The issue of leverage has created tidal waves and as a result, numerous academic writers have examined its impact on firm profitability. Lacking significantly in the literature are studies that are purported to investigate the association between debt policy and performance in developing nations like Ghana.

Abor (2005) in his study in Ghana 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.

Therefore, from the foregoing discussions based on the available empirical literature, it is clear that results from investigations into the relationship between leverage or capital structure and performance are inconclusive.

Hence this study was aimed at contributing to the debate on leverage by examining the relationship between leverage and profitability of listed banks in Ghana using data from Ghana. The reason being that, almost all the above empirical studies used data from developed nations which have superior business environment other than a developing nation like Ghana. The researchers were motivated by the fact that, this study was going to fill this identified gap.

The firm's profitability and market value is the optimal capital structure. Unfortunately, financial managers in the banking industry do not have a clear cut guideline that they can consult when taking decision in connection with optimal capital structure, hence the study was initiate to contribute to the literature in this context.

1.3 GENERAL OBJECTIVE

Based on the above discussion, this study was aimed at achieving one major objective; thus it attempted to generate empirical evidence on whether a bank's profitability is dependent on its leverage.

1.4 SPECIFIC OBJECTIVES

To determine whether firms profitability depends on ROE against STD, LTD and Equity.

To determine whether firms profitability depends on ROA against STD, LTD and Equity.

To determine whether firms profitability depends on OPM against STD, LTD and Equity.

1.5 RESEARCH QUESTIONS

This study attempted to provide answer to the question:

- Do leverage or capital structure decisions matters in listed bank's profitability in Ghana? In other words is there a relationship?
- What is the investment in leverage by banks in Ghana?

1.6 HYPOTHESES

This study was guided

by the following major hypothesis:

H_0: Abank's profitability (Return on Assets (ROA), Return on Total Capital (ROTC), Operating Profit Margin) significantly depends on its leverage structure in Ghana

H_1: A bank's profitability (ROA, ROTC and Operating Profit Margin) significantly does not depends on leverage structure in Ghana

1.7 SCOPE OF THE STUDY

The study covered a period of five (5) years 2004 to 2008 on the listed banks (Cal Bank, Ecobank, GCB, HFC Bank, SG – SSB, Standard Chartered Bank, Trust Bank, and UT – Bank) on the Ghana Stock Exchange (GSE),.

1.8 SIGNIFICANCE OF THE STUDY

To the researcher it marked the beginning of our efforts to adding to existing knowledge.

For the academic world, this study has shed some light on the leverage or capital structure issue which has much been discussed since the M&M propositions.

The significance of this study is further enhanced considering the fact that research into capital structure in Ghana is only at its infantile stage.

For practitioners, this study is relevant and of much interest to financial controllers, managers, directors particularly those working in the banks to get to know about the leverage structure of the other banks in Ghana.

1.9 LIMITATIONS OF THE STUDY

The findings of this study are limited from the following aspects:

- This study investigated only listed banks. Hence, its findings are not significantly applicable to unlisted firms.
- There were also problem to do with adequate time for the study as the researchers had to combine academic work with employment duties.
- There was also a problem in getting access to funds to finance the project

1.10 ORGANIZATION OF THE STUDY

The study is organized into five (5) chapters.

Chapter one is introduction and has significantly highlighted background to the study, objectives of the study, scope, significance and limitations of the study.

Chapter two contains review of related literature and the conceptual framework of the study.

Chapter three explains the methods used for the study.

Chapter four contains the analysis of data collected.

Finally, Chapter five contains the key findings of the study, recommendations and conclusion.

CHAPTER TWO

REVIEW OF EMPIRICAL AND THEORETICAL STUDIES ON LEVERAGE

2.1 INTRODUCTION

Traditionalist holds the view that, judicious use of debt finance can lower the weighted average cost of capital (WACC); this is the opportunity cost of capital or discount rate) until equilibrium is reached, debt beyond the equilibrium level will increase the WACC, as equity holders will demand more returns. Therefore as the cost of finance reduces the value of the firm will rise

They hold the view that, as organization introduces debt into its capital structure the weighted average cost of capital will fall because initially the benefit of cheap debt finance more that outweighs any increase in the cost of equity required to compensate equity holders for higher risk and so the value of the firm will rise, implying better performance. Also interests on debt are allowed for tax purposes but dividends paid to equity holders are not.

As gearing continues to increase, the equity holders will ask for increasingly higher returns and eventually this will start to outweigh the benefit of cheap debt finance, and the WACC will rise, consequently the value of the firm will reduce. The traditional view therefore claims that there is an optimum capital structure where WACC is at a minimum. The main support for the traditional view is that it simply accords with ‘common sense’ and until 1958 it was not questioned and, or challenged.

2.2 REVIEW OF EARLIER STUDIES ON CORPORATE FINANCING

The foremost study on debt finance was conducted by the noble prize winners; Modigliani and Miller (1958), they demonstrated that, in an ideal world without taxes, the value of a firm does not depend on the debt-equity mix. Simply put, debt policy is irrelevant to the value of the firm.

Nonetheless, this conclusion is inconsistence with what one sees in the real world, where leverage matters since businesses operate in an increasingly imperfect and competitive world. As a result, Modigliani and Miller (1963) reviewed their earlier proposition to include taxes and other market imperfections and contend that leverage matters and firms can really maximize value by using more debt in their operations so as to take advantage of the tax shield benefits of leverage. This has generated a lot of euphoria in the corporate finance world, calling for a lot of studies to test the conclusions reached by MM in 1958 and 1963.

2.2.1 The pecking order theory

The relationship between capital structure and company performance was further enhanced in the corporate finance literature within the framework of 'Pecking Order Theory'. Myers, 1984; Myers and Majluf, 1984 contend that, firms would always prefer internal sources of finance as opposed to external sources. These authors argue that, internal funding which is specifically the use of retained earnings is cheaper as a source of finance relative to external funding which is exclusively the use of debt and equity.

This preference is due to the cost that is associated with the information asymmetry that exist between managers and outside market participants thus making external funding expensive. Generally, investors are of the view that managers would only issue overvalued shares and

the vice versa thereby raising cheap capital. Although this proposition may not always be true, investors often demand higher returns to compensate when there is a new issue thus making external funding relatively expensive (Barclay and Smith, 2005). As a result, astute managers would ignore external funding and use internal sources instead.

2.2.2 Signaling theory Hypothesis:

Leland and Pyle (1977) showed that the value of a firm increases with the proportion of equity held by the original owners. If the owners feel that the firm's shares are undervalued, they will not issue new stock. Therefore the act of issuing stock is viewed by the markets as a signal that the shares are overpriced, and accordingly, the markets adjust the prices downwards. If debt is issued, the reverse is signaled, and stock prices are adjusted upwards. Leland and Pyle also explain the existence of financial intermediation institutions which specialize in reducing the information barrier between the owners and the public.

Masulis (1980), in his cross-sectional study of the announcement returns of 133 exchange offers, found evidence to support the conclusion that stock prices are positively related to leverage changes because of a positive signaling effect (Copeland, 1988).

Lee (1987) found that insiders typically do not sell their shares during leverage-increasing exchange offers. Instead, they buy stock and increase their ownership. This is because they value the shares at prices higher than their market price and are taking advantage of their better knowledge about the future prospects of the firm (Copeland, 1988). Therefore, the signaling hypothesis has been shown to exert an influence on capital structure.

2.2.3 Bankruptcy Costs

Whereas Myers and Majluf (1988) concluded that, firms prefer debt over equity, and of internal financing over external, yet firms do issue equity too. This is explained by the existence of direct bankruptcy costs, which include legal, accounting, and other administrative costs attributable to financial readjustments and legal proceedings at bankruptcy. Some indirect costs also arise before the actual legal proceedings take place. Higher levels of debt lead to higher fixed charges and vise versa.

Therefore there is a limit to the amount of debt that a firm can take. Altman (1984) also found that the direct costs of bankruptcy are small but significant. But when indirect costs are also taken into account, bankruptcy costs could be as much as 20 percent of the value of the firm (Weston,1989).

Bradley, Jarrell, and Kim, (1984), considered earnings volatility as a proxy for bankruptcy costs and found it to be significantly negative when regressed against leverage, supporting the importance of bankruptcy costs.

Evidence on bankruptcy costs as a determinant of capital structure is therefore significant, and if the indirect costs are considered, does put a brake on the issue of debt. The models and evidence outlined above go to show the complexity of capital structure in corporate financing.

Myers entitled his address to the American Finance Association in 1983, "The Capital Structure Puzzle", which aptly describes the prevailing situation. The basic question of whether a firm's financing decisions impact on its value remains unresolved. Evidence on capital structure is difficult to reconcile together. As Copeland and Weston point out, "A

great deal of work needs to be done before a consensus about the effect of capital structure on the cost of capital will be reached" (Copeland, 1983). "Thus, the present consensus on this issue in the financial literature appears to indicate that the determinants of a firm's capital structure are still subject to debate and require further empirical investigation" (Martin,1988). As seen above, there is by now some evidence that financing decisions do play a role in determining value and an optimal capital structure could theoretically well exists.

The difficulty is in determining it. An eclectic approach may be useful to adopt in this matter, by viewing different theories and models as different approaches, and taking these into account in determining a suitable financing mix. But the task has definitely not reached a stage where a practicing manager can apply the knowledge so far gained to his firm in the form of a simple checklist.

However, it is the Brealey and Myer's Third Law which puts the issue in its proper perspective: "You can make a lot more money on the left-hand side of the balance sheet than on the right" (Brealey,1988). Therefore, it is more relevant for a company to spend time and energy in its investment decisions than bother too much about its source of funds.

2.2.4 Titman and Wessel theory

Titman and Wessel (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.

Also, Cassa and Holmes (2003), and Hall et al. (2004) all found negative relationship between profitability and both long-term debt and short-term debt ratios.
Kester (1986) finds a significantly negative relation between profitability and debt/asset ratios.

Rajan and Zingales (1995) also confirm a significantly negative correlation between profitability and leverage in their work. 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.

Graham (2000) argued in his work that big and profitable companies present low debt levels. 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.

Petersen and Rajan (1994) found a significantly positive association between profitability and debt ratios in a study designed to investigate the relationship. Scherr et al. (1993), argued that, start-up firms with higher anticipated profitability have higher debt to equity ratios.
Taub (1975) in a regression analysis of four profitability metrics against debt ratio found a significantly positive association between debt and profitability.

Champion (1999), and Leibestein (1966), all contends that 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'.

Abor (2005) in his study in Ghana 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.

Therefore, from the foregoing discussions based on the available empirical literature, it is clear that results from investigations into the relationship between leverage or capital structure and performance are inconclusive.

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The researchers were motivated by the fact that, this study was going to fill this identified gap.

2.3 CHOICE OF VARIABLES

In applied studies it is common to associate improvements in firm performance with increased profitability, higher efficiency, and increased output (Myers, 2001). There are a range of profitability indicators that can be used to measure performance. The choice of a particular measure is the prerogative of the researcher and subject to the availability of

appropriate data. It should be stressed that no one of possible performance indicators can be given the absolute priority. It may be advantageous to employ several measures rather than select a single one relying on subjective assumptions about their appropriateness.

For instance Kuznetsov and Muravyev (2001) employed labor productivity, profitability, and Tobin's Q as proxies for performance. In this study we considered three profitability measures namely operating profit margin (OPM), Return on Assets (ROA) and Return on Equity (ROE).

This choice is motivated by the assumption that these indicators may have different interpretations regarding firm's performance. Return on Assets is calculated by dividing profit before tax by total capital and Return on Equity is calculated by dividing profit before tax by book value of equity, whist operating profit margin is calculated as profit before tax divided by total sales revenue.

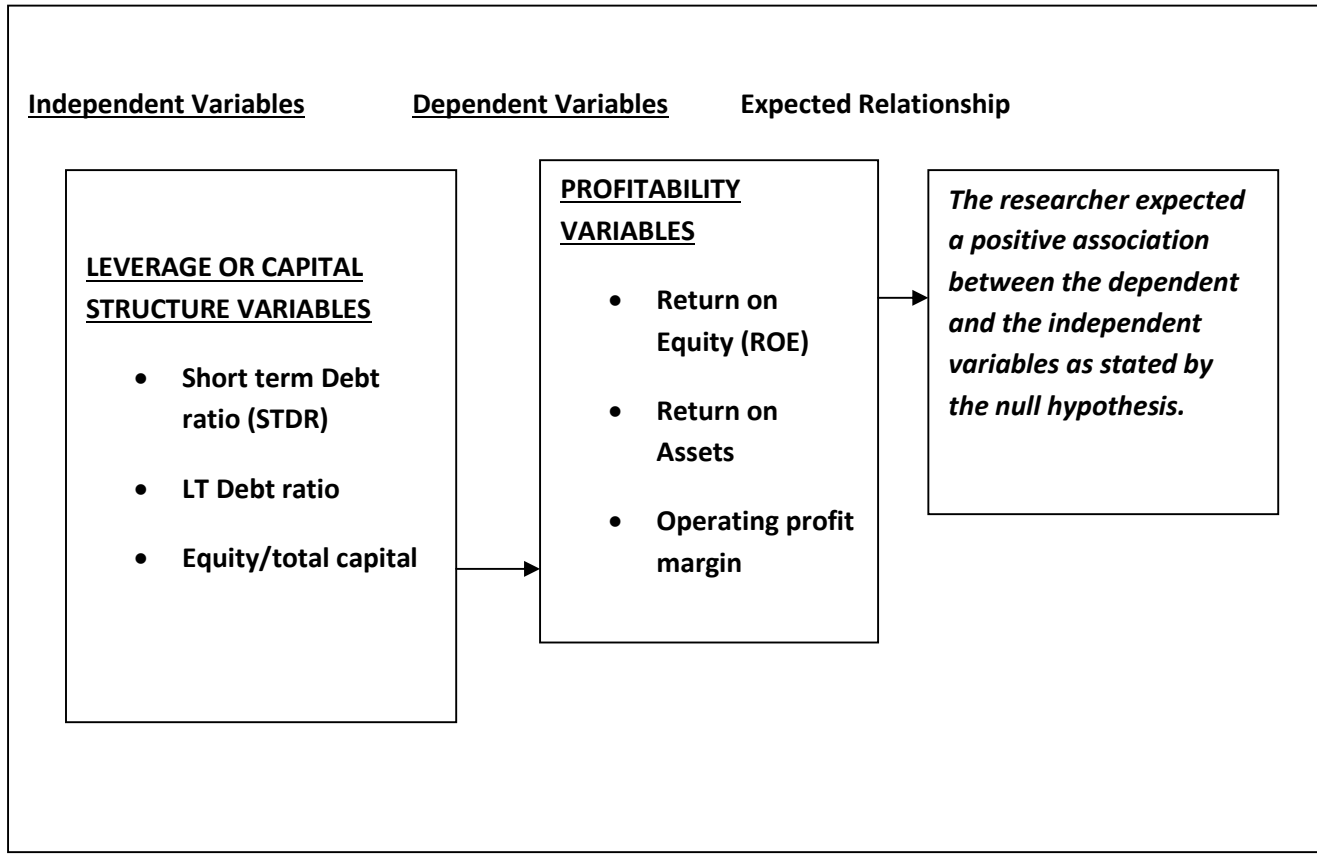
The leverage or capital structure variables were debt to Equity, equity to total capital, and short term debt to total capital.

2.3.1 Variables used in the study

Based on the objectives of this study and the literature reviewed, a research model was designed or constructed as shown in figure 1.

Two variable groupings were used in the study. They are dependent and independent variables.

FIGURE 1: A diagram showing the relationship between indicators of leverage or capital structure and profitability.



2.3.2 Definition of terms, measurements or ratios

2.3.2.1 The ratio of short term debt to total capital

Short term debt to total capital is the first leverage ratio used in the study as one of the explanatory variables. It sought to find the extent to which listed banks in Ghana use short term debts to finance their operational activities and how this sort of debt finance relates or associates with performance (profitability).

Gatsi et al (2010) have cited (Abor 2005; Amidu 2007) , and contends that, finance researchers have shown empirically that firms uses a significant amount of short term debt to finance their activities relative to long term debts.

Abor 2005 established that, there exist a significantly positive relationship between company profitability and short-term debt. Furtherance to this, Amidu (2007) observed an inverse relationship between short-term debt and firm profitability. Titman et al (1988) established that smaller firms tend to use significantly more short term debt than larger ones.

In this study, the researcher expects a significantly positive relationship between short-term debt and the performance metrics. In the study, short-term debt is defined as the component of total liabilities payable within one year.

Measurement Notation:

Short term debt to total capital (STD/TC) = $\frac{\text{Short term debt or current liabilities}}{\text{Total equity + Total preference cap}}$

2.3.2.2 The ratio of long term debt to total capital

Long-term debt to total capital is another explanatory variable used in the study to explain the mix of leverage structure. It sought to determine the extent to which quoted banks in Ghana use long term debt to finance their operations and how this category of debt associates with performance for the chosen period of the study.

Gatsi et al (2010) cited Abor (2005) and Amidu (2007) that firms use a relatively lesser amount of long-term debt to finance their activities relative to short-term debt.

According to Abor (2005), there exist an inverse relationship between company profitability and long-term debt.

Amidu (2007) observed a positive association between long-term debt and firm profitability.

In view of the above inconclusive findings relating firm profitability and long-term debt, the researcher expects a positive relationship between long-term debt and the performance in this study.

In the study, long-term debt is defined as the total liabilities of the company payable beyond one year.

Measurement Notation:

Long term debt to total capital (LTD/C) or D/E = $\frac{\text{Long term debt}}{\text{Total capital}}$

2.3.2.3 The ratio of equity to total capital

This ratiois expressed as equity divided by total capital.

Measurement Notation:

Total equity to total capital (E/TC) = $\frac{\text{Equity}}{\text{Total equity + Total preference capital}}$

2.3.2.4 Operating Profit Margin

Finance and Accounting Managers often measures the performance of a firm by the ratio of net income to total sales. However, because net income measures profit net of interest expense, this makes the apparent profitability of the company a function of solely the equity capital as if the company is an all equity finance firm (Brealey, Myers and Marcus, 2007).

In this study, operating profit is used because, the concern is about return on all the firm's assets not equity investment:

Measurement notation:

$$\textbf{Operating profit margin} = \frac{\text{Operating profit}}{\text{Total assets}}$$

The assets in a company's books are normally valued on the basis of their original cost (less any depreciation).

2.3.2.5 Return on Equity (Roe)

The return on equity (ROE) is defined as the ratio of pre-tax profit to total equity capital. This is a common and widely accepted measure of Return in the accounting and finance literature Gatsi (2010). Furthermore, this definition of ROE has been used specifically so as to prevent the results of the estimation from being distorted by the influence of tax payments.

Measurement notation:

$$\text{Return on Equity} = \frac{\text{Operating profit}}{\text{Total Equity}}$$

2.3.2.6 Return On Asset

$$\text{ROA} = \frac{\text{Net Income}}{\text{Average Total Assets}}$$

The return on assets formula, sometimes abbreviated as ROA, is a company's net income divided by its average of total assets. The return on assets formula looks at the ability of a company to utilize its assets to gain a net profit.

Net income in the numerator of the return on assets formula is found on a company's income statement. Net income is the amount earned by a company after subtracting out the expenses incurred, including depreciation and taxes.

Average total assets in the denominator of the return on assets formula on a company's balance sheet. The average of total assets should be used based on the period been evaluated.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 TYPES OF RESEARCH

Research can be categorized into exploratory, descriptive, or explanatory (causal). Exploratory research is undertaken to gain better understanding of the dimension of a problem.

Saunders, Lewis and Thornhill (2007) cited Robson (2002) and contend that exploratory study is a valuable means of finding out what is happening; to seek new insights; to question and to assess phenomena in a new light. It is particularly useful to clarify an understanding of a problem.

Descriptive research seeks to describe characteristics of a population or phenomenon. The object of descriptive research is to portray an accurate profile of persons, events or situations, Robson, (2002) as cited by Saunders, Lewis and Thornhill (2007).

Causal study is used to identify cause – and - effect relationships between variables. Studies that establish causal relationships between variables may be termed explanatory studies. The emphasis here is on studying a situation or a problem in order to explain the relationship between variables (Saunders, Lewis and Thornhill 2007).

Based on this explanation, this study could be classified as causal in nature as it sought to explain the cause – and – effect relationship between capital structure and performance variables. Therefore almost all the data used in this study were quantitative.

Despite its quantitative orientation, this study was enhanced with qualitative analysis. This was due to the fact that a qualitative study provides greater understanding of a concept rather than providing precise measurements or quantifications.

3.2 SOURCES OF DATA

The collection of data in the investigation level of any study can be focus on organizations, departments, work groups, individuals, or objects. For this study, the basic source of information was drawn from individual banks listed on the Ghana Stock Exchange (GSE) i.e. secondary data.

There were eight (8) banks.

3.3 PROFILE OF THE GHANA STOCK EXCHANGE (GSE)

The Ghana Stock Exchange (**GSE**) is the principal stock exchange of Ghana. The exchange was incorporated in July 1989 with trading commencing in 1990. It currently has around 36 listed companies and 2 corporate bonds. All types of securities can be listed. Criteria for listing include capital adequacy, profitability, spread of shares, years of existence and management efficiency. The GSE is located in Accra.

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. Other members of the Committee were:

- Dr. Kobina Erbynn - Former Chief Executive, GIPC
- Mr. N. K. Kudjawu - Kudjawu & Co, Accra
- Nana Wereko Ampem II (Late) - Former Chairman, Barclays Bank of Ghana Ltd
- Mr. Afare Donkor - Former Managing Director, CAL Bank
- Mrs. S.Beata-Ansah - Ex Managing Director, HFC Bank Ltd
- Mr. E. J. A. Aryee (Late) - Former Managing Director, NTHC Ltd
- Dr. J. K. Richardson - Former Managing Director, BAT Ghana
- Mr. S. Y. Osafo-Maafo - Former Managing Director, National Investment Bank
- Mr. Yeboa Amoa - Who became the Exchange's first Managing Director

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.

Historically, the Exchange was set up with the following objects:

- 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.

3.4 POPULATION FRAME

A population is any complete group of entities sharing some common set of characteristics Saunders, Lewis and Thornhill (2007). The population under this study could be defined as all the banks listed on the GSE. Therefore the Population frame was the list of banks found on the GSE between the periods 2004 to 2008 as found in the GSE Fact book produced each year. This study used the June 2009 fact book containing records of 2004 to 2008, a period of five (5) years.

3.5 DATA COLLECTION

The study involved only secondary data which were collected by the researcher from the following sources:

- Annual reports of listed companies on the GSE
- GSE annual companies fact book for the period June 2009 relating to 2004 to 2008 financial years
- GSE world wide web home page on the internet.

There was no other data collection instrument used in this study. No sampling technique was also employed as this was a population study.

3.6 DATA ANALYSIS TECHNIQUE

Two (2) major statistical analysis techniques were used in this study. They were:

- Descriptive statistics such as the mean, and the standard deviation to determine the trend and behavior of variables.
- Regression was used to investigate the strength, direction, significance of association or relationship between variables.

All statistical analysis mentioned above was carried out using a computer software program called SPSS on MS windows 7 Ultimate plus Ms excel and word.

3.7 MODEL SPECIFICATION

In this study, the question of whether leverage can influence a firm's performance in Ghana is studied. Firm performance is measured using three (3) variables namely:

1. Operating profit margin
2. Return on equity
3. Return on assets

For simplicity, short term debt to equity (STD), long term debt to equity (LTD) and Equity to total capital were considered as leverage variables.

The impact of leverage in the above sense on the three (3) mentioned performance metrics were assessed via the following multiple regression models.

Model No. 1 *Relationship between return on equity (Y1) and STD, LTD and Equity*

$$Y_{1,i,t} = \alpha_i + \beta_1 X_{1,i,t} + \beta_2 X_{2,i,t} + \beta_3 X_{3,i,t} + u_i$$

Model No.2 *Relationship between return on assets (Y2) and STD, LTD and equity*

$$Y_{,2i,t} = \alpha_i + \beta_1 X_{1,i,t} + \beta_2 X_{2,i,t} + \beta_3 X_{3,i,t} + u_i,$$

Model No.3 *Relationship between operating profit margin (Y3) and STD, LTD and TD*

$$Y_{3,i,t} = \alpha_i + \beta_1 X_{1,i,t} + \beta_2 X_{2,i,t} + \beta_3 X_{3,i,t} + u_i$$

Where: u_i is the firm error term, and α_i is the firm's baseline, and X_1= STD, X_2= LTD and X_3= equity

3.8 RESEARCH QUESTIONS AND NULL HYPOTHESIS

Question 1: Do leverage decisions matters in firm's performances in Ghana? In other words is there a relationship?

H_0: A firm's performance (ROE, ROA, or Operating Profit Margin) significantly does not depend on leverage in Ghana.

To answer the above question and to test the null hypothesis, regression analysis was used. The level of confidence employed throughout the analysis was 95%. Hence the cut off point for a relationship or model to be significant was not more than 5%.

Question 2: What is the investment in leverage of listed banks in Ghana?

In order to answer the above question, descriptive statistics i.e. mean and standard deviation were used.

CHAPTER FOUR

DATA AND EMPIRICAL ANALYSIS

4.1 INTRODUCTION

This chapter reports the findings of the study. The findings are based on the methodology as discussed in Chapter three (3). The chapter first, looks at the descriptive statistics of the variables used in the study, and are reported in Table 4.1. This is then followed by Tables 4.2 to 4.4 which report the results of some regression analyses.

4.2 LEVERAGE LEVELS OF LISTED BANKS IN GHANA

This section of the study dissects the result of the descriptive statistics that was run to observe the trend of leverage in Ghanaian listed banks.

Table 4.1 reports the mean leverage levels and associated mean performance of listed banks over the study period and their standard deviations as well.

capital structure	**Mean**	**Std dev**
short term debt	0.82	0.14
Long term debt	0.05	0.11
Equity	0.13	0.07
Performance		
ROE	0.45	0.23
ROA	0.05	0.02
OPM	0.05	0.02

Table 4.1 Summary of Descriptive Statistics

As shown in table 4.1, for every cedi of financing, listed banks employed 82% short term debt. However, some variations in levels of STD were eminent as indicated by the Standard deviation of 14%.

This shows the level of reliance listed banks place on short term debt finance. Furthermore, the use of LTD averaged 5% and was not astronomically deviated as in the case of STD (i.e. 11%). For every cedi of financing, listed banks during the study period employed 5% of LTD in their operations.

This means listed banks do not rely much on LTD. This is so because the market for long term debt is not well developed in Ghana. The total debt averaged 87%. For every cedi of financing, listed banks employed 13% Equity. However, some variations in levels of Equity were eminent as indicated by the Standard deviation of 7%.

In fact this is as a result of the fact that the ratio of STD supper imposed itself on the LTD, and hence the TD ratio tends to mimic the behavior of the STD.

This observed trend in financing structure presents some interesting results and will direct the extent at which listed banks can take opportunities as they are presented by the environment, given the fact that most of them are finance by short term debts. This has reemphasized the fact that listed companies are highly levered, and also highlights the importance of short-term debts over long-term debts in the financing of companies 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.

There has been an established trend that significant proportion of the total assets of listed banks in Ghana is represented by debt.

The descriptive statistics above showed that over the period under study, the performance ratios measured by returns on equity (ROE) was 45%, return on assets (ROA) was 5%, and operating profit margin (OPM) was 5%.

These pictures suggested an average performance of listed banks in Ghana during the study period.

4.3 REGRESSION RESULTS

The various regressions that were run are discussed here. The regression results are presented in Table 4.3. A regression analysis was performed on the dependent and independent variables to check on the existence of multi-co linearity problem. In a multiple regression model, multicollinearity exists when two independent variables are perfectly correlated with each other. The result is shown in the Table 4.3 below.

As a rule of thumb a variable inflation factor (VIF) in excess of 5 is considered an indication of harmful multi-co linearity, Zikmund et al (2010). All the VIF are less than 5, therefore it can be said that there is no multi-co linearity problem for the models.

The results of the regression analysis can therefore be interpreted with a greater degree of confidence. The Durbin -Watson statistic was also used to test for autocorrelation. The Durbin- Watson value ranging from 1.601 to 1.645 indicates that the data has no serial correlation or autocorrelation problem.

The multiple regression models were highly significant. The coefficient of determination (R^2) observed by the three models indicated that the variations in the dependent variables were explained by variation in the independent variables.

From Table 4.3 below, the results indicate that the explanatory variables or the leverage variables partially explained 31% of the variations in ROE of listed banks in Ghana within the period under study.

On the other hand 22% of the variations in the leverage partially explain the variations in return on assets of listed banks during these same periods as shown by table 4.3.

Similarly, 22% of the variations in leverage accounted for the variations in operating profit margin as indicated in Table 4.3.

			STD	LTD	EQUITY
Pearson Correlation	ROE		0.530	-0.421	-0.427
	ROA		0.436	-0.434	-0.227
	OPM		0.436	-0.434	-0.227
Sig. (1-tailed)	ROE		.000	.003	.003
	ROA		.002	.003	.080
	OPM		.002	.003	.080

Table 4.4 Pearson Correlations

Table 4.4 provides the Pearson correlation for the variables that were used in the regression model. Pearson's correlation analysis was used to find the extent of relationship that exists between leverage variables and ROE, ROA and OPM.

We found that, ROE is positively correlated with STD, LTD and Equity. These are obvious in the table 4.4 above. It stands to reason that in the banking industry as the companies invest proportionately high in STD, ROE will increase as well and vice versa.

Furthermore, the study also observed that, ROA and OPM were all negatively correlated with LTD and Equity. These are obvious in the table 4.4 above.

It also stands to reason that in the banking industry as the companies invest proportionately high in LTD and Equity, ROA and OPM will decrease and vice versa.
From Tables 4.2 and 4.3 above it can be observed that STD, LTD and TD were significant in determining ROE, ROA and OPM.

The above results means that returns and leverage hypotheses do exist in Ghanaian listed bank for the period under study. This then suggest that the researcher do not reject H_0 and thus accords with earlier studies conducted by Abor (2005); Amidu (2007) in Ghana.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Listed banks generally play major roles in the economic development of every country. One critical decision they face is the debt-equity choice. This choice is necessary for the profit determination of firms. What this means is that banks that are able to make prudent financing decisions would have a competitive advantage in the industry and thus make superior profits. This can only be recognized if listed banks know how debt policy influences their performance.

This study examined the relationship between leverage and banks' performance. The study covered eight listed banks over the period 2004 to 2008. Time series data was employed and the major findings of the study are summarized below.

5.2 PERFORMANCE OF LISTED BANKS IN GHANA

The result from the descriptive statistics showed that over the period under study, the performance of listed banks measured by returns on equity (ROE),return on assets (ROA) and operating profit (OPM) were 45%, 5% and 5%.

This picture suggests an average performance of listed banks in Ghana during the study period.

5.3 LEVERAGE STRUCTURE OF LISTED BANKS IN GHANA

The study has shown that, for every cedi of financing, listed banks employed 0.82 pesewas of STD, 0.05 pesewas of LTD and 0.13 pesewas of Equity in financing their operations. However, some variations in levels of STD, LTD and Equity were eminent as indicated by the Standard deviations of 0.14 for (STD), 0.11 (for LTD) and 0.07 (for Equity).

This shows the level of reliance listed banks placed on short term debt finance. This means listed banks do not rely much on LTD. This is so because the market for long term debt is not well developed in Ghana.

The total debt averaged 87%. In fact this is as a result of the fact that the ratio of STD supper imposed itself on the LTD, and hence the TD ratio tends to mimic the behavior of the STD. The observed trend in leverage presents some interesting results and will direct the extent at which listed banks can take opportunities as they are presented by the environment, given the fact that most of them are finance by short term debts.

This has reemphasized the fact that banks are highly levered, and also highlights the importance of short-term debts over long-term debts in the financing of banks 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.

5.4 LEVERAGE AND THEIR IMPACT ON PERFORMANCE

This study has shown that during the study period leverage was very significant (at 0.05) in influencing or determining returns on equity, return on assets and the operating profit of listed banks in Ghana.

The results indicate that the explanatory variables (the leverage ratios in this case) partially explained 31% of the variations in ROE of listed banks in Ghana within the period under study.

On the other hand 22% of the variations in leverage, accounted for the variations in return on assets of listed banks during these same periods. Similarly, 22% of the variations in leverage also accounted for the variations in operating profit.

This result then suggests that the researcher do not reject H_0 and thus accords with earlier studies conducted by Abor (2005); Amidu (2007) in Ghana.

5.5 CONCLUSION

The study investigated the relationship between leverage and firm performance in Ghana over the period 2004 to 2008. Using time series data, the study covered the 8 listed banks over the period 2004-2008.

The study observed that short term debt (STD), long term debt (LTD), and Equity respectively accounted for 31% of the variations of return on equity, 22% of the variations of return on assets and 22% of the variation of operating profit during the study period.

Leverage was found to be significant (at 0.05) in influencing or determining the operating profit, returns on equity and return on assets of listed banks in Ghana.

This then suggest that the researcher do not reject H_0 and thus accords with earlier studies conducted by Abor (2005); Amidu (2007.

The result from the descriptive statistics also showed that over the period under study, the performance of listed banks measured by returns on equity (ROE), return on assets (ROA) and operating profit margin (OPM), were 45%, 5% and 5% respectively. This suggests an average performance of listed banks in Ghana during the study period.

An important observed was that 87% of the total capital of listed bankswas made up of debt. Of this, 82% constitute short-term debts while 5% was made up of long-term debts. This is so because the market for long term debt in Ghana is not well developed. It also shows that most assets of listed banks are financed by short term debts.

This has reemphasized the fact that listed companies are highly levered, and also highlights the importance of short-term debts over long-term debts in the financing of banks in Ghana. The study agreed with previous studies such as Abor (2005) and Amidu (2007) in stressing the importance of short-term debt in firm financing in Ghana.

5.6 RECOMMENDATIONS

The question as to whether leverage has some impact on performance should not be downplayed as evidenced by this study which accords with previous studies such as Abor (2005) and Amidu (2007).

It should therefore be the burning desire of top management of every firm to make prudent financing decision in order to remain profitable and competitive. Hence managers should know how and to what extent leverage influences their performance. The government of Ghana and policy makers must develop the bond market so that banks and other companies can raise a lot of long-term debt to finance their operational needs.

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APPENDIX

Regression

MODEL 1

Descriptive Statistics

	Mean	Std. Deviation	N
ROE	.4493	.22659	40
STD	.8250	.14379	40
LTD	.0453	.10699	40
EQ	.1298	.07262	40

Correlations

		ROE	STD	LTD	EQ
Pearson Correlation	ROE	1.000	.530	-.421	-.427
	STD	.530	1.000	-.864	-.694
	LTD	-.421	-.864	1.000	.238
	EQ	-.427	-.694	.238	1.000
Sig. (1-tailed)	ROE	.	.000	.003	.003
	STD	.000	.	.000	.000
	LTD	.003	.000	.	.070
	EQ	.003	.000	.070	.
N	ROE	40	40	40	40
	STD	40	40	40	40
	LTD	40	40	40	40
	EQ	40	40	40	40

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.305[a]	5.278	3	36	.004	1.601

a. Predictors: (Constant), STD, LTD, EQ

b. Dependent Variable: ROE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	8.531	9.001		.948	.350		
	STD	-7.885	8.973	-4.996	-.879	.385	.001	1.6763
	LTD	-8.572	8.943	-4.041	-.959	.344	.001	2.9193
	EQ	-9.162	9.206	-2.932	-.995	.326	.002	2.1862

a. Dependent Variable: ROE

Coefficient Correlations[a]

Model			EQ	LTD	STD
1	Correlations	EQ	1.000	.998	.999
		LTD	.998	1.000	.999
		STD	.999	.999	1.000
	Covariances	EQ	84.752	82.150	82.512
		LTD	82.150	79.971	80.199
		STD	82.512	80.199	80.520

a. Dependent Variable: ROE

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	STD	LTD	EQ
1	1	2.982	1.000	.00	.00	.00	.00
	2	.831	1.894	.00	.00	.00	.00
	3	.187	3.990	.00	.00	.00	.00
	4	6.903E-6	657.244	1.00	1.00	1.00	1.00

a. Dependent Variable: ROE

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-.1160	.5844	.4492	.12543	40
Residual	-.25003	.50720	.00000	.18913	40
Std. Predicted Value	-4.507	1.078	.000	1.000	40
Std. Residual	-1.270	2.576	.000	.961	40

a. Dependent Variable: ROE

Regression

MODEL 2

Descriptive Statistics

	Mean	Std. Deviation	N
ROA	.0513	.02289	40
STD	.8250	.14379	40
LTD	.0453	.10699	40
EQ	.1298	.07262	40

Correlations

		ROA	STD	LTD	EQ
Pearson Correlation	ROA	1.000	.436	-.434	-.227
	STD	.436	1.000	-.864	-.694
	LTD	-.434	-.864	1.000	.238
	EQ	-.227	-.694	.238	1.000
Sig. (1-tailed)	ROA	.	.002	.003	.080
	STD	.002	.	.000	.000
	LTD	.003	.000	.	.070
	EQ	.080	.000	.070	.
N	ROA	40	40	40	40
	STD	40	40	40	40
	LTD	40	40	40	40
	EQ	40	40	40	40

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.221[a]	3.397	3	36	.028	1.645

a. Predictors: (Constant), EQ, LTD, STD

b. Dependent Variable: ROA

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.889	.962		.925	.361		
	STD	-.826	.959	-5.191	-.862	.394	.001	1.6763
	LTD	-.909	.956	-4.250	-.952	.348	.001	2.9193
	EQ	-.888	.984	-2.817	-.903	.373	.002	2.1862

a. Dependent Variable: ROA

Coefficient Correlations[a]

Model			EQ	LTD	STD
1	Correlations	EQ	1.000	.998	.999
		LTD	.998	1.000	.999
		STD	.999	.999	1.000
	Covariances	EQ	.968	.938	.942
		LTD	.938	.913	.916
		STD	.942	.916	.919

a. Dependent Variable: ROA

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	STD	LTD	EQ
1	1	2.982	1.000	.00	.00	.00	.00
	2	.831	1.894	.00	.00	.00	.00
	3	.187	3.990	.00	.00	.00	.00
	4	6.903E-6	657.244	1.00	1.00	1.00	1.00

a. Dependent Variable: ROA

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.0102	.0645	.0513	.01075	40
Residual	-.03807	.06440	.00000	.02021	40
Std. Predicted Value	-3.815	1.231	.000	1.000	40
Std. Residual	-1.810	3.061	.000	.961	40

a. Dependent Variable: ROA

Regression

MODEL 3

Descriptive Statistics

	Mean	Std. Deviation	N
OPM	.0513	.02289	40
STD	.8250	.14379	40
LTD	.0453	.10699	40
EQ	.1298	.07262	40

Correlations

		OPM	STD	LTD	EQ
Pearson Correlation	OPM	1.000	.436	-.434	-.227
	STD	.436	1.000	-.864	-.694
	LTD	-.434	-.864	1.000	.238
	EQ	-.227	-.694	.238	1.000
Sig. (1-tailed)	OPM	.	.002	.003	.080
	STD	.002	.	.000	.000
	LTD	.003	.000	.	.070
	EQ	.080	.000	.070	.
N	OPM	40	40	40	40
	STD	40	40	40	40
	LTD	40	40	40	40
	EQ	40	40	40	40

Model Summary[b]

Model	Change Statistics					Durbin-Watson
	R Square Change	F Change	df1	df2	Sig. F Change	
1	.221[a]	3.397	3	36	.028	1.645

a. Predictors: (Constant), EQ, LTD, STD

b. Dependent Variable: OPM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.889	.962		.925	.361		
	STD	-.826	.959	-5.191	-.862	.394	.001	1.6763
	LTD	-.909	.956	-4.250	-.952	.348	.001	2.9193
	EQ	-.888	.984	-2.817	-.903	.373	.002	2.1862

a. Dependent Variable: OPM

Coefficient Correlations[a]

Model			EQ	LTD	STD
1	Correlations	EQ	1.000	.998	.999
		LTD	.998	1.000	.999
		SD	.999	.999	1.000
	Covariances	EQ	.968	.938	.942
		LTD	.938	.913	.916
		STD	.942	.916	.919

a. Dependent Variable: OPM

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	STD	LTD	EQ
1	1	2.982	1.000	.00	.00	.00	.00
	2	.831	1.894	.00	.00	.00	.00
	3	.187	3.990	.00	.00	.00	.00
	4	6.903E-6	657.244	1.00	1.00	1.00	1.00

Coefficient Correlations[a]

Model			EQ	LTD	STD
1	Correlations	EQ	1.000	.998	.999
		LTD	.998	1.000	.999
		SD	.999	.999	1.000
	Covariances	EQ	.968	.938	.942
		LTD	.938	.913	.916
		STD	.942	.916	.919

a. Dependent Variable: OPM

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.0102	.0645	.0513	.01075	40
Residual	-.03807	.06440	.00000	.02021	40
Std. Predicted Value	-3.815	1.231	.000	1.000	40
Std. Residual	-1.810	3.061	.000	.961	40

a. Dependent Variable: OPM