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**CAPITAL STRUCTURE DYNAMICS OF LISTED BANKS IN  
GHANA**

**A THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS IN PART  
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE  
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## ABSTRACT

It is well known that firms are more likely to issue equity when their market values are high, relative to book and past market values, and to repurchase equity when their market values are low. We document that the resulting effects on capital structure are very persistent. As a consequence, current capital structure is strongly related to past market values. The aim of this paper is to provide a comprehensive review on Capital Structure Dynamics of Listed Banks in Ghana. The study examines the significance of performance on equity and leverage. Seven (7) Banks on the Ghana Stock Exchange were used for the periods 2005 to 2012.. The study found Asset Tangibility and nondebt tax shield to have a positive relationship with equity. The study also discovered that, size of a bank was a significant determinant of equity and also has a positive association with equity. There was a positive relationship between performance and equity. There was also negative relation with Growth opportunity of a bank, Dividend policy and equity. Performance and size of a bank are the determinants of leverage.

There was a statistically significant positive relation with leverage and a negative statistically significant relation with the size of a bank. The study found Leverage to have positive relation with Asset Tangibility, non-debt tax shield and Dividend ratio. The study also discovered a negative association between Growth Opportunity of a bank and Leverage.

## DEDICATION

Special dedications to GOD ALMIGHTY for the Wisdom, Strength and Grace bestowed upon me throughout these challenging periods.

This work is also dedicated to my parents whose encouragement has brought me this far. I also wish to dedicate it to my family especially Ebow K. Aggrey and my friends. For their love and support during the pursuance of my academic work.



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## LIST OF ABBREVIATION

EBIT	-	Earnings Before Interest & Tax
EPS	-	Earnings Per Share
GSE	-	Ghana Stock Exchange
NPV	-	Net Present Value
ROE	-	Return on Equity
ROA	-	Return on Asset



## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background of the Study

Capital Structure can be defined as the technique a Bank funds its assets by a mixture of equity, debt, or hybrid securities (Abor, 2008). In reality, there is financial risks in taking on too much debt, so each bank must find a balanced structure. Corporate segment progress is essential to economic expansion. The concern of money has been surely understood as a sudden motivation behind why commercial enterprises in developing nations are unsuccessful to begin or to progress. It is intended for Banks in creating nations to be fit for financing their activities and create over a timeframe on the off chance that they are to have amassed a driving influence in giving employments and also salary as benefits, dividends and wages to family units (Abor, 2008).

Capital Structure choices spotlights on the blend of long haul financing sources utilized by the firm. Accordingly, Capital Structure choices must consider the general financing arrangement of the organization including the utilization of exchange credit.

Interestingly, budgetary structure is a term used to portray the general liabilities and total assets of the firm. That is to say, the monetary structure choice is a financing blend choice and the Capital Structure choice is a piece of it (Myers, 2001). That is the long haul financing part of the general financing choice.

The little studies on developing nations have not set up themselves on the fundamental actualities. Singh and Hamid (1992) used measurements on the biggest firms in assigned creating nations. It was finished up that firms in rising nations made the utilization of outer money to subsidize their improvement than is as a rule in effectively created nations. They further closed by expressing that firms in developing nations will

tend to lay on additional equity fund rather than debt finance. These disclosures seem unanticipated given that the advancement of stock markets in such nations is never-endingly less created contrasted with created nations, especially for values. Regardless, a study by Indian scientists, Cobham and Subramaniam (1998) utilized a specimen of bigger firms and subsequently inferred that Indian firms utilize strikingly bring down external and equity financing. In an investigation of expansive organizations in ten creating nations, Corner et al. (2001) likewise finished up that debt ratios contrasted significantly with developing nations, however in general, were not out of track with comparative information.

Regardless of the way that firms generally have a choice in the matter of how to join debt and equity, financial officers try to figure out a particular blend that will grow productivity and the affiliation's genuinely evaluated worth. Jensen and Meckling (1976) stated that the type of balance of equity and debt decreased its association's price of funds and thus intensified an organization's efficiency and market regard cannot avoid being the perfect Capital Structure. Appallingly, a financial chief doesn't have an unmistakable theory that he can advise in making choice in linking the perfect Capital Structure.

Information of late hypothesis of Capital Structure is the noteworthy commitment of Modigliani and Miller (1958) under the ideal capital business sector supposition. Modigliani and Miller (1958) expected that under state of no bankrupt cost and frictionless capital markets without taxes, a firm's worth is self-governing of its Capital Structure.

A different school of an idea clenches the opinion that funding decision mirrors an effort by business directors to adjust duty protection of more prominent obligation beside

potential vast cost of budgetary trouble emerging from less speculation. Yet if much equity debt equity can hammer company's value by bringing on money related trouble and under speculation then too little obligations can additionally prompt excessive investment and undesirably influence earnings especially in extensive and experienced Bank (Barclays et al, 2005).

The decision of Capital Structure and its consequent optimal danger presentation is exceptionally overwhelming in financial execution of each bank. This is on account of the decision of capital structure ought to in the long run lead to a result in the improvement in the value of investment made the different gatherings of agents generally equity speculators (Watson and Head, 2007). This is noteworthy in view of the way that equity lenders have prevalent anticipation of incomes on their investment as higher dividends and capital increase (Sulaiman, 2001).

As a developing country, Ghana still has vast untapped human and natural resources. The principle issue however is that capital for investment is inadequate. There has been dependence on outside sources of capital for investment. It has however been observed that if Ghana is to gain any significant ground in financial development, she will have to depend more on her household investment funds. For most Ghanaian financiers, the expected returns of long-term investments are the dividends they receive as well as capital gains. Failure to meet this expectation would result in the sale of shares, which will result in the decline of the company's share price. The drop in share price sends an indication to prospective financiers of the poor presentation of the business by discouraging prospective financiers from financing both in equity stock and debt for most companies, such a reaction will be highly undesirable since a company's share price provides a measure of its performance. Thus to be able to boost financier

confidence and sustain its ability to remain in business, a company must be able to decide on a Capital Structure that best protects shareholder wealth (Modigliani and Miller (1958).

The decision of investment funding, and its relation with optimal risk contact, is vital to the economic performance of every bank. Financial economies have a rich literature scrutinizing the Capital Structure choice in quantitative positions. The basic financial objective of every firm is to take full advantage of the wealth of the existing owners of the firm. For publicly held establishments, this objective translates into maximizing the per share price of the firm's mutual stock. (Booth et al., 2001).

## **1.2 Statement of the Problem**

The establishment of the stock exchange as part of Ghana's reform towards the development of efficient financial system has exposed firms to more financing options.

Another mind boggling issue is how best corporations can control profit arrangement as well as picks the right financing mix (i. e. on ideal Capital Structure) that would adequately and proficiently make riches in a developing nation like Ghana's. These are important issues because a low payout ratio may enable the business to conserve funds while a high payout ratio may raise the demand for the company's securities and facilitate inflow of new funds. Unfortunately, in Ghana, most corporations have not fundamentally investigated the focal points to be deduced in genuinely taking a peek at their industry of operation and looking for after a perfect Capital Structure as well as the right benefit plan for their industry of operation.

On the contrary, most Ghanaian banks are inclined towards a zero payout approach without considering the credibility of the existence. Such associations miss out gigantically on the focal points to be gotten from on perfect Capital Structure as well as

on optimum dividend policy (i.e. an increase in shareholder's wealth as an enhanced image of the company from the financier's perspective). These have phenomenal repercussions that must not be derided.

### **1.3 Research Objectives**

The overall objective of this research was to examine Capital Structure Dynamics of Listed Banks in Ghana.

The specific objectives of the research was to

1. Examine the determinant of Bank performance on capital structure.
2. Examine the determinants of equity and their significance.
3. Examine the determinants of leverage and their significance.

### **1.4 Research Questions /Hypothesis**

The study was designed to answer the following related questions within the domain of the research problem.

1. Is Bank performance significant in determining Capital Structure?
2. What determines equity?
3. What determines leverage ?

### **1.5 Significance the of Study**

In an economy like ours where there is the absence of a bond market, and the economy is plagued with low-wage levels, high expansion rate and the quick deterioration of the cedi against significant convertible currencies, there has been a routine of low investment funds and a high inclination to spend instead of save. This poses a major challenge to managers as to how to mobilize funds in an emerging capital market as ours. What this suggests is that, to be able to attract and sustain financiers, managers

should be able to demonstrate a high level confidence in their company's security. This confidence is basically bolstered or influenced by the company's Capital Structure, value of capital and come back on equity .

This study will bring to fore what really are the motives of Chief financial managers in determining the Capital Structure of the listed banks are to meet shareholders expectations. This study will also add to existing body of knowledge by unveiling hidden issues of effects of Capital Structure from both global and Ghanaian perspective. This will help future researchers to choose their literature review from diverse background on the subject of Capital Structure and its consequences. And successively improve the performance of Banks in the Ghanaian economy.

#### **1.6 Scope of the Study**

Out of the thirty-six (35) corporations listed on the Ghana Stock Exchange, the study was constrained to all the seven (7) Banks listed in determining Capital Structure dynamics of Ghanaian banks.

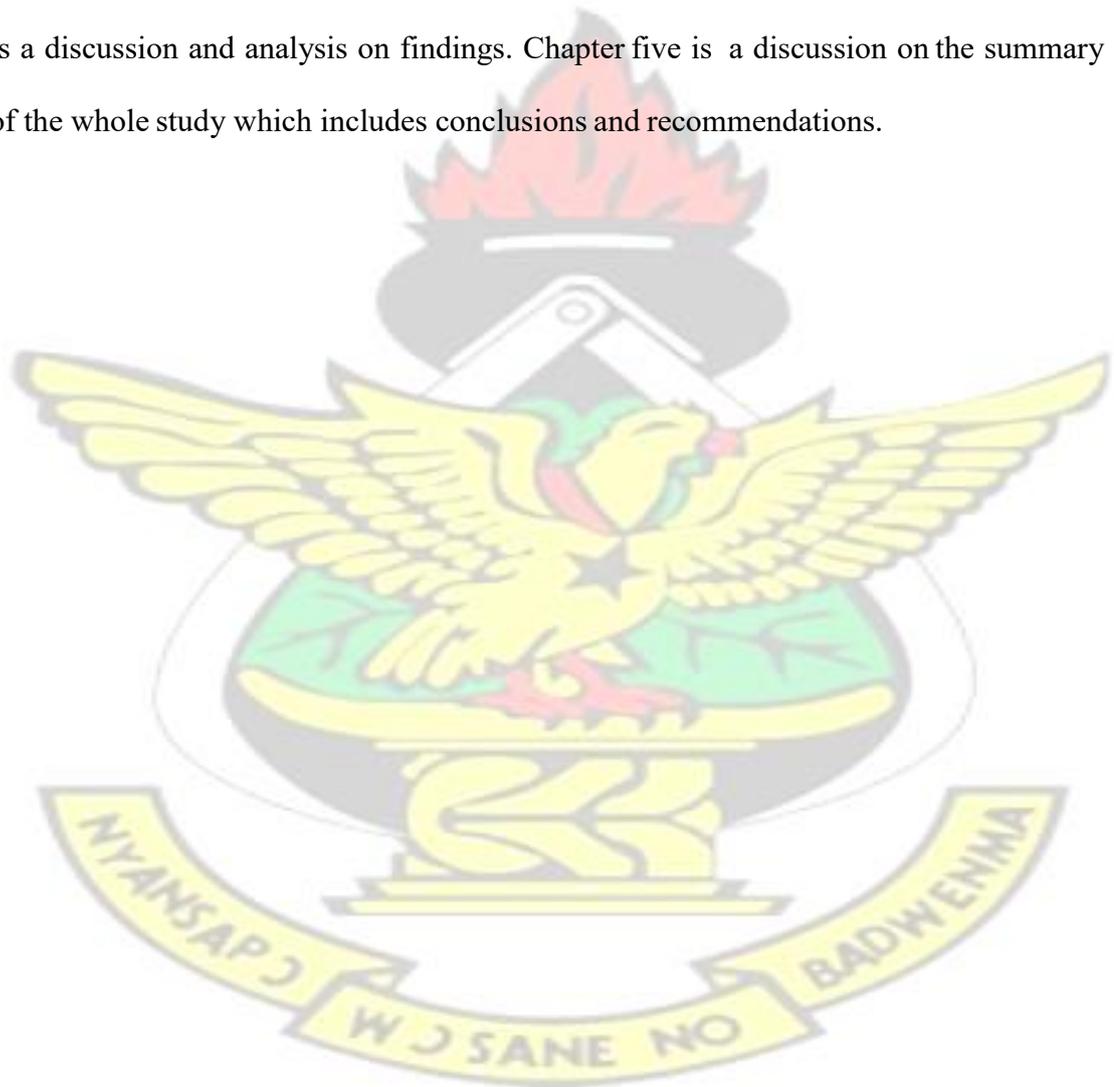
The study used secondary data, from the annual reports of the listed banks. The selection of the Banks was therefore based on the availability of data. This study focused on the Ghanaian listed Banks covering the periods 2005-2012.

The scope of this study included:

- Examination of Capital Structure of the listed banks.
- Examination of the determinants of equity .
- Examination of the determinants of leverage.

## 1.7 Organization of the Study

The study is into structured five parts. This chapter is an introductory chapter. It includes; The statement of the problem, the study objectives, scope and limitation of the study. Chapter two is mainly a literature review. It is an attempt to explore and analyze relevant literature relating to the study. Chapter three concentrates on the methodology to be used in collecting data for the study, including the sources of data, research instruments and techniques, as well as the organization of work. Chapter four is a discussion and analysis on findings. Chapter five is a discussion on the summary of the whole study which includes conclusions and recommendations.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

Abor (2008) characterizes Capital Structure as exact combination between equity and debt a firm uses to fund its activities. Capital Structure is a standout amongst the most multifaceted zones of business decision making in light of its interrelationship with other money related choice variables (Gitman et al., 2012). It is critical the way Capital Structure is firmly joined with the capacity of Banks to satisfy the cravings of their desires of their shareholders.

Gitman et al (2012) stated that poor Capital Structure choices can produce a high cost of capital, thus lowering the Net Present Values (NPVs) of tasks and making more of them intolerable. Effective Capital Structure decisions can lessen the cost of resource, results in higher NPVs and more satisfactory projects- and thereby growing the value of the firm.

Capital Structure's effect on the profitability of 22 organizations recorded on Ghana Stock Exchange amidst 1998 to 2002 was looked into by Abor (2005). Results unveiled that there is a noteworthy and positive relationship in the middle of Capital Structure and profit for equity. Besides, he expressed that promising partnerships have more dependence on financing through obligation and 85% being short-term liabilities.

One of the most significant financial areas that administrators should contemplate to increase shareholders capital is the determination of the finest blend of financial wealth for the firm. Capital Structure studies have tenaciously increased after some time and

still keep on captivating the consideration of researchers with the fundamental reason for figuring out if equity and debt blend is real. The mix of

equity and debt will decrease the cost of capital of a firm while enlarging the firm's significance and this is known as optimal Capital Structure. By the way, how associations pick the measure of equity and debt in their Capital Structure mix remains a conundrum.

Frydenberg (2004) discussed further that, in whole and faultless capital markets, study has presented that total firm worth is autonomous of its Capital Structure. An optimal Capital Structure does not exist when capital markets are impeccable. Taxes and other market limitations are critical to housing a progressive theory of Capital Structure. Modifications in Capital Structure profits only stockholders if and only if the worth of the corporation grows. Miller and Modigliani (1958b) composed the seminal article in this field of research. Using an arbitrage argument the inference of M&M (1963) proposal is that firms need to utilize extra debt to develop esteem in connection to equity. Miller and Modigliani's two publications had created numerous studies that added to the explanation of the Capital structure puzzle. If a firm can change its market price by a clean financial procedure, the financiers in the firm can take actions that replicate the successive debt position of the firm. These relations would only change the weights of a portfolio and must, in a perfect capital market, provide zero profit. If the market remained efficient enough to eradicate the proceeds for the financiers, any revenue for the firm would be eradicated too. Modigliani and Miller in their original articles Miller and Modigliani (1958b) and Miller and Modigliani (1958a) undertook numerous stern checks.

- To start with, capital markets are thought to be without exchange costs and there are no bankruptcy costs.
- All organizations are in comparatively similar danger class.
- Corporate taxes are merely government's load to carry.
- No progress is permitted since all cash flows are perpetuities.
- Firms issue essentially two types of cases, danger free debt and risky equity .

All bonds (counting any debts allotted by family units' for the relentlessness of conveying stocks) are relied upon to create a ceaseless pay for every unit of time, and the pay is considered as sure by all dealers' independent of Miller and Modigliani (1958b).

- Information is symmetric across insider and outsider financiers.
- Administrators are loyal overseers of owners and always get the best out of stockholders' wealth. Copeland and Weston (1988).

Later, others, such as Stiglitz (1974) and Merton (1990) detached the assumption of the risk class. Myers (1984) assumed that elating these limitations, one at a time, start probable causes for the Capital Structure puzzle. The theoretical representations of Capital Structure in a world that capital markets are imperfect relate Capital Structure to numerous assessable and no measurable characteristics of a firm. The irrelevance proposition offers conditions which the Capital Structure of a firm is inappropriate to the overall firm value. Revolving around the irrelevance proposition, the factors that causes corporate Capital Structure may be known. The suppositions, giving irrelevance as a result may possibly cause relevance if they are ruined. The question that might be asked is, do they, and if so, to what extent? And what if numerous imperfections exist

concurrently? Above and beyond the irrelevance proposition of Modigliani and Miller there are a number of other theories related to

Capital Structure.

These are the asset substitution hypothesis, under-investment hypothesis, free cash flow hypothesis, signaling hypothesis and product markets arguments.

## **2.2 Capital Structure Theories**

Preceding M & M theory, prevailing prepositions stimulated that financial leverage was used by firm's to enrich their Firms value. Initially, Miller and Modigliani (1958) theorized that firms worth is self-determining of its financial structure; successively in 1963, they took into justification the corporate tax, they highlighted the consequences of profits of the tax shield of debt; identifying that leverage can decrease the fee commitments associated to corporate tax, the researchers standard that Capital Structure is optimal at 100% liability sponsoring (as it lessens the weighted average price of capital and exploits firm performance and value) Miller and Modigliani (1963). They again disputed that the Capital Structure of a firm should constitute totally of debt because of tax deductions on interest payments.

Modigliani and Miller (1963) wrangled about that the Capital Structure of a firm ought to constitute totally of debt due to duty derivations on interest installments. Yet, Brigham and Gapenski (1996) discoursed that, in idea, the Modigliani-Miller model is tying. In any case, in all actuality, bankruptcy costs is real and these expenses are straightforwardly proportionate to the debt level of the firm. In this way, an ascent in debt level causes a surge in bankruptcy costs. Along these lines, they debate that that a perfect Capital Structure must be accomplished if the expense covering benefits conveys an ascent in debt level is equivalent to the bankruptcy costs.

The ideas have likewise archived the compensations of money related influence in firm support despite bankruptcy costs sidestepping the costs of monetary anguish. These affirmations have controlled to two winning theoretical models by which different speculations are embedded, namely the static trade-off model and the Pecking Order model. Different speculations are free income theory and the agency cost Theory.

### **2.2.1 Static Trade-off Theory**

By the trade-off theory, companies' seek debt levels that balance the tax advantages of additional debt against the costs of possible costs of debt (Myers, 2001; Faulkender & Petersen, 2006). Jensen and Meckling (1976) expressed the tradeoff theory as the optimal Capital Structure of firms includes the trade-off among the bankruptcy costs and agency costs, the impacts of corporate and individual taxes, and so forth This theory expected that Capital Structure moves towards a perfect impact which is controlled by altering the corporate appraisal saving estimation of commitment and the costs of monetary misery. This idea has been made in various papers. For example DeAngelo and Masulis (1980) and Bradley et al. (1984). In any case, Mill operator (1977) scrutinized their thought; he debated that static trade-off model derives that firms ought to be to a great degree adapted than they really are, as the expense reserve funds of debt seem tremendous while the costs of financial pain seem immaterial. Klaus and Tzenberger (1973) showed that considering the duty points of interest of debt, optimal Capital Structure includes debt funding. Ross (1977) and Leland and Pyle (1977) level headed discussion that debt can be cherished as a ploy for indicating a firm's worth.

### 2.2.2 Pecking Order Theory

As expressed by the Pecking Order theory, firms will obtain as opposed to radiate equity, when inside created assets streams are inadequate to record capital overheads

(Myers 2001). As expressed by Watson and Head (2007), the Pecking Order theory drives in opposition to the idea that firms having unmistakable combination

of debt and equity financing abates their rate of capital. This theory presents that when an enterprise is considering financing its long-standing investment, it has all around portrayed solicitation of slant concerning the wellsprings of record open to it.

Fama and French (2002) and Meyers (1984) depict an organization's debt condition as the aggregated results of before investment and capital planning decisions. This theory fights that firms will back their new funding first by using inward fund as their source of asset. On the off chance that inner assets are lacking or difficult to reach they will proceed onward to the utilization of debts that are sheltered, then debts that are dangerous and finally equity as their wellspring of asset. This implies the Pecking Order theory recommends beneficial firms with high profit ought to utilize less debt in their Capital Structure than those with low income earnings (Myers 1984; Myers & Majluf, 1984).

Myers & Majluf (1984) wrote that asymmetry information affects the Capital Structure by controlling access to external finance. Baskin (1989) affirmed that information asymmetry do not only limits firm's capability of equity financing, but also restrict access to Retained Earnings as finance because firms must pay dividends to show signal to both current and prospective shareholders and cannot be adjusted for financing requirements. Another influence of the Pecking Order theory according to Baskin (1989) is a direct cost. The cost of internal financing is absolutely less as there is no

dividend payment for the use of Retained Earnings, which successively result in reduced taxes and commissions and on dividends.

Baskin (1987) tested the Pecking Order hypothesis and documented that firms borrow because they need funds and that bankruptcy cost does not restrict borrowing. Once information asymmetry places restrictions on equity financing, debt tends to become the principal incremental source of finance. Frank and Goyal (2003) stated that Pecking Order theory is amongst the dominant theory of corporate leverage, due to adverse selection; firms favor inside finance as opposed to outside finance when funds are required. Rao et al. (2007) analyzed the debt ratio and defined whether an optimal debt ratio subsists or not. Optimal debt ratio is usually defined as the factor that diminishes the cost of doing business for the firm, while getting the most out of the worth of the firm. Furthermore, optimal debt ratio makes the most of the profitability of a firm according to Rao et al. (2007).

### **2.2.3. Free Cash Flow Theory**

This theory conditions that high leverage, when firm's working cash flow is further than its gainful investment prospects, will cause an increase in firm's value notwithstanding its threat of financial distress (Myers, 2001).

### **2.2.4 Agency Cost Theory**

The agency theory originally explained by Berle and Means (1932) also offers theory on Capital Structure choice. From the theory, agency conflicts ascend from the deviation of benefits among investors (principals) and administrators (agents) of firms. The key duty of administrators is to manage the firm to yield return to shareholders thus growing the return statistics and cash flows (Elliot and Elliot, 2002). This theory was

additionally exhibited by Jensen and Meckling (1976), stating that firm's Capital Structure ascending from agency costs of interest conflicts between different stakeholders participation. These two researchers identified two types of conflict of interest, namely

- i. Conflict of interest between administrators and shareholders, and
- ii. Conflict of interest between shareholders and debtors of firm.

According to Jensen and Meckling, by creating a balance between profits of debt, such as tax benefits and agency costs of debt we can achieve to an optimal Capital Structure (Izadinia & Rasayan, 2010).

### **2.3 Empirical Literature**

Recent Studies on Capital Structure of firms have pointed out some firm specific variable that determines the Capital Structure of both large and small businesses. The specific variables are the age of the Bank, the size, asset structure, profitability, growth and risk of the firm (Abor & Biekpe, 2005). Non-debts tax shield, earnings volatility, uniqueness and industry classification, have also been documented as an attribute of Capital Structure (Titman & Wessels, 1988). Titman and Wessels assert that the nature of a countries financial market and transaction cost can determine the Capital Structure of its forms. Abor & Biekpe (2005) again identify the availability of collateral influential in Capital Structure decisions. Additionally, Chen et al (2009) also identifies the level of information asymmetry, investment type, growth, ownership structure and control as determinants of Capital Structure

In Ghana, numerous researches have been steered to examine the determinants of

Capital Structure and profitability. Abor (2007) looked at the Capital Structure of unreservedly referred to firms, tremendous unquoted firms, and small and medium enterprises (SMEs) in Ghana with panel data regression. The results exhibit that referred to and broad unquoted firms indicate out and out higher debt ratios than SMEs do. Abor (2005) additionally inspected the association concerning corporate administration and the Capital Structure choice of SMEs. He unequivocally assesses how the acknowledgment of corporate administration designs among Ghanaian SMEs sways their examining so as to finance decisions the alliance amongst corporate administration elements and Capital Structure utilizing regression models. The results generally suggest that SMEs take after lower debt strategies with more noteworthy board size. Yet, SMEs with a more prominent extent of outer directors, amazingly qualified board partners and one-level board framework was recognized to utilize extra debt. His study made it that corporate administration structures impact the financing choices of Ghanaian SMEs. Amidu (2007) expected a panel data examination of researching determinants of Capital Structure of banks in Ghana. Awunyo-Vitor and Badu (2012) also adopted a panel data analysis on Capital Structure and Performance of Listed Banks in Ghana using Return on equity, Return on asset and Tobin's Q.

However, none of these studies examined Capital Structure Dynamics of Listed Banks in Ghana. In this way this study went for adding to the open deliberation on Capital Structure by examining Capital Structure Dynamics of Listed Banks in Ghana.

#### **2.4 Variables description and Hypothesis Development**

Taking after from these hypothetical points of view, various exact researches have distinguished firm-level features that affect the Capital Structure dynamics of

organizations. Some of these features are Asset Tangibility, Size of the firm, Growth Opportunities, Profitability, non-debt Tax Shield and dividend policy.

#### **2.4.1 Asset Tangibility**

The natural surroundings of a firm's assets influence Capital Structure. Tangible assets are less subject to information asymmetries and ordinarily they have a more noteworthy quality than Intangible resources in the occasion of liquidation. Also, moral hazard risks are abridged when the business offers tangible assets as security, since this consist of a positive sign to the creditor. Banks can auction these benefits in the occasion of default. Hence, the trade-off theory foretells a positive association among measures of leverage and the section of tangible assets (Aviral and Raveesh, 2015).

The degree to which the firm's focal points stay considerable should impact the firm taking more huge bankruptcy regard (Titman and Wessels, 1988; Harris and Raviv, 1991). Bradley et al. (1984) affirm that firms that place energetically in unmistakable assets in like manner require more prominent budgetary impact in light of the fact that they secure at lesser loan fees if their debt is ensured by such assets. It is trusted that debt may be everything except expeditiously used if there are strong focal points for serve as security (Wedig et al., 1988).

Booth et al. (2001) Suggested that the compatibility between generous settled assets and debt funding is recognized by adding to the structure of the debt. In such condition, the level of generous settled assets may help firms to secure more longterm debt; however the office issues might turn out to be more serious with the more unmistakable altered resources, in light of the fact that the data uncovered about future benefit is less in these organizations. If so, it is liable to locate a positive correlation between tangible fixed assets and debt ratio. From the above, it can be hypothesized that:

*H<sub>1a</sub>: Asset Tangibility is positively related to Bank's equity.*

*H<sub>1b</sub>: Asset Tangibility is positively related to Bank's Leverage.*

#### **2.4.2 Size of the Bank**

Size is seen as a factor of a bank's Capital Structure. Bigger Banks are more enhanced and consequently have lesser fluctuation of income, building them to endure great obligation proportions (Wessels, 1988; Titman and Wald, 1999; Castanias, 1983). Minor Banks, then again, may discover it generally all the more excessive to determine information asymmetries through moneylenders, consequently, may present lower obligation proportions (Castanias, 1983). Creditors to bigger companies will probably get reimbursed than moneylenders to littler firms, decreasing the organization expenses connected with obligation. Hence, bigger banks will have greater obligations. Alternative clarification for littler firms having lesser obligation proportions is if the comparative insolvency costs are an opposite capacity of banks (Titman and Wessels, 1988). The trade-off theory expects a transposed correlation between size and the likelihood of liquidation, i.e., a positive association between size and leverage. Nonetheless, the Pecking Order theory of the Capital Structure expects an inverse association between size and leverage. A bigger corporation displays a growing liking for equity comparative to debt. Based on these assertions, we can hypothesize that:

*H<sub>2a</sub>: Size of the Bank is positively related to its equity.*

*H<sub>2b</sub>: Size of the Bank is positively related to its leverage.*

#### **2.4.3 Growth Opportunities**

Marsh (1982) stated that corporations with high development will catch moderately higher debt ratios. On account of little firms with more focused proprietorship, this was likewise bolstered by Heshmati (2001), that, high progressive corporations will require more external funding and ought to exhibit greater leverage.

However, the empirical evidence appears indecisive. Various scholars established positive relationships amongst growth opportunities and leverage (Kester, 1986; Titman and Wessels, 1988; Barton et al., 1989). Further suggestion submits corporation's with greater growth opportunities takes into the use of a smaller amount of debt (Kim and Sorensen, 1986; Rajan and Zingales, 1995; Roden and Lewellen, 1995; Al-Sakran, 2001) instituted out that imminent progress is positively related to leverage and long-term debt.

It's additionally imperative that the dividend payout of the firm might influence the optimal select of capital in funding growth. For the most part, firms with small dividend payout have the capacity to hold more returns planned for savings. Such businesses would along these lines rest on inside created stores and less on debt funding. On the other hand, firms with great dividend payout are inclined to be subordinate on debt in solicitation to subsidize their improvement prospects. It is therefore hypothesized that:

***H<sub>3a</sub>: Growth Opportunity is negatively associated with Bank's equity.***

***H<sub>3b</sub>: Growth Opportunity is negatively associated with Bank's Leverage.***

#### **2.4.4 Non-Debt Tax Shield**

The debt tax shield has roused spans in years of deliberation concerning a corporation's estimation and the price of capital. In 1963, Modigliani and Miller first postulated that the tax benefits of debt swells a corporations' worth and reduce the cost of consuming debt capital. In 1977, Miller countered that corporations pass out the tax aids of debt to investors through high intrigue rates to remunerate them for the individual tax detriment of debt. Others have suggested that the money related trouble costs of debt offset a minimum of the tax benefit (see, e.g., DeAngelo and Masulis, 1980). Hence, the corporation's estimation and Capital Structure's repercussions of the debt tax shield are imprecise. It can therefore be hypothesized that;

***H<sub>4a</sub>: Non-debt tax shield is positively related to Bank's equity.***

***H<sub>4b</sub>: Non-debt tax shield is negatively related to Bank's leverage.***

#### **2.4.5 Dividend Policy**

Dividend policy the firm's amount of cash it thinks is necessary and appropriate to pay shareholders Ross (2007). The dividend payout ratio is an additional aspect that might have an impact on companies leverage. Starting with the agency and exchange cost contention, organizations with an awesome payout extent will have smaller agency costs of equity, which reinforces organizations to expend additional equity financing Rozeff (1982). There would exist a negative relationship since dispensing dividends is an indication of an anticipated development of approaching income and this is a sign to weakening in the cost of equity subsidizing (Antoniou et al., 2008). The customary measure of the benefit payout extent is the extent of benefits to net income, from the above, it can be hypothesized that;

***H<sub>5a</sub>: Dividend policy is inversely related to Bank's equity.***

***H<sub>5b</sub>: Dividend policy is inversely related to Bank's leverage.***

#### **2.4 Significance of Capital Structure.**

Financing decision is crucial for firms because optimal Capital Structure exploits firms' returns and impacts on the firms' relationship with the competitive environment (Abor & Biekpe, 2007). The talk of optimal Capital Structure cannot be progressive without the leverage-irrelevance theory of Modigliani & Miller (1958). Modigliani & Miller assert that in a perfect market condition, the average cost of capital for all firms in a class is constant and that Capital Structure does not affect firms' value. However, Myers (2001) indicated that the Capital Structure influences the cost and availability of funds, citing taxation, information asymmetry and agency cost as its main factors. Firms enjoy tax shield when they borrow up to the point where the minimal value of tax shields on extra debt is just offset by an increase in the present value of probable costs of financial

distress. Myers (2001) debated that information asymmetry between firms and financiers translate to the high cost of capital, which leans towards negative bearing on firms' productivity. Thus the more information asymmetry persists the higher the cost of funds. In markets where external financiers believe that inside owners of firms have the propensity to expropriate them, they appear to be more hesitant investing and thereby making fund unobtainable for investment. Lack of access to external financing when needed leads to abandoning profitable projects, which consequently affects firms' value. Since profitability is affected by the availability and price of capital, optimal capital is therefore crucial in increasing a firm's value.

## **2.5 Financial Leverage**

The term operating leverage refers to the extent to which fixed operating costs are part of a firm's total operating costs, Watson and Head (2007). Stulz (1990) wrote that for leverage to be relevant for the worth of a firm there has to be case that no clever arbitrageurs can profit from such a situation. Primarily, if market failures are present, tax consideration, asymmetric information, transaction costs and bankruptcy costs factors must be present for leverage to matter. Furthermore, the existence of a possibility to make a trade of the firm with the sub-optimal Capital Structure for the firm with the optimal Capital Structure must be absent.

Given the watched contrasts in the organization of liabilities, before undertaking any examination of influence, it is fitting to characterize what we mean by this term. Obviously, the degree of leverage and the most significant measure relies on upon the investigation's goal. Aghiori and Bolton (1992) focused on leverage as a way of shifting control in bad periods from the hands of investors (or their fiduciaries) to the hands of debtors (or their fiduciaries) Here, the imperative inquiry is whether the firm can meet

its settled overheads, and thusly, a stream measure indistinguishable to the interest scope proportion is more applicable. As opposed to investigating every conceivable theory and their related measures of leverage. The agency problems connected with debt Jensen and Meckling (1976), Myers (1977) to a great extent identify with how the firms has been financed in the past and therefore on the near cases on firm esteem held equity and debt. Here, the appropriate quota is probably the stock of debt comparative to firm price.

It must be noted that adding of more fixed costs raises the volatility of net returns to the common stockholders and greater volatility means greater dispersion in their returns or increased risk, Mazzeo (1992).

### **2.5.1 Leverage Factor**

Mazzeo (1992) defined leverage factor as being the proportion of the book value of total debt (D) to total value (V) of the firm. The total value (V) refers to the total market value of all the modules of the organization's financial structure.

### **2.5.2 Leverage Ratios**

A leverage ratio is intended to assess a company's debt level. When a firm acquires money, it assures making a sequence of interest disbursements and then to pay back the sum it took. If revenue rises, the debt holders remain to collect a constant interest disbursement, so all the proceeds go to the shareholders in extreme cases, in times of crisis, a firm may be incapable of paying its debts' (Brealey et al (2004)). In such a case, the shareholders bear all the pain. Because debt rises returns to shareholders in good periods and decreases them in bad periods, the firm is then bankrupt and shareholders lose their whole investment. This is said to create financial leverage.

This Ratio shows the dependency of a company from external sources of financing.

The lower this ratio, the higher risk of insolvency a company has. Leverage ratios measure how much financial leverage the firm has taken on. Financial Leverage enables a company to have an asset base larger than its equity (Brealey, Myers and Marcus, 2004). Some common examples of leverage ratios are explained as follows.

**Debt to Asset Ratio:** The debt-to-equity ratio is a measure of the link between the capital funded by creditors and the capital donated by owners. This is another part proportion that has the capacity to uncover how a firm accounts its operations with debt in connection to the book estimation of its shareholders. It likewise demonstrates the degree to which shareholders' equity can satisfy an organization's commitments to loan bosses in the occasion of liquidation.

In general, a high debt to-equity ratio indicates that a firm will be unable to create enough money to fulfill its debt obligation. However, low debt-to-equity ratios may likewise demonstrate that an organization is not exploiting the expanded benefits that money related influence may bring.

**Asset to equity Ratio:** It is also the element measure of financial leverage which shows how a corporation uses debt to finance its possessions.

**Gearing Ratio:** It is a measure of financial leverage expressing the degree to which a firm's activities are financed by owner's in contrary to lenders funds.

**Long-term Debt to Total asset:** This ratio measures a share of company's total assets, which is financed by long-term sources. The higher this value the better it is for the Company.

**Long-term Debt to fixed asset:** This ratio expresses the part of a fixed asset that is created by long-term financing.

## **2.6 Capital Structure and Dividend Policy, and Why It Matters.**

Lintner (1954) reviewed various directors in the 1950's and asked how they set their benefit approach. The vast majority of the respondents said there was an objective extent of income that decided their policy. Campbell (1994) in his research stated that a company's policy might be to pay out for example, 40% of income as profits, though another organization may have an objective of 50%. This would recommend that profits, change with income. Exactly, profits are moderated to acclimate to changes in income. Lintner (1954) recommended an empirical model where the changes in dividends are linked to the level of the earnings, the target payout and the adjustable rate. He declares that more preservationist organization would be slower to change in accordance with the objective payout if income expanded. Lintner concluded that, the more preservationist the firm., the all the more step by step it would change towards its imprint and in this manner, the lesser would be its.

## **2.7 Factors Governing Dividend Policy**

In corporate finance, the dividend policy of firm figures out what rate of surplus is dispersed and what amount is kept as reserves. The choice with respect to this is extensively. In light of the long haul money related prerequisites of the firm and in addition to borrowing rates. In view of the fact that, the issues of dividend policy, appear to be by far, one of the most contentious in financial literature, one begins to wonder which factors influence dividend policy.

Weston and Copeland (1989) identified Legal Rules, Liquidity Position of the firm,

Debt Obligations, Restrictions in debt Contracts, Rate of asset expansion, Profit Rate, Stability of Earnings, Access to the capital markets, Control, Tax Position of Stock Holders, as factors that influence dividend policy.

In circumstances where the firm needs significant venture, profit payouts are kept low also, if the firm has admittance to less expensive wellsprings of capital as advances, the profit strategy may get balanced suitably.

## **2.8 Assessments of Financial Enactment**

It has been said that you must quantify what you hope to oversee and perform. Without estimation, you have no reference to work with and accordingly, you have a tendency to work oblivious. Financial statements, do not offer a lot of data about how well a business performs time to time or in assessment relative to businesses in its industry. One of the reasons why it is tough to make evaluations is that industries hardly have exactly identical income. Additional reason is that industries have different funding arrangements. Restricted of setting up references and dealing with the budgetary issues of an association is to utilize proportions. Proportions are essentially connections between two money related parties or monetary counts. These connections set up our references so we can see how well we are performing fiscally. Proportions additionally expand our conventional method for measuring monetary execution; i.e. depending on monetary explanations. By applying proportions to an arrangement of budgetary explanations, we can better comprehend money related execution.

Ratios and other performance measures and methods have been established to make financial information comparable from business to business. These methods form three extensive categories namely, estimation of functioning performance, assessment of financial performance and outlining level of financial risk. Functioning performance deals with proficiency of controlling. Alternatively, it is vital to know if a business uses

its assets in a resourceful and profitable style. Financial performance tackles concerns related to a business financial construction and capability to meet its financial responsibilities. Scrutiny of financial risk is commonly significant to banks and financiers. The universal objective of financial analysis is to assess the efficiency and usefulness in all of these expanses. Assessing the budgetary position of a recorded organization is very comparative, with the exception of agents need to make another stride and consider money related position in connection to market esteem.

## **2.9 Ratio Analysis**

The information contained within the main financial statements has major significance to numerous attracted parties who frequently need to have relative measures of the company's business potency. Financial analysis conducted for the requirement of third parties is external and frequently referred to as analysis of financial statements. This is the choice, assessment and understanding of money related information alongside other apropos data. The examination of monetary articulations depends on the utilization of ratios also known as relative values. It is used to evaluate the firms' performance and the efficiency of operations. There are numerous different financial ratios as there are conceivable blends of things showing up on the balance sheet, income statement and cash flow statement, and their solicitation is defined from the financial analyst point of opinion. Financial management consultants use various approaches reliant on the objective of analysis. Notwithstanding the number of ratios, they all adhere to their grouping. Four types of ratio defined are;

**Activity ratios** – this is the liquidity of specific assets and the efficiency of managing assets

**Liquidity ratios** – this deals the firm's capacity to address money issues as they emerge

**Debt and Solvency ratios** -the degree of a firm's financing with debt relative to equity and its capacity to cover fixed charges

**Profitability ratios**- the general execution of the firm and its effectiveness in overseeing investment (assets, equity, capital).

Budgetary proportions take into account examinations and, along these lines, are entwined with the procedure of benchmarking, contrasting one's business with that of applicable others or of the same organization at an alternate point in time forms on a particular marker or arrangement of pointers.

### **2.9.1 Benchmarking**

The benchmarking is used as a measure. In accordance with David Vance it involves analyzing the firm's financial statements by using their financial ratios as a base for assessment of a business's performance (Vance, 2003). By way of an outcome, to make precise conclusions on ratio analysis, two kinds of ratio assessments should be made: cross-sectional approach and trend-analyzing method. Cross-sectional analysis includes comparison of unlike firms' financial ratios over similar period. It usually concerns two or more companies in similar lines of trade. Certainly, the most enlightening way to deal with proportion examination consolidates both cross-sectional and pattern dissects. A united perspective makes it conceivable to evaluate the pattern in the proportion's execution in with respect to the pattern for the business.

Benchmarking utilizing proportion investigation can be helpful to different groups of onlookers. From a lender point of view, benchmarking can include contrasting an organization with associate organizations that can be viewed as option venture opportunities from the viewpoint of an agent. In this procedure, the agent may contrast the center organization with others in the associate gathering (pioneers, midpoints) on

certain money related proportions significant to those organizations and the lender's speculation style. From an administration point of view, benchmarking utilizing proportion investigation may be a route for an administrator.

## **2.10 Business Risk and Financial Risk**

Finally, it is important to distinguish between business risk and financial risk, business risk is the vulnerability because of the firm's variability of working income brought about by its items, clients, and the way it delivers its products. Precisely, a company's business risk is measured by the unpredictability of the firm's working salary after some time. Furthermore, money related danger is the extra instability of profits to equity holders because of a firm's utilization of securities. The relationship that exists between a business danger and a monetary danger is that, the satisfactory level of budgetary danger of a firm relies on upon its business hazard. On the off chance that the firm has low business hazard (i.e., stable working profit), lenders are willing to acknowledge higher financial risk.

## **CHAPTER THREE METHODOLOGY**

### **3.1 Introduction**

This study examines Capital Structure Dynamics of Listed Banks in Ghana. The selection of companies was made to cover the listed banks in the Ghana Stock Exchange. This includes:

- GCB Bank
- Standard Chartered Bank
- SG-SSB Bank

- UT Bank
- Cal Bank Ltd
- Ecobank Ghana Ltd
- HFC Bank

### **3.2 Sample Size and Data Source**

All the seven (7) Banks listed on the Ghana stock exchange were selected for this study. The proposed period was from 2005 to 2012. The data sources used for the research were financial statements of the selected companies' for the period. The researcher specifically used the balanced sheet and profit and loss accounts for the years in question. References were also made to the notes of the numerous accounts for in-depth explanation.

### **3.3 Data Collection**

The researcher used secondary data from the listed banks in the Ghana stock exchange. The audited financial statement of the listed banks was used so as to increase the reliability and validity of the findings and conclusions. Further information on each selected Bank's Capital Structure, Return on equity, dividend policy and other relevant information were obtained through Data on Debt to equity ratio (Capital Structure), Return on equity and benefit prior and then after tax of chosen banks from the Ghana Stock Exchange, the individual companies and from statistical publications.

### **3.4 Research Hypotheses**

With a specific end goal to finish up the examination on Capital Structure Dynamics of Listed Banks in Ghana, the following hypotheses for testing were designed:

- H<sub>1a</sub>: Asset tangibility is positively related to Bank's equity.

- H<sub>1b</sub>: Asset tangibility is positively related to Bank's leverage.
- H<sub>2a</sub>: Size of the Bank should be positively related to its equity.
- H<sub>2b</sub>: Size of the Bank should be positively related to its leverage.
- H<sub>3a</sub>. Growth Opportunity is negatively associated with Bank's equity.
- H<sub>3b</sub>. Growth Opportunity is negatively associated with Bank's leverage.
- H<sub>4a</sub>: Non debt Tax shield is positively related to Bank's equity.
- H<sub>4b</sub>: Non debt Tax shield is negatively related to Bank's leverage.
- H<sub>5a</sub> Dividend policy is inversely related to Bank's equity.
- H<sub>5b</sub> Dividend policy is inversely related to Bank's leverage

### 3.5 Data Analysis

Data collected was analyzed quantitatively. The quantitative analysis was done using relevant regression analysis tool, Stata as the main computer software program. Tests were conducted at 5 percent significance level.

The data was taken from annual financial and income statements which cover an 8 year period, thus 2005- 2012. Study is carried out using a panel data framework. This is because panel data involves the combining of observations on a cross section of entities over numerous time periods and enables identification of effects that are simply not obvious in pure time-series studies. The panel regression equation varies from a regular time-series or cross section regression by the insertion of the double subscript attached to each variable. The general form of the panel data model can be specified more compactly as:

$$Y_{it} = \alpha + \beta X_{it} + e_{it}$$

The subscript  $i$  denotes the cross-sectional measurement and  $t$  signifies the time-series element. The variable  $Y_{it}$  denotes the dependent variable in this model.  $X_{it}$  contain the independent variable which is constant overtime  $t$  and specific to the discrete crosssectional unit  $i$ .

### **3.6.1 Dependent variable**

Following (Remmers et al., 1974; Cassar and Holmes, 2003), the 2 dependent variables are equity and leverage. Equity is the bank's total asset less their total liabilities. Leverage can be defined as the portion of the bank's total debt repayable within one year or bank's total debt repayable beyond one year.

### **3.6.2 Independent variable**

The explanatory variable is performance measured by a ratio of return on asset (ROA) to return on equity (ROE). It might be useful to connect with various measures instead of pick a solitary one depending on subjective suppositions about their suitability. Case in point Kuznetsov and Muravyev (2001) utilized work efficiency, productivity, and Tobin's Q as estimations of performance. In this study the researcher deliberated two performance proxies namely return on assets (RoA) and Return on Equity (RoE). ROA measured by the ratio of net income to total asset. Return on Equity (ROE) calculated by the banks profit after tax divided by the net worth of the bank.

### **3.6.3 Control variables**

The control variables are included because they also have some effect on the dependent variables, but they are not the subject of interest in the study. These are asset tangibility, size, growth opportunity, non-debt tax shield and dividend policy.

### 3.7 Methods of Hypotheses Testing

In this study, for suggestion of the kind and strength of correlation between dependent and independent quantitative variables, Pearson correlation and estimation of multiple regression models for hypotheses testing were utilized and analyzed. The results were built on statistical centrality or insignificant coefficients. For this tenacity, after determining the technique that shows the most accurate estimate, by the utilization of t-statistic, the specialist test the estimation coefficients of independent variables in the regression models utilized for the hypotheses by the utilization of :

$H_0: \beta = 0$   $H_1:$

$\beta \neq 0$

$H_0$  hypothesis implies that the independent variable coefficient is zero which therefore implies there exist no relationship among the adjustments in the tested dependent variable and independent variables.  $H_1$  is additionally meaning the association among changes in independent variables and dependent variable. The hypotheses are tested in a 5% mistake level. In the event that the p value is less 5%, then, the correlation is confirmed at 95% confidence level and otherwise is rejected.

To decide between fixed or random effects, a Hausman test was conducted where the null hypothesis is that the preferred model is random affects vs. the alternative the fixed effects (Green, 2008). It basically tests whether the unique errors ( $e_{it}$ ) are correlated with the regressors, the null hypothesis is they are not.

### 3.8 Models Specification

We analyzed the model by way of avoiding a problem of multicollinearity in the estimation models. From the econometric model by Miyajima et al. (2003), because

their model presents itself as the most appropriate, we estimate the following specific multiple regression model:

$$Eq_{it} = \alpha + \beta_1 Perf + \beta_2 TANG_{it} + \beta_3 SIZE_{it} + \beta_4 GROW_{it} + \beta_5 TAX_{it} + \beta_6 DIV_{it} + e_{it}$$

From the model specification, the following equations are estimated, where;

Eq- equity of firm  $i$  in year  $t$ ,

Perf- ROA of firm  $i$  in year  $t$ ,

Tang-asset tangibility ratio of firm  $i$  in year  $t$ ,

Size-size of firm  $i$  in year  $t$ ,

Grow-growth opportunities of firm  $i$  in year  $t$ ,

Tax-non debt tax shield of firm  $i$  in year  $t$ ,

Div-dividend policy of firm  $i$  in year  $t$ ,

### 3.8.1 Variables & Measurement

Code	Variable name	Calculating method
<b>Dependent variables</b>		
Eq	equity	Total asset to Total Liabilities ratio
Lev	Leverage	Total debt to Total Asset ratio
<b>Independent variable</b>		
Perf	Performance	Return on asset
<b>Control variables</b>		
Tang	Assets tangibility	Profit before tax/ total assets
Size	firm size	Natural logarithm of total assets of the firm
Grow	Growth opportunities	change in the natural logarithm of total assets of the firm
Tax	Non debt tax shield	total asset/tax payment

Div	Dividend policy	Dividend ratio/ net income
-----	-----------------	----------------------------

These definitions is in line with previous studies by Cassar and Holmes, 2003;Esperança et al., 2003; Hall et al., 2004; Sogorb-Mira, 2005). All the variables used in this study are based on book value in line with the argument by Myers (1984) that book values are proxies' for the value of assets in place.

## CHAPTER FOUR

### DATA ANALYSIS AND RESULTS

#### 4.1 Introduction

This chapter provides the research and results bases of this study. This chapter starts with the descriptive analysis, the regression analysis as well as some diagnostic test. The results are discussed in this chapter

#### 4.2 Descriptive Statistics

A simple summary analysis was run to describe the data. A Descriptive Statistics Table 4.2 is depicted beneath. Table 4.2 is an outline of descriptive statistics of the explained and independent variables showing the mean pointers of variables derived from the financial statements. The variables computed are

**Table 4.2 Summary Statistics**

Variable	Observation	Mean	Std. Dev.	Minimum	Maximum
equity	56	1.09e+08	3.22e+08	-538965	2.39e+09
leverage	56	.9838564	1.143439	.0008698	9.2658
perf	56	.6321214	1.462195	.0028	6.3384
tang	56	.044725	.0291979	.0053	.2102

size	56	17.12038	3.557022	11.2378	21.8125
grow	56	.6883929	1.312046	-1.8203	5.1917
tax	56	195.5144	406.9835	17.0593	2852.142
div	56	.2579768	.1836789	0	.8103

*Source: Author's computation*

The summary of the statistics used in this empirical study is presented in Table 4.2 above. Table 4.2 reports the mean and standard deviation of all the variables over the sample period. It also reports the minimum and maximum score of both the dependent and the independent variables. The mean value of Equity is 1.09 with maximum and minimum score of 2.39 and -538965 respectively. The Mean, maximum and minimum score of leverage is 0.98, 9.2658 and .0008698 respectively. Performance had a mean score of 0.63, maximum score of 6.34 and a minimum score of 0.0028. The Mean, of Asset tangibility, size, Growth, Non-debt tax shield and dividend ratio is 0.044, 17.12, 0.688., 195.54 and 0.257 respectively.

### **4.3 Correlation analysis**

In order to examine the possible degree of multicollinearity among the regressors, a correlation matrix of the variables is included in Appendix Table 4. Equity shows a significant positive correlation with leverage and negative correlation with tax significantly, it is positively correlated with performance, asset tangibility, and size. Performance is significantly positive correlated with leverage. Size is significantly negatively correlated with leverage. Growth is negatively correlated with equity, and significantly correlated with performance. The results show Tax is negatively correlated with all variables but growth opportunity.

The highest correlation coefficients were 0.77 which was between Asset tangibility and leverage. The lowest correlation coefficients were -0.33 which was between nondebt

tax shield and asset tangibility. The other variables lie between 0.77 and -0.33, these coefficients are within the acceptable range and therefore indicates the absence of multicollinearity.

#### 4.4 Regression Results and Discussion

##### 4.4.1 Equity Analysis

The study performed a panel analysis using a fixed effect and random effect in Appendix 1A and Appendix 1B. The fixed effect had a p-value of 24.27% while the Random effect had a P-value of 0.80% showing that the random effect is significant so table 4.4.1 presents the output for Equity using the Random effect.

**Table 4.4.1 Equity Analysis**

EQUITY	COEFFICIENT	STANDARD ERROR	P-VALUE
Perf	3.16e+07	3.06e+07	0.301
Tang	1.68e+09	1.56e+09	0.280
Size	3.63e+07	1.24e+07	0.003*
Grow	-2.85e+07	3.11e+07	0.361
Tax	42033.2	104739.8	0.688
Div	-4.12e+08	2.27e+08	0.070**
const	-4.90e+08	2.29e+08	0.033

*\*Indicates 5% significance figure*

*\*\*indicates 10% significance figure*

*Source: Author's computation*

$$\begin{aligned}
& )\text{Perf} \\
& (36300000.00)\text{Size}_{it} \\
& .20)\text{Tax}_{it} \\
\text{Eq}_{it} = & -(490000000.00) + (31600000.00 \\
& + (1680000000.00) \text{Tang}_{it} + \\
& - (28500000.00)\text{Grow}_{it} + (42033 \\
& - (412000000.00)\text{Div}_{it} + e_{it}
\end{aligned}$$

Equity has a positive relationship with Performance, Asset Tangibility, and Size of the firm and non-debt tax shield. This implies that as performance, asset tangibility and size of the firm increases, then the firms' worth also increases. This result indicated that a high performing firm will have its equity greater than a low performing firm.

Equity is also negatively related with dividend and the growth opportunity of the firm. This implies that a bank with low equity has the opportunity to grow higher than a bank with high equity. A bank pays dividend out of its worth so when the dividend is paid, the bank's worth reduces.

At 95% confidence interval, we can clearly say, Size of the Bank is highly significant and therefore a major determinant of equity of listed banks in Ghana.

#### 4.4.2 Leverage Analysis

The study performed a panel analysis using a fixed effect and random effect in Appendix 2A and Appendix 2B. The fixed effect and the random effect both gave a pvalue of 0% so the Hausman Test was run. From appendix 2C, the test failed to meet the asymptotic assumptions of the Hausman test, therefore, the study choose the random effect as shown in table 4.4.2

**Table 4.4.2 Leverage Analysis**

LEVERAGE	COEFFICIENT	STANDARD ERROR	P-VALUE
Perf	-.2472246	.0682926	0.000*
Tang	37.00682	3.478571	0.000*
Size	.0473832	.0276039	0.086**
Grow	-.038958	.0695303	0.575
Tax	.0003365	.0002338	0.150
Div	.5649112	.5073069	0.265
const	-1.510914	.5111185	0.003

*\*Indicates 5% significance figure*

*\*\*indicates 10% significance figure*

Source: Author's computation

$$\begin{aligned}
 Lev_{it} = & -(1.510914) - (2472246)Perf_{it} + (37.00682)Tang_{it} \\
 & + (.0473832)Size_{it} - (0.038958)Grow_{it} + (0.003365)Tax_{it} \\
 & + (0.5649112)Div_{it} + e_{it}
 \end{aligned}$$

Leverage has a positive relationship with asset tangibility, size of the firm, non-debt tax shield and dividend policy. As asset tangibility, non-debt tax shield and dividend policy increases, the leverage (total debt) of the Bank increases. Performance and asset tangibility was highly significant in determining a listed Bank's leverage.

Size of the firm's coefficient for leverage is positive and significant at 90 % confidence interval, the outcomes is in track with Harris and Raviv (1991) and Rajan and Zingales (1995). The outcomes recommend that bigger banks with greater assets' tangibility employ more leverage to influence and accomplish the tax benefits of debt, as bigger banks face fewer risk of bankruptcy.

The results showed that performance and growth opportunity has a negative relationship with leverage. This is in line with the studies by to Titman & Wessels

(1988), Rajan and Zingales (1995), Harris & Raviv (1991), Ghosh et al. (2000) and Booth et al (2001) with an with a reverse relationship between growth and leverage.

The results indicate a positive relationship amongst tax and leverage. The positive coefficient could be attributable to the added tax levied on banks. In Ghana, banks are taxed a special tax and the tax rise would be allied with the amassed debt capital. This was affirmed by Amidu (2007).

The positive coefficient of dividend policy, show that when a bank has a policy to pay profit, it impacts on its performance. This is in accordance with the confirmation of profit hypothesis by John and William (1985) and Miller and Rock (1985) that dividend policy influences a firm share price.

#### **4.5 Is Bank performance significant in determining Capital Structure?**

Performance was only significant in determining the leverage of the listed banks with a p-value of 0.00, from table 4.4.2, there was a negative relationship between the performance of a bank and its leverage (Debt). It implies that an increase of 100% in leverage was due to a fall of 24.72% in performance holding all factors constant.

Banks which perform better usually have low debt stock. Logically it implies that when Banks perform better, there earn more revenue and therefore plough back their profit so they tend to borrow less.

#### **4.6 What determines equity?**

Size was one of the determinants of equity with a p-value of 0.003 from table 4.4.1. There exist a positive association between size and equity. Intuitively, as the size of a bank increases, the equity of that bank increases. Therefore, the size of a bank does not only influence bank equity positively but also significantly.

Dividend policy was the other determinant of equity. However, there was a negative relationship between equity and dividend policy. Intuitively, since dividend was paid out of a bank's profit, an increase in dividend adversely affected the worth and equity of the bank.

#### **4.7 What determines leverage ?**

Performance and asset tangibility of a bank are the highly significant determinants of the leverage of a bank. The results from table 4.4.2, thus a p-value of 0.00 at 5% confidence interval indicate a highly significantly positive association between Asset Tangibility and leverage and a highly negative significance with performance the significantly positive regression coefficient for total debt.

Also, the negative coefficient of performance suggests that Performing Banks depends less on debt as their main financing option. Therefore, this hypothesis shows that there exist a significant but negative correlation among leverage and a bank's performance. The results of this speculation is unflinching with the examination consequences of Onaolapo and Kajola (2010), Houang and Song (2006), and Zeitun and Tian (2007), yet is changing with the exploration aftereffects of Aburub (2012).

The significantly and positive regression coefficient association between total debt and asset tangibility implies that an increase in the debt position is allied with an increase in asset tangibility. Thus, the higher the debt the greater tangible asset, which confirms that greater assets' tangibility is allied with higher leverage. This result is fortified likewise by the audit of Measurements New Zealand (2004), that more than 70% of New Zealand Banks use debt funding. The huge result for tangibility in elucidating debt settles that guarantee is of significance for banks to secure utilization of debt.

## **4.8 Diagnostics Test**

### **4.8.1 Jarque Bera Test**

The study performed Skewness/Kurtosis tests for Normality. The residuals of Equity and Leverage were found to be normally distributed which indicated that the model was a good fit. The table is shown in Appendix Table 3.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

The chapter presents the summary of the main findings of the study with special focus on the three objectives. The chapter ends with the conclusion and recommendations which have been made base on the findings of the study.

#### **5.1 Summary of findings**

Based on the analysis, key findings of the study can be summarized as follows:

- The study found Asset Tangibility and non-debt tax shield to have a positive relationship with equity.
- The study also discovered that, Size of a bank was a significant determinant of equity and also has a positive association with equity.
- There was a positive relationship between performance and equity.
- There was also negative relation with Growth opportunity of a bank, Dividend policy and equity.
- Performance and size of a bank are the determinants of leverage.
- There was a statistically significant positive relation with leverage and a negative statistically significant relation with the size of a bank.

- The study found Leverage to have positive relation with Asset Tangibility, non-debt tax shield and Dividend ratio.
- The study also discovered a negative association between Growth Opportunity of a bank and Leverage.

These findings suggest that

- A high performing Bank has a high level of equity
- High performing Banks that earn more revenue have a low level of leverage
- Larger Banks with higher asset tangibility employ more leverage to stand the advantage of acquiring the tax benefit of debt, because bigger Banks have a lesser amount of risk associated with Bankruptcy.
- Banks with low equity will tend to grow higher than banks high equity

## 5.2 Conclusions

This study examines capital structure Dynamics of listed Banks in Ghana from 2005 to 2012 consisting of a panel model composing of fixed and random effects. In this study from Asset Tangibility (Tang), Size of the Bank (Size), Growth Opportunity (Grow), Non-debt tax shield (Tax), Dividend Policy (Div) as constituents of capital structure and the financial performance of Banks measured as return on assets (ROA) divided by return on equity (ROE) as means of accessing the banks Performance.

The elementary remark made was that the mean of the capital structure of the Banks recorded on the Ghana Stocked Exchange was 98% over the period for assessment suggesting that banks listed in Ghana are extremely geared. This implies that for C100.00 available for operating a business, C98.00 would be financed by debt and the remaining C2.00 by equity. This therefore can be attributed to banks over reliance on

leverage as an outcome comparatively due to high Central Bank's Lending rate and the low level of activities of bond market in Ghana.

Furthermore, the results of this study have given some comprehension on the capital structure of Ghanaian Banks. The subject of the mix of debt and equity is an essential strategic funding choice that banks need to make. Obviously, the Static trade off theory seems to overwhelm the Ghanaian capital structure story of listed Banks this implies that profitable and performing Ghanaian listed Banks use more debt because they operate based on external funding.

Also, empirical evidence from this studies suggest that, Performance, Size of a Bank and Asset tangibility are the most important variables that influence Banks capital structure in Ghana.

### **5.3 Recommendations**

Based on the findings of this research, some recommendations were made as follows: Government should pursue policies to bring down the rate of depreciation of the cedi, as well as reduce the level of inflation against that of the developed countries to prevent the banks from being highly geared.

Since performance is significant in determining leverage, lending firms and banks should be wary and cautious when borrowing to a highly geared firm since they don't perform better and might not be able to pay

Also, the government must also endeavor to promote the reduction of the Bank of Ghana's Lending Prime Rate so that the banks can easily lend among themselves.

Furthermore, it is very rewarding when a business organization is able to reach its optimal capital structure and is therefore significant for financial managers to pursue

the exact optimal capital structure that will contribute to their shareholders maximizing returns on their investments.

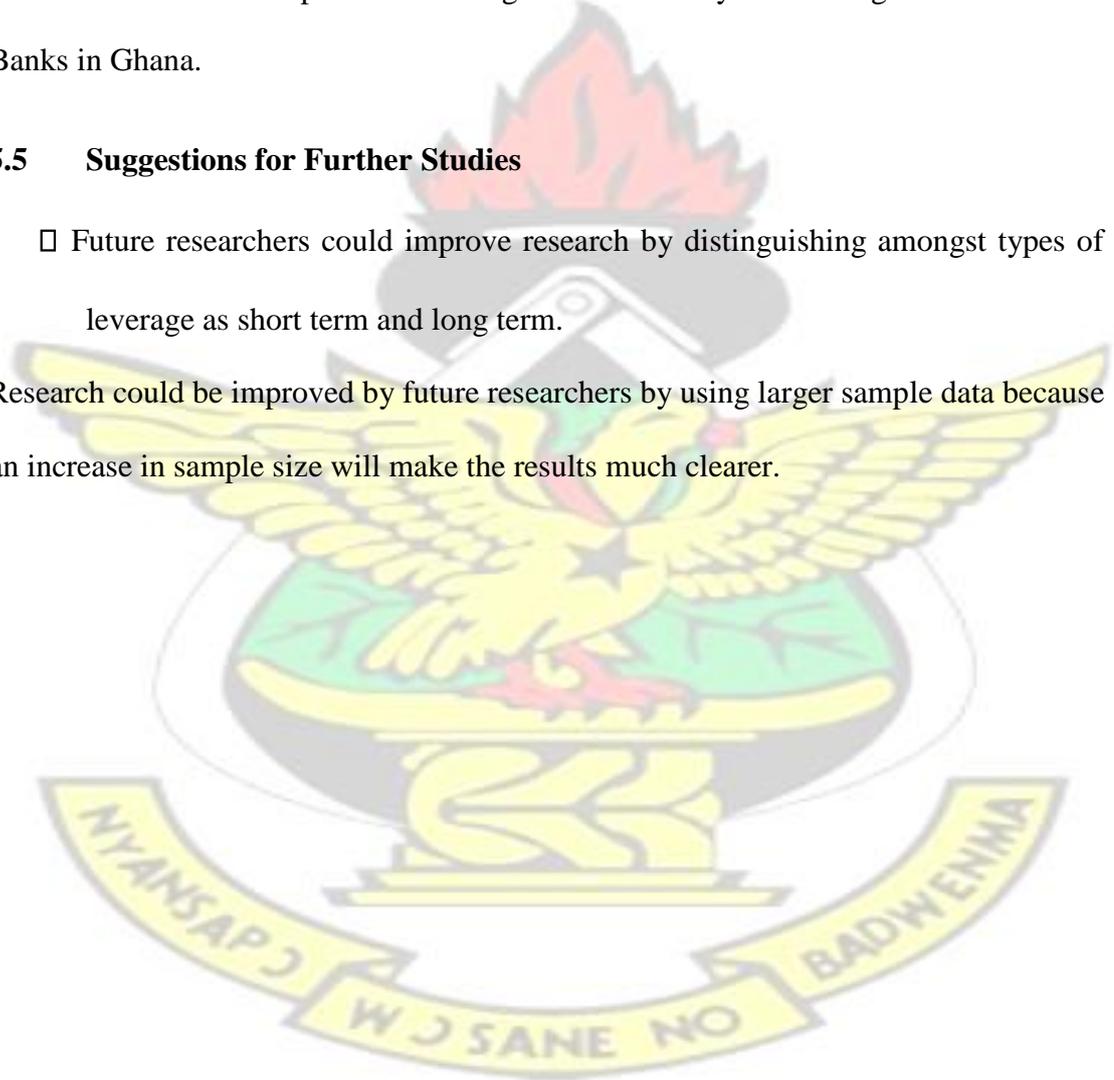
#### **5.4 Limitations of the Study**

This research was limited to only Banks on the Ghana stock exchange due to the accessibility of information. Even though most of the information needed is available, time constraints and lack of resources limited this research from including non-listed banks in Ghana. This implies that findings from this study cannot be generalized for all Banks in Ghana.

#### **5.5 Suggestions for Further Studies**

- Future researchers could improve research by distinguishing amongst types of leverage as short term and long term.

Research could be improved by future researchers by using larger sample data because an increase in sample size will make the results much clearer.



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## APPENDIX

### Appendix 1A Equity-Fixed effect regression

Fixed-effects (within) regression  
Number of obs = 56  
Group variable: company  
Number of groups = 7

R-sq: within = 0.1619  
 Obs per group: min = 8 between  
 = 0.0904  
 avg = 8.0 overall = 0.1249  
 max = 8

F(6,43) = 1.38 corr(u\_i, Xb)  
 = -0.3225 Prob > F

equity	Coef.	Std. Err.	t
P> t	[95% Conf. Interval]		
perf	-6.37e+07	7.13e+07	-0.89
	0.377	-2.07e+08 8.01e+07	
	2.17e+09	1.72e+09	1.26
tang	0.215	-1.30e+09 5.64e+09	
	4.72e+07	2.44e+07	1.93
size	0.060	-2080480 9.64e+07	
	-3.35e+07	3.31e+07	-1.01
grow	0.317	-1.00e+08 3.32e+07	
	33862.33	116779.7	0.29
tax	0.773	-201646.4 269371.1	
	-3.36e+08	2.68e+08	-1.26
div	0.216	-8.76e+08 2.03e+08	
	-6.52e+08	4.64e+08	-1.41
_cons	0.167	-1.59e+09 2.83e+08	
sigma_u	1.552e+08		
	3.031e+08		
sigma_e			
rho	.20780214	(fraction of	
		variance due to u_i)	
	0.2427		

F test that all  $u_i=0$ :  $F(6, 43) = 0.47$   
 Prob > F = 0.8288

**Appendix 1B Equity-Random effect regression**

Random-effects GLS regression

Number of obs = 56

Group variable: company

Number of groups = 7

R-sq: within = 0.1231

Obs per group: min = 8

between = 0.9256

avg = 8.0 overall = 0.2616

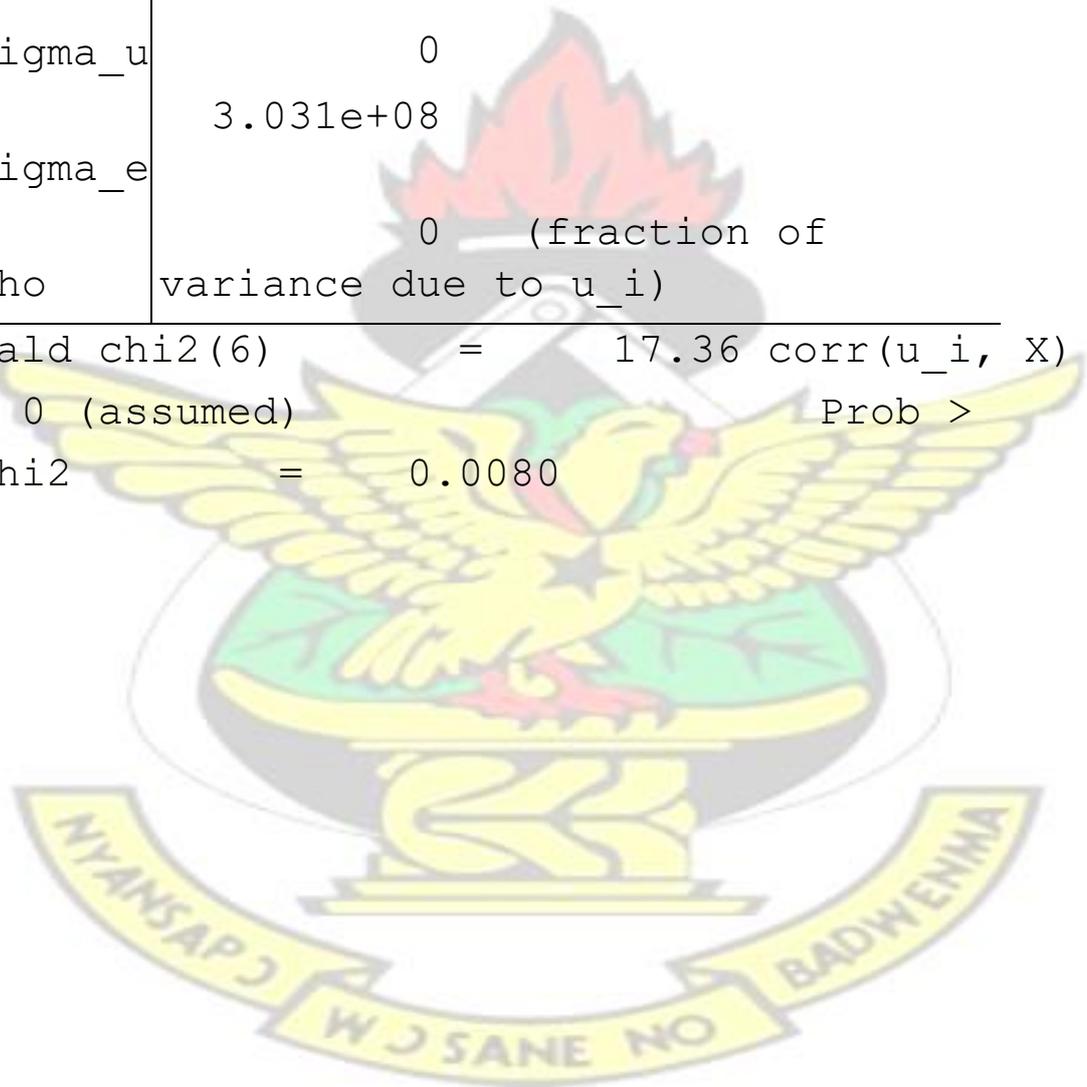
max = 8

	Coef.	Std. Err.	z
equity	[95% Conf. Interval]		P> z
perf	3.16e+07	3.06e+07	1.03
	0.301	-2.83e+07	9.16e+07
	1.68e+09	1.56e+09	1.08
tang	0.280	-1.37e+09	4.74e+09
	3.63e+07	1.24e+07	2.93
size	0.003	1.20e+07	6.05e+07

grow	-2.85e+07	3.11e+07	-0.91
	0.361	-8.95e+07	3.26e+07
tax	42033.2	104739.8	0.40
	0.688	-163253	247319.4
div	-4.12e+08	2.27e+08	-1.81
	0.070	-8.57e+08	3.33e+07
_cons	-4.90e+08	2.29e+08	-2.14
	0.033	-9.38e+08	-4.08e+07

sigma\_u = 0  
sigma\_e = 3.031e+08  
rho = 0 (fraction of variance due to u\_i)

Wald chi2(6) = 17.36 corr(u\_i, X) = 0 (assumed) Prob > chi2 = 0.0080



## Appendix 2A Leverage-Fixed Effect regression

Fixed-effects (within) regression

Number of obs = 56

Group variable: company

Number of groups = 7

R-sq: within = 0.7782

Obs per group: min = 8

between = 0.0596

avg = 8.0 overall = 0.6312

max = 8

	Coef.	Std. Err.	t
leverage	P> t	[95% Conf. Interval]	
perf	-.04031	.1351078	-0.30
	0.767	-.3127809	.232161
	37.62138	3.2625	11.53
tang	0.000	31.04192	44.20084
	.0627448	.0462661	1.36
size	0.182	-.0305596	.1560492
	-.0080714	.0626942	-0.13
grow	0.898	-.1345063	.1183634
	.0002931	.0002213	1.32
tax	0.192	-.0001532	.0007394
	.8810445	.5073251	1.74
div	0.090	-.1420741	1.904163
	-2.026531	.8785442	-2.31
_cons	0.026	-3.798285	-.2547781
sigma_u	.52575894		

sigma_e		.57433297	
rho		.4559314	(fraction of variance due to u_i)
F(6,43)	=	25.14	corr(u_i, Xb) = -0.2651
Prob > F	=	0.0000	

KNUST

F test that all  $u_i=0$ :  $F(6, 43) = 3.43$   
 Prob > F = 0.0074

**Appendix 2B Leverage-Random Effect regression**

Random-effects GLS regression

Number of obs = 56

Group variable: company

Number of groups = 7

R-sq: within = 0.7620

Obs per group: min = 8 between =  
 0.2826 avg

= 8.0 overall = 0.7083  
max = 8

Wald chi2(6) = 119.00 corr(u\_i, X) = 0  
(assumed) Prob > chi2 =

	Coef.	Std. Err.	z	P> z
leverage	[95% Conf. Interval]			
perf	-.2472246	.0682926	-3.62	0.000
	-.3810755	-.1133736		
tang	37.00682	3.478571	10.64	0.000
	30.18895	43.8247		
size	.0473832	.0276039	1.72	0.086
	-.0067196	.1014859		
grow	-.038958	.0695303	-0.56	0.575
	-.1752349	.0973189		
tax	.0003365	.0002338	1.44	0.150
	-.0001219	.0007948		
div	.5649112	.5073069	1.11	0.265
	-.429392	1.559214		
_cons	-1.510914	.5111185	-2.96	0.003
	-2.512688	-.5091401		
sigma_u	0			
	.57433297			
sigma_e	0			
rho	0	(fraction of variance		
	due to u_i)			
	0.0000			



Test: Ho: difference in coefficients not systematic

$$\chi^2(5) = (b - B)' [(V_b - V_B)^{-1}] (b - B)$$

1.62  $\chi^2 < 0 \implies$  model fitted on these

data fails to meet the asymptotic assumptions of the Hausman test; see suest for a generalized test

**Appendix 3 Jarque Bearer Test**

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Res_equity	56	0.0000	0.0000	70.70	0.0000
Res_leverage	56	0.0384	0.0080	9.56	0.0084

**Appendix 4 Correlation results on the relationship among the estimation variables**

	equity	leverage	perf	tang	size	grow	tax	div
equity	1.0000							
leverage	-0.0082	1.0000						
perf	0.3088	0.0012	1.0000					
tang	0.1928	0.7799	0.2956	1.0000				
size	0.3738	-0.0011	0.3358	-0.0606	1.0000			
grow	-0.0428	0.0665	-0.0196	0.0895	0.0835	1.0000		
tax	-0.0570	-0.1525	-0.1346	-0.3296	-0.0221	0.1378	1.0000	
div	-0.1536	-0.0758	0.0410	-0.2118	0.2341	-0.0918	0.0664	1.0000