

Dimensions of Capital Structure of Companies:
Evidence from Sub-Saharan Africa

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Abstract

The purpose of this study was to identify the factors of capital structure decisions among firms in Sub-Saharan Africa (hereafter SSA) and to find out whether the fundamental assumptions underpinning the western capital structure theories are also valid in the SSA region. This study therefore examined the capital structure practices of firms in SSA countries by combining responses from a survey of 119 firms in Ghana and secondary data from seven other SSA countries obtained from Datastream. The two data were analysed separately using SPSS, STATA and ORIGIN to provide an in-depth understanding of the situation.

The findings from this study indicate that firms in SSA possess a lower leverage ratio as observed in other less developed market economies. Firm-specific factors such as profitability, earnings volatility, and tangibility have significant impacts on leverage and are also consistent with the predictions of conventional capital structure models, particularly the pecking order and the trade-off models. In spite of the institutional differences that exist between the Western world and SSA firms, the results suggest that some of the firm-level factors that are relevant in explaining capital structure in the western context are also relevant in SSA. Besides, drawing on the institutional differences hypothesis, this study observes that tax is less important in capital structure decisions of firms in SSA. The results also show that firm size, asset tangibility, and rule of law moderate the association between firm-level factors and leverage. Notably, the results show that the weak regulatory environment in SSA facilitates tax evasion by large firms in SSA and that size-tax interaction is negatively related to leverage in SSA.

This study has contributed to knowledge in a number of ways: Firstly, no study has specifically investigated the financing behaviour of firms through a cross-country comparison analysis in SSA. In addition, this study is the first within the SSA to quantify the effects of non-conventional institutional factors and to provide support for incorporating these factors as essential components in the traditional theories of debt-equity choice.

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Author's Declaration

I hereby declare that this thesis 'Dimensions of Capital Structure of Companies: Evidence from Sub-Saharan Africa' is my original work and it has not been submitted, either in part or whole, for a degree at this or any other university and materials I have used have been fully identified and properly acknowledged as required by the guidelines of the University.

PART I: INTRODUCTION

Chapter 1

Introduction

1.1. Background of the Study

The financing decision of firms has dominated the field of corporate finance for many years and the area has received growing research attention among researchers and practitioners during the last decade due to its significant importance in a firm's growth and development (Kayo and Kimura, 2011; Abor, 2008; Salawu, 2007). A major issue that faces firms in need of finance is whether to use debt or equity. Abor (2008) asserted that the financing decision is extremely important as in almost all economies there are ample grounds to accept the fact that the corporate sector's role cannot be underestimated. This is because the sector serves as one of the major machinery of economic growth. Thus, wrong financing decisions can endanger an economy. Abor (2008) further added that the corporate sector in developing economies plays a crucial role in the provision of employment to the people thereby reducing poverty, which is one of the major problems confronting most of these economies, especially those in Sub-Saharan Africa. For instance, according to the Central Intelligence Agency¹ (2012), about 26 percent of the South African population are employed in the country's industrial sector. Similarly, in Ghana, 15 percent of the country's population are employed in this sector. However, as established by Salawu (2006) one of the core reasons that make many of these firms in developing countries fail to progress has been the issue of financing. Finance is therefore important if firms are to play any important role in the growth of an economy. In order to understand and appreciate how firms in developing countries finance their activities, we must explore what determines their capital structure decisions.

Capital structure has become an area of interest for researchers since the publication of the "irrelevance theory of capital structure" by Modigliani and Miller (1958) (hereafter M and M). Capital structure could be defined as the mix of securities

¹ CIA is the Central Intelligence Agency of the US government

employed by a firm for its operations and there are two forms of capital: equity capital and debt capital, with each having its own advantages and disadvantages. The choice of equity or debt can affect different aspects of a firm including its profitability, the dividend decision, and project financing. Thus, any wrong decision regarding the choice of capital can have detrimental effects on the overall performance of the firm. A prudent decision on an appropriate capital structure policy enhances the profitability of the firm. This explains why in recent times the issue of firms' financing policy has attracted huge interest in the field of corporate finance and other related fields of study (Kayo and Kimura 2011). Thus, financial managers are required to adopt the lowest cost of capital that will ensure the maximisation of wealth for their shareholders.

A firm is said to be highly geared if it employs more debt than equity and vice versa. There are however a number of factors that firms need to take into account in deciding the type of financing to employ. More importantly, since there are a number of factors that affect the capital structure decision of firms, the opinion of the person making the decision also plays a significant role in making the appropriate financing decision. For instance, two firms that are very similar (e.g. firms operating in the same industry such as Asda and Sainsburys) can have dissimilar capital structures in a situation where those involved in the decision making have differences in terms of their judgement about the relevance of the various factors involved in the decision making process.

According to Panigrahi (2010), an optimal structure of capital is attained at the point when the market value per share is at its maximum. There is a wide range of policy issues involved in a firm's financing decision both at the macro and micro levels. For instance, at the macro level, firms' financing decisions have effects on many issues such as the development of capital markets, the rate of interest as well as the determination of security prices, and regulation (Green, Murinde and Suppakitjarak, 2002). As a result, capital remains one of the most critical resources of firms and this explains why the question of what determines a firm's financing policy is of central concern to many scholars (e.g. Joeveer, 2013; Kayo and Kimura, 2011; Daskalakis and Psillaki, 2008; Beattie et al., 2008; Chen, 2004).

As highlighted above, since the renowned work of M and M, the issue of capital structure has been well researched. Experienced researchers in the field (e.g. Jensen 1986; Myers, 1984; Taggart, 1977) continue to explore as to whether or not the irrelevance model explains the financing behaviour of firms in the real world. However, how firms make their financing decision remains one of the debatable issues in academic circles despite decades of empirical and theoretical work. M and M suggested that in a perfect market, the capital structure decision has no influence on the value of the firm. The prediction of M and M irrelevance theory which suggests that the value of a firm is independent of its capital structure has been widely criticised by other scholars (e.g. Jensen, 1986; Myers, 1984; Taggart, 1977) who have demonstrated that due to the absence of perfect market conditions, debt-equity mix can influence the value of a firm.

1.2. Motivation for this work

It is widely recognised that the debt-equity choice of firms depend predominately on firm-level characteristics. For instance, in their study of capital structure, Zou and Xiao (2006), Wiwattanakantang (1999), Harris and Raviv (1991) demonstrated that firm-level characteristics play a dominant role in the determination of the choice between debt and equity. However, empirical evidence on the issue has produced mixed results, which are often difficult to explain and these divergent scholarly views have necessitated the evolution and development of alternative theoretical viewpoints that seek to explain firms' financing policy across countries.

Some recent empirical studies (notably Joeveer, 2013; Gungoraydinoglu and Oztekin, 2011; Jong, Kabir and Nguyen, 2008) have attempted to shed light on the effects of the institutional environment on debt-equity choice of firms. Despite these recent scholarly efforts aimed at enhancing understanding of capital structure literature, the existing literature is limited in several respects. First, there is startlingly limited evidence of more practical opinion of firms' financial managers, especially those in SSA. Most of the studies on capital structure from SSA tend to depend on secondary information, which is limited in its ability to explain the differences found in practice (Beattie, Goodacre and Thomson, 2006). Second, cross-country comparison of capital structure studies from SSA is difficult to perform, as

studies from SSA tend to concentrate on single countries (e.g. Ramlall, 2009; Abor, 2008; Salawu, 2007; Salawu, 2006; Yartey, 2006), which do not provide a holistic picture of the situation in the sub-region. Third, the possibility of moderating effects of firm-level factors and institutional factors remain under-researched especially within the SSA sub-region. In the existing scholarly works on capital structure (e.g. Joeveer, 2013; Gungoraydinoglu and Oztekin, 2011; Jong et al., 2008), institutional factors such as governance, economic and social measures have been emphasised as direct determinants of debt-equity choice. However, these factors are unobservable and that their effects are only captured on observed firm-specific factors (Bhaduri, 2002). Thus, this study is the first within the context of SSA that addresses this issue by capturing the moderating role of institutional factors on firm level-leverage interaction.

In addition to this, although the issue of capital structure is well explored and documented, most studies have been carried out in developed economies with relatively stable institutional environment and little attention has been paid to the perspective of developing countries. As such, very little is known about the capital structure of companies in less developed market economies where the institutional structures are different from those of the developed economies such as the UK and the USA. As a consequence, the general understanding of the capital structure practices of firms in developing markets is far from complete, as we are not sure whether findings and conclusions from these studies are valid and applicable or different set of factors influence capital structure decisions in these countries. There is therefore a need for capital structure research from the perspective of developing countries. Researchers (e.g. Zou and Xiao, 2006; Bhaduri, 2002; Booth, Demircug-Kunt and Maksimovic, 2001) observed that facts about capital structures of firms have mostly been obtained from information from the developed economies that have many institutional resemblances.

Different economies have diverse institutional arrangements, primarily with respect to their tax system and the existing market for corporate control, as well as the roles played by the financial market. Furthermore, there are differences in socio-cultural aspects and even the levels of economic development. In line with this, Tong and Green (2005) commented that there are many reasons why firms in less developed

market economies have financing objectives dissimilar to those in the developed economies. These factors include the level of development of the capital market and differences in accounting and auditing standards. These differences in institutional set-up permit us to take a detailed look at the issue from the perspective of less developed market economies such as those in SSA. The knowledge of how firms in SSA choose their capital structure is crucial not only to the African continent but also provide the basis for comparing and explaining the differences between the capital structure strategies of the developed economies and less developed market ones.

The corporate sector in SSA is a good laboratory for studies as the sector is the main driver that is critical in the transformation of the African economy from over-reliance on the agricultural sector to a more developed economy. It is therefore essential that attention is devoted to the study of this area and how its capital structure policies impact on the African economy in general. In the past decade, companies all over the world are trying to increase their competitiveness both domestically and internationally. Increasing competition forces firms to compare their key features with those of their international counterparts and capital structure decision is one of such key characteristics. This therefore underlines the importance of research in this area from the context of SSA.

The current study therefore combines primary data from Ghana and secondary data from other seven countries² in SSA to explore the role of firm and institutional factors in debt-equity decisions of firms. Ghana in particular and SSA in general is an interesting and peculiar region and remains a good place for the current study in that researchers are yet to examine in details the effects of firm and institutional factors on leverage decisions of firms. Thus, the current study is the first to examine that in detail.

Indeed, the choice of the countries for this study was dictated by availability of adequate data to aid analysis. Whilst South Africa is considered the most developed country in SSA, it is important to indicate that statistical analysis conducted (see Appendix 40) indicate that the size of firms in South Africa was not different from

² Countries studied are Botswana, Ghana, Ivory Coast, Kenya, Mauritius, Nigeria, South Africa and Zambia.

other countries sampled in this study. This suggests that the sample from South Africa is not biased towards data from the other countries studied.

1.3. Objectives of the Study

Having identified the motivation behind this research in the previous section, I formally state the objectives of the current study. This study aims at examining the capital structure practices of firms in SSA region by employing different data collection and analysis procedures in understanding the issue under consideration. The objectives of this study are three-fold. First, the study examines firm and institutional elements that drive leverage levels of firms. Second, it explores the moderating role of firm size and asset tangibility and finally, it seeks to understand the moderating effect of rule of law on the relationship between firm-specific factors and leverage. Therefore, the specific objectives that the study intends to achieve include:

1. To examine sources of finance, barriers and factors influencing capital structure of firms in Ghana.
2. To examine both firm-level and country-level determinants of capital structure.
3. To examine the moderating effects of firm size on the relationship between other firm-level factors and leverage.
4. To examine the moderating effect of asset tangibility on the relationship between earnings volatility and leverage.
5. To examine the moderating role of rule of law on the relationship between firm-specific factors and leverage.

1.4. Contributions of the study

This thesis makes substantive contributions to implications and understanding of corporate financing decisions in a number of ways and these are discussed below.

1.4.1. The survey evidence

In the area of corporate financing decision, various advances have been made in the literature following the seminal work of M and M (1958). However, since then, empirical works on corporate financing decisions have mainly been based on secondary data regression studies (e.g. Joeveer, 2013; Sheikh and Wang, 2011; Gungoraydinoglu and Oztekin, 2011; Huang and Song, 2006; Deesomsak, Paudyal and Pescetto, 2004) and are limited in their ability to explain the diversity found in practice (Beattie et al., 2006). To date, empirical studies from Ghana have relied mainly on secondary data. To the best of my knowledge, this thesis is the most comprehensive study that examines the financing behaviour of firms in Ghana by relying on a survey. This provides the opportunity to understand the diversity of financial practices of firms from the perspective of a developing country rather than relying on conclusions drawn from secondary information, which is often very patchy in developing countries.

1.4.2. Government ownership and leverage

In addition, this study examines the effects of government ownership on leverage. The influence of government ownership on firms' activities has long been debated in the capital structure and social networks literature (Li et al. 2008; Kiss and Danis, 2008). Especially in the context of less developed economies, literature on capital structure has failed to focus on government ownership as one of the key explanatory factors of financing decisions. In less developed market economies such as those in SSA, governments play significant roles in providing resources and opportunities to firms. Politicians and governments have considerable control over many financial institutions in Ghana. In the current study, it is observed that firms with government stake (shares) have higher leverage levels than firms that the government has no shares in. This underlines the importance of government ownership in debt-equity

decisions (e.g. Huang and Song). So far, this is the first study to examine the effect of government stake on leverage in the context of SSA. In doing so, the current thesis draws attention to the impact of government ownership on capital structure decisions and therefore opens the avenue for further investigations into the role of government ownership on the financing decisions of firms.

1.4.3. The effects of tax on leverage

M and M (1958) idea of ‘irrelevance’ has been the primary theoretical grounding of tax-leverage relationship and has directed the attention towards the effects of high taxes on leverage decisions. However, when inappropriately applied to the context of less developed economies (e.g. SSA), theories that originate in advanced economies (e.g. US, UK, Germany and France) run the risk of conceptual misspecifications (Julian and Ofori-Darkwa, 2013). In the past work on determinants of corporate financing decisions, researchers have paid insufficient attention to how institutional distinctions could lead to a different tax-leverage relationship (Sheikh and Wang, 2011; Abor, 2007; Chen, 2004; Frank and Goyal, 2003; Graham and Harvey, 2001; Ross, Westerfield, Jordan and Firer, 2001). Premised on the insight of the institutional difference hypothesis (hereafter IDH), the current study contributes to the finance literature by arguing that differences in institutional contexts matter in the tax-leverage relationship. The root of the IDH can be traced to Julian and Ofori-Dankwa (2013) argument that in a less developed market, weak regulatory structures, bribery and corruption facilitate the evasion of tax by firms and this allows them to marginalise their tax obligations. This condition alters the direction of tax-leverage relationship to be negative. Accordingly, drawing on the institutional differences logic, the current study makes a novel contribution to capital structure literature by arguing that weak institutional structures in less developed economies alters the direction of tax-leverage relationship. The empirical findings obtained provide support for this central proposition.

1.4.4. Consideration of moderating effects of firm-level factors

In spite of the rich tradition of research on firm-level determinants of capital structure (e.g. Joeveer, 2013; 2011; Jong, Kabir and Nguyen, 2008; Zou and Xiao,

2006; Huang and Song, 2006; Chen, 2004; Wiwattanakantang, 1999; Harris and Raviv, 1991), the focus of these empirical studies is the assumption of the direct effects of firm-level factors on leverage. Surprisingly, in the academic literature, no study has so far rigorously explored how some of these firm-level factors might serve as moderators. Therefore, building on from the above contributions, the current study addresses an important gap in literature by enriching our understanding of the moderating role of firm size.

In addition, the current study enriches the notion of earnings volatility-leverage relationship by addressing the question of whether the earnings volatility-leverage relationship is conditioned by the level of asset tangibility of a firm. Empirical evidence mainly suggests that the earnings volatility-leverage relationship is negative due to the high possibility of default (e.g. Sheikh and Wang, 2011; Chen, 2004; Deesomsak, 2004; Wiwattanakantang, 1999; Johnson, 1997; De Angelo 1980). However, where a firm has enough tangible assets to be used as collateral, volatility in earnings might not matter much. Yet, there is limited empirical work on the interplay between earnings volatility, asset tangibility, and leverage. Thus, the current study contributes to the literature by exploring the interaction between earnings volatility, asset tangibility and leverage by arguing that asset tangibility moderates the earnings volatility-leverage relationship in such a way that the relationship is positive and significant. By integrating the moderating role of asset tangibility into the earnings volatility-leverage relationship, I propose an important insight into firm-level determinants of capital structure. Indeed, this thesis is the first to examine this relationship.

1.4.5. Linking institutional perspective to capital structure

Researchers (e.g. Luoma and Goodstein, 1999; Oliver, 1997; Oliver, 1991; North, 1990) have long been interested in examining institutions. In many respects, institutional economists, most notably North (1990) have emphasized the central role of institutional environment in influencing the activities of firms. While the available evidence suggests that institutional factors matter in capital structure decisions, extant studies have only examined the direct effects of institutional structures on capital structure (e.g. Joeveer, 2013; Daskalakis and Psillaki, 2008). Yet, one could

argue that the actual effects of institutional structures might be through their effects on firm-specific factors (Bhaduri, 2002). Ultimately, drawing on the insight derived from institutional economics, I demonstrate the effects of rule of law on capital structure of firms through firm-level factors.

The current study therefore makes a substantial contribution to the capital structure literature by looking at the moderating role of rule of law. The results show that the tax-leverage relationship is positive and significant when at a high level of rule of law. Moreover, the current study shows that asset tangibility-leverage relationship is negative and significant when moderated by a high level of rule of law. Therefore, at a high level of rule of law, creditors would be better protected (e.g. Fosu, 2013) and asset tangibility would be less important in debt acquisition. Thus, to a significant extent, firm financing decisions are driven by country-level factors. Empirical information on this relationship is limited in literature (both from the context of developed and less developed economies) and so far, this is the first study to examine that. Accordingly, by linking the institutional perspective to capital structure arguments through the incorporation of the moderating role of rule of law, this study extends the boundary of the corpus of literature on the determinants of capital structure.

1.5. Structure of the thesis

This thesis is divided into nine chapters³. Chapter One presents the introduction and context of the study. The objectives and motivation of the study are also considered under this chapter. The contribution from this study is also considered here. Chapter Two presents background information of the context from which this study is conducted. Issues considered within this chapter include the financial markets in SSA and their constraints, the stock market and the effects of the financial crisis on SSA firms and economy, as well as some aspects of corporate governance.

Chapter Three examines theories underpinning the capital structure decisions of firms. The goal of this chapter is to examine the extent to which research has been conducted in the area of capital structure. Theories considered under this section are the M and M (1958) irrelevance model, the trade-off model, Myers' (1984) pecking

³ The nine chapters are organised into four main parts. Chapters 1 and 2 form Part I; Chapters 3, 4 and 5 form Part II; Chapters 6, 7 and 8 form Part III and Chapter 9 forms Part IV.

order hypothesis, Jensen's (1986) free cash flow theory and the market timing theory of Baker and Wurgler (2002). Other issues considered under this chapter are as follow:

- a) Firm, industrial and country-level determinants of capital structure. The relationship between leverage and firm specific factors including firm size, asset tangibility, firm growth, earnings volatility, types of ownership, liquidity, tax, firms' age, dividend policy and uniqueness of a firm's product are also considered under this chapter.
- b) Relationship between network ties and capital structure is also considered
- c) Studies conducted in testing the applicability of the theories of capital structure are also examined under this chapter.

Based on the literature review and the objectives of this research, Chapter Four focuses on the conceptual frameworks and the hypotheses underpinning this thesis. With respect to the various theories of capital structure, this chapter argues that the pecking order and the trade-off theories are complementary and that both of them can help in explaining the financing behaviour of firms.

Chapter Five sets out the methodology employed in this study. It begins by discussing quantitative and qualitative research paradigms and justifying the choice of research design used in this study. This is followed by the discussion of various elements including sample choice, methods of data collection, primary and secondary data, designing, pre-testing and distribution of the questionnaires. Ethical considerations regarding the use of a questionnaire are also considered under this chapter. Challenges encountered in the distribution of the questionnaire are also covered here. The final segment of this chapter focuses on methods of data analysis.

Since the study relies on two data sets (i.e. primary and secondary data), this chapter splits the discussion of the method of data analyses into two (i.e. primary and secondary) and discusses the various econometric techniques used in this study. Definitions of various variables studied (e.g. leverage, asset tangibility, firm size, firm growth, earnings volatility, rule of law, inflation, economic development, stock market development) are also provided under this chapter.

Chapter Six presents the analysis of the primary data. The chapter begins by presenting a descriptive account of the general characteristics of the respondents and their firms. This information is important in that it provides a fundamental understanding of the firms that were involved in the survey. Some of the other issues considered under this chapter are as follow:

- a) Main sources of capital
- b) Factors that moderate equity and debt choice.
- c) Factors that constraint the financing decisions of firms.
- d) Target debt setting
- e) Relationship between a company's choice of short-term and long-term debt
- f) Spare borrowing capacity and target debt-equity choice.
- g) Effects of the 2007/08 financial crises on debt-equity choice of firms.

The chapter concludes by looking at the effects of ownership on leverage.

Chapter Seven analyses the firm-level data (secondary data) by pooling together data from all eight countries considered in this study. The chapter begins by providing a descriptive statistics of the various variables (i.e. leverage, profitability, firm size, firm growth, earnings volatility, assets tangibility and tax) measured under this chapter. Six independent variables are considered (i.e. profitability, firm size, firm growth, earnings volatility, assets tangibility and tax). Hypotheses in this chapter are tested with the aid of various econometric techniques. This is then followed by the discussion of the various econometric estimations. The chapter also conducts a number of sensitivity analyses to the robustness of the regression estimates. The chapter concludes by looking at some policy implications from the regression results.

The penultimate chapter, Chapter Eight, examines firm-level and institutional moderators. Under this chapter, both firm-level factors and institutional elements are put together in the regression estimates. The chapter begins by examining the moderating role of firm size and asset tangibility. This is then followed by looking into the moderating effects of rule of law. Prior to the use of various econometric estimations to test the hypotheses, a residual centering approach (Little, Bovaird and Widaman, 2006) is adopted to help deal with multicollinearity issues that arise because of the use of interaction terms. A number of sensitivity analyses are also conducted to check the robustness of the results in this chapter.

The last chapter (i.e. Chapter Nine) of this thesis offers a conclusion and looks at future research possibilities. Specifically, this chapter revisits the aims of the study and a summary of the key findings is presented. The chapter also presents the theoretical and policy implications. The final section focuses on the limitations of the study and areas for future research.

Table 1.1 presents a summary of the thesis outline.

Table 1. 1: The Outline of the Thesis

Parts	Chapters	Activity
I	Chapter 1	Introduction to the study
	Chapter 2	The macroeconomic overview
II	Chapter 3	Theoretical background
	Chapter 4	Hypothesis development
	Chapter 5	Research methodology
III	Chapter 6	Results and discussion of primary data
	Chapter 7	Results of Estimation of firm-level Factors
	Chapter 8	Country-level factors and the moderating role of firm-size and rule of law.
IV	Chapter 9	Conclusion and future research

1.6. Chapter Summary

This chapter has set out the context of this thesis. I have identified the importance of the corporate sector and highlighted the issue of finance as one of the major problems that confront this sector in developing economies. The chapter therefore sets out the need for research in this area of study, as there has been relatively little research in the context of developing countries especially, those found in Sub-Saharan Africa.

I have also highlighted the objectives of the study and the structure of the thesis.

In order to provide some background information to readers who may not be familiar with the context of this study, the next chapter therefore provides some economic background information on SSA.

Chapter 2

Macroeconomic Overview and Corporate Governance in SSA

2.1 Introduction

In order to understand the context in which this study is conducted, this chapter provides an overview of the macroeconomic background in the African sub-region. This chapter also highlights the issue of corporate governance, as a crucial factor that influences firms' access to finance. The chapter is organised into four sections. The first section provides an overview of the African macroeconomic condition as a whole. Specifically, this section looks at issues including the size of Africa's population, GDP growth, the standard of living of the people and the issue of employment. This section concludes by pointing out some of the developmental challenges within the African continent.

The second section focuses on the nature of the financial markets in Africa, with particular emphasis on countries within the Sub-Saharan region as a means of illuminating the macro and micro contexts of the research study. In particular, this section looks at the sources of funds for firms in Africa and the constraints firms in this region face in acquiring funds for developmental projects. The inflation and lending interest rate constraints, which are considered as the most underpinning factors affecting firms' acquisition of funds in most developing countries including those in SSA are also discussed in this section. The third section looks briefly at the nature of stock markets within the African sub-region. Issues considered under this section include a brief history of stock market in SSA, and the nature as well as the challenges of these markets in SSA.

The fourth and final section examines the issue of corporate governance. In particular, the section begins with discussing the concept of corporate governance as

a crucial factor in influencing access to funds by firms. The nature of corporate governance across different economies is also covered. The last part of the fourth section looks briefly at the relationship between corporate governance and corruption, with a particular emphasis on the nature of corruption in SSA.

2.2. Economic Growth and Development in Africa

Africa is the second largest continent, which covers a geographical area of approximately 11.6 million square miles. The African continent consists of some 54 independent countries and has a total population of 839.6 million. This continent is considered to be the poorest continent in the world according to the World Bank (2011). As of the end of 2011, Africa's average GDP per capita stood at \$1,127, as against \$38,974 and \$48,118 for UK and US respectively (World Bank, 2012). Between 2003 and 2007, the average gross domestic product (henceforth GDP) growth stood at over 5 percent, and of the 20 fast growing countries in the world in the year 2012, 13 were in Africa (Africa Development Bank, 2013).

Africa Development Bank (henceforth AFDB) report suggests that when the global economy was going through turbulent times, the African economy was growing at a growth rate of over 5 percent and nine African countries were expected to achieve a growth rate of over 7 percent by the end of 2013 (AFDB, 2013). In Ghana for instance, the country's growth rate has been increasing over the years. The country's growth rate without oil increased from 6.5% in 2010 to 7.0% in the year 2013 and growth rate with oil increased from 6.5% in 2010 to 8.3% in 2013 (PWC, 2013). This impressive growth in the sub-region has come about as a result of various economic reforms and significant inflows of resources into the continent (Dahou, Omar and Pfister, 2009; AFDB, 2013).

Similarly, the resilience of African economies has increased over the years. Despite the recent financial crisis that led to a slowdown in most notable advanced economies (e.g. US, UK), the African continent has indeed remained very strong in terms of Foreign Direct Investment (FDI). The FDI into the continent is expected to reach an all-time high, growing from \$84 billion in 2010 to \$150 billion in 2015 (Ernst and Young, 2011). In comparing Africa to Brazil, Russia, India and China

(i.e. The BRIC nations), Africa was third and ahead of Brazil and Russia in terms of FDI inflow. In terms of investment into new projects, the African continent is expected to surpass that of the developed countries by 2023 (Ernst and Young 2011). According to Ernst and Young (2013) FDI projects into Africa have grown at a compound rate of 20% between 2007 and 2011 and Africa's global share of FDI has increased from 4.5% to 5.5% between 2010 and 2011, and this indicates how attractive the continent is becoming to foreign investors.

In spite of this significant growth, the level of economic development in most African countries lags behind that of their counterparts in Europe and America. For instance, the general living standards of African countries tend to be low and poverty is pervasive. According to the World Bank's Africa Development Indicators (henceforth ADI) for 2011, the poverty⁴ rate among African states have been declining at a rate of one percent per year. A one percent poverty decline rate indicates clearly that the continent needs effective and social intervention programmes in reducing the poverty levels within the sub-region. In addition to this, unemployment remains one of the major problems facing most African countries, with an estimated 7-10 million young people entering the labour market every single year (ADI, 2011). For instance, as of July 2013, the unemployment rate in South Africa was 25.6% (Trading Economic, 2013).

According to the European Investment Bank (hereafter EIB), demographic trends in Africa also point to a surge in the working-age population in the region in the coming years (EIB, 2013). This indicates that the continent has a long way to go in reducing poverty, if not completely eradicate it. Agriculture remains the main occupation of most African countries⁵, with a large area of arable land that remains under-utilised. Yields from agricultural production remain deplorably low by international standards (EIB, 2013). Most farmers in the continent still adopt primitive methods of farming and depend on unpredictable weather conditions for their farming activities, thus struggling to produce enough for themselves, let alone

⁴ Two main methods are used to identify poverty lines – relative or absolute. Relative lines are defined in relationship to overall distribution of income in a country. Absolute poverty lines are often based on the cost of basic food needs. The World Bank calculates poverty using the absolute poverty line (World Bank, 2014).

⁵ According to World Bank (2014), agriculture accounts for three-quarters of employment in SSA.

for the international market. It is therefore not surprising that most African countries continue to import food products from other continents.

Furthermore, most of the countries in Africa are rich in natural resources such as copper, silver, gold, oil, gas, diamond, cocoa, ivory and timber, which should have been enough to improve the welfare of the people. However, their exploitation tends to be very limited, with foreign firms controlling most of these projects. Most African exports tend to be unprocessed, thus yielding little foreign exchange. In general, there is a lack of diversity of African economies as the continent depends predominantly on the primary sector. This indeed threatens the sustainable growth of the continent.

In addition, the market size in most African economies tends to be small and less competitive, thus creating a risky business environment. This makes the market less attractive to investors. The nature of Africa's market according to Venables (2010) hinders the supply of resources such as finance, transport services, and other capital resources that are important for the growth of the continent.

In order to attract foreign investment into Africa, different economic integration initiatives (both regional and continental levels) have been implemented by African governments to expand their markets and also to make investments more efficient. These initiatives include the formation of the African Union, the establishment of the Economic Community of West African States (ECOWAS), The Arab Maghreb Union (AMU), The Economic Community of Central African States (ECCAS) and the Abuja Treaty which establishes the African Economic Community (AEC). These efforts at regional and continental integration are aimed at strengthening economic cooperation across the African continent. Each country within the continent according to Geda and Kibret (2002) is a member of at least one of these groups. However, the degree to which these initiatives have achieved their objectives has been mixed. None of these integration attempts according to Geda and Kibret (2002) has been a success.

Despite these numerous integration initiatives, the African market still remains small, highly disjointed and perceived by many as being risky for meaningful investment activities. The presence of numerous regulatory hurdles (e.g. inadequate

credible commercial courts; high level of bribery and corruption⁶) deters many individuals from investing in this continent. Besides, the lack of political commitment on the part of most African governments and the presence of political instability among some of the African states (e.g. Mali, Guinea, Sudan, South Sudan, DR Congo and Ivory Coast) have been some of the major factors that have thwarted the continent from realising the benefits of the various economic initiatives and foreign investments. In addition to the above, the absence of efficient financial markets in Africa has been another reason behind the inability of the continent to develop to the required level.

2.3 State of infrastructure development

The role of infrastructure development cannot be underestimated as it contributes to reducing the cost of doing business, enhances trade and FDI. Unfortunately, available evidence shows that almost all African countries suffer from a critical shortage of infrastructure (EIB, 2013). According to EIB (2013), infrastructure development in Africa lags behind that of other developing countries particularly in the areas of electricity, information and communication technologies, access to transport networks, water and sanitation, as well as irrigation. Electricity supply remains the most critical issue affecting almost all countries in Africa. In Ghana for instance, power outage is an everyday reality. It is estimated that about a quarter of installed power generation in Africa is not operational and that chronic power shortages cost Africa between 1 and 2 percent of the continent's GDP and only one in four Africans has access to electricity (EIB, 2013; World Bank, 2013). This situation condemns many firms to perform below their economic potential.

In terms of telecommunication, there has been a rapid expansion in internet and communication technology among many African communities. EIB (2013) observes that the proportion of Africans with access to a telephone has gone up, from 1 percent in the year 2000 to over 40 percent in 2009. Indeed, the expansion of telecommunication technologies have increased access to many financial services in many communities in Africa. For instance, the introduction of a mobile phone-based payment system in Kenya (i.e. M-PESA) is a typical example of how ICT has

⁶ Details of corruption perception index of some countries in SSA are provided in Figure 2.7 below.

broadened access to financial services in Africa, especially to those in rural communities (EIB, 2013; KPMG, 2013). Available evidence shows that the introduction of ICT in Kenya⁷ has increased the number of active bank accounts from 2.5 million in 2007 to 12 million in 2012 (Vital Wave Consulting, 2012). It is noteworthy that the penetration of ICT into Africa's financial services also poses regulatory challenges (e.g. network systematic risk) for many countries in the continent.

Africa also faces daunting challenges in terms of transportation and this remains a major challenge for doing business in the continent. Road networks in Africa are characterised by poor quality as well as low connectivity to major commercial centres (World Bank, 2014). EIB (2013) reports that paved roads⁸ accounts for just about 5 percent of the total road network in some of the countries in Africa. Other forms of transport (for instance rail, maritime and air transport) remain largely undeveloped and inefficient. This condition thwarts firms from operating beyond their local markets.

Low access to clean water remains another terrible issue facing many communities in Africa. For instance, EIB, (2013) estimates that as of 2009, only 67 percent of the total population in Africa had access to clean water⁹. The situation is even worse for sanitation with only about 40 percent of Africa's population with improved access to sanitation.

In short, it is a fact that the African continent faces a host of developmental challenges including a huge infrastructure gap, weak institutional capacity, high unemployment rates, high dependency on primary commodities, over-exposure to unpredictable weather conditions, weak governance, corrupt judicial services and above all, chronic political instability (World Bank, 2013). These conditions have undoubtedly contributed to the low inflow of capital resources into the continent. To this end, a number of measures are being adopted by the World Bank to help foster growth and development within the continent. These strategies include the diversification of exports from Africa, the generation of employment through skills

⁷ KPMG (2013) reports that Kenya's MPESA system caters for about 70% of the adult population in the country.

⁸ World Bank (2014) reports that in 2011, the size of paved roads, as a percentage of total road network in Kenya was 6.95%. That of Ghana in 2009 was 12.59%.

⁹ OECD (2007) reports that over 50 percent of water supply in African cities is unaccounted for or wasted.

building for the large number of youths who enter the labour market every year, improvement in macroeconomic policies and the strengthening of the voice of the citizens to enable them to demand proper governance from their leaders (ADI, 2011). These initiatives are vital in increasing investors' confidence and ensuring flows of resources, which are vital for the growth of the corporate sector.

Having provided an overview of the macroeconomic condition of the African continent, the next section specifically examines the financial markets in SSA.

2.4. Overview of the Financial Markets in Sub-Saharan Africa

2.4.1. Introduction

The purpose of this part of the thesis is to examine the financial markets in Africa with particular emphasis on the countries under consideration. The importance of access to funds by firms in SSA cannot be underestimated if these firms are to contribute significantly towards the growth of the African continent. Nonetheless, in spite of the numerous initiatives that have been adopted by African countries, many firms in SSA continue to find access to finance one of the main hurdles. The financial system within the Sub-Saharan region remain relatively underdeveloped. In line with this, Dahou et al. (2009) commented that a major problem with most African economies is the narrow and illiquid capital market, thereby limiting the access to long-term financing which is needed for any meaningful investment.

According to Andrianaivo and Yartey (2009), bond markets in most African countries are deeply underdeveloped as governments have mainly been the supplier of bonds in most of these economies and that the role of the corporate sector in the bond market is minimal. In the sections that follow, I provide an overview of the banking systems and stock markets in SSA.

2.4.2. The Banking systems in SSA

Many countries within the Sub-Saharan region including Ghana, Nigeria and South Africa have been pursuing economic and structural reforms and the banking system has been undergoing a process of restructuring and transformation that forms part of a comprehensive strategy for enhancing prudential regulation and improving the

sector in general. In Ghana for instance, the liberalisation of the banking system has attracted many foreign banks (e.g. SG-SSB, Stanbic, BSIC) into the field of retail and commercial banking. In spite of these structural and policy changes, the banking system in SSA is still characterised by three or four banks that dominate lending (Venables 2010). In the view of Mahou et al. (2009), these banks favour large enterprises, which are considered as less risky than smaller ones. Competition in the banking sector is still very limited, despite few barriers to entry and exit (EIB, 2013). Also, African domestic economies provide the funding base for the banking systems, with funding from non-residents constituting a minor source of funds (EIB, 2013).

Another common characteristic of the banking system in SSA is that a large proportion of both local and foreign banks invest in government securities (e.g. treasury bills). This indeed, is a problem in the banking system in that this activity demonstrates a highly dysfunctional banking intermediation that ignores the supply of credit needed by the private corporate sector in favour of safer government securities (Allen, Otchere and Senbet, 2011). In general, access to banking facilities by many individuals and organisations remains very limited (KPMG, 2013; World Bank, 2012; Jiggins, 1989) and various banking reforms have not fully translated into an increased availability of credit to the corporate sector. This is a key obstacle to the growth of the corporate sector in this region. Figure 2.1 below provides information on commercial bank branches (per 100,000 adults) in some selected countries¹⁰ in SSA. This figure indicates limited nature of financial services among many countries in SSA.

¹⁰ In SSA, Global Finance (2012) reports that South Sudan, Angola, Mozambique and Ethiopia have unbanked populations of at least 75%.

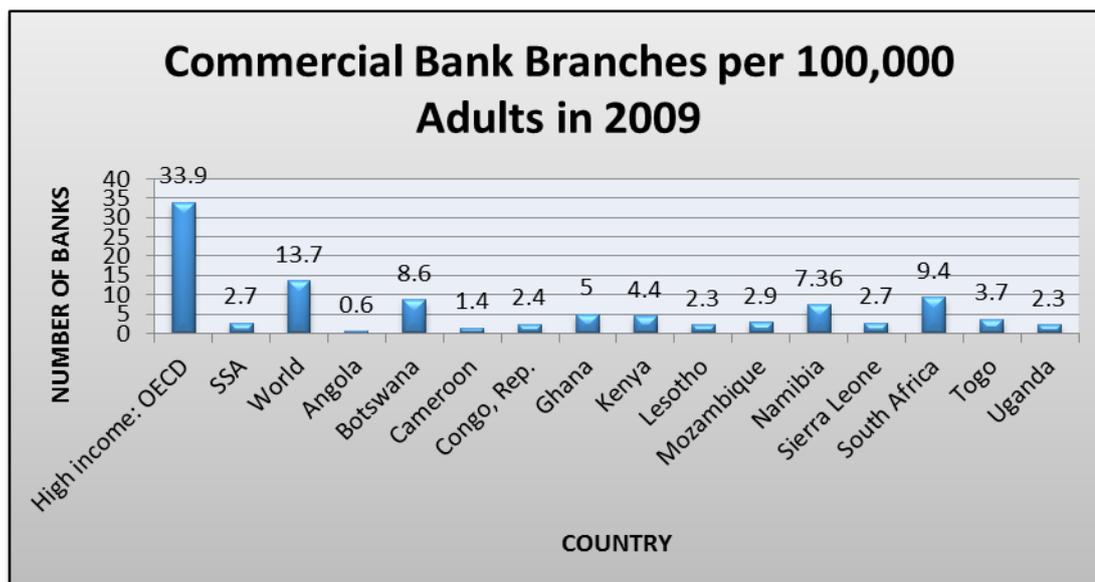


Figure 2. 1: Commercial Bank Branches

Source: World Bank (2012).

In addition, the concentration of banks in a small number of urban centres in SSA constrains access to credit by many firms, especially those firms located in rural communities. With the introduction of new technology into the banking sector such as mobile phone-based banking¹¹ in many countries (KPMG, 2013; EIB, 2013), it is expected that the share of the unbanked population will decrease with time. It should be noted however that these sorts of development in the banking sector also come with challenges for regulators including developing expertise to properly monitor the system. Besides, these developments in the banking system do not guarantee the provision of credit to firms, as firms would need to satisfy basic lending requirements (e.g. a good credit history, proper record keeping and strong asset base to serve as collateral). Mahou et al. (2009) commented that many businesses in most African economies fail to register with the appropriate governmental bodies, thus making it difficult to engage in any enforceable contracts with financial institutions. Although there has been some increase in real credit in the last few years, lending to firms in SSA still tends to be short-term in nature, with roughly 60 percent of loans with a maturity period of less than a year (EIB, 2013). Also, firms (especially small

¹¹ A typical example of mobile-phone based payment system is M-PESA in Kenya, which was introduced in 2007. This system allows the people to transfer and receive money without needing to have bank accounts (EIB, 2013).

and medium-scale enterprises) still have considerable difficulty accessing credit. Figure 2.2 below shows the percentage of firms in some selected countries¹² in SSA identifying access to finance as a major constraint for their business activities.

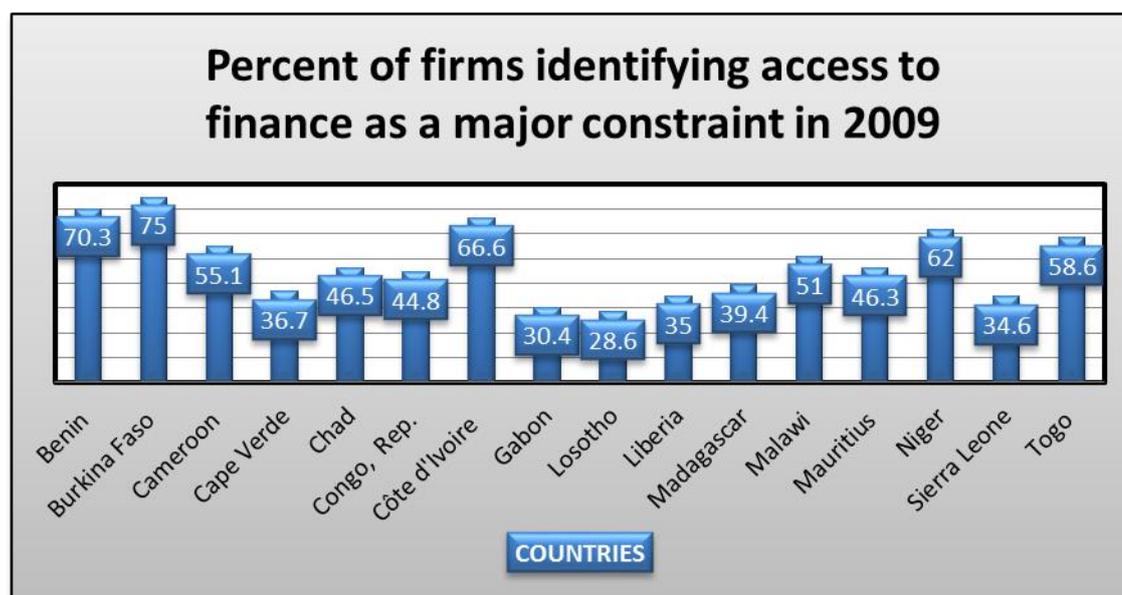


Figure 2. 2: Finance as a Major Constraint

Source: World Bank Enterprise Surveys (2011)

Figure 2.2 above shows that on average, about 50 percent of the companies identified access to finance as a major constraint within SSA, whereas according to the World Bank Enterprise Surveys (WBES), the corresponding figure among the high-income OECD countries is just 14.6 percent (WBES, 2011). This clearly highlights the issue of access to finance as a major constraint to firms' development within SSA. SMEs are typically constrained in terms of access to credit facilities in SSA (EIB, 2013; IMF, 2013).

Where credit is even available, high interest rates makes it very difficult for firms to acquire the funds needed for their day to day activities and development. The absence of any effective mechanism to encourage repayment, including well-established credit reference agencies¹³ within the SSA region, leaves financial lenders with no choice other than to charge high interest, due to the likelihood of a high default rate. Wiwattanakantang (1999) maintained that firms that are unable to

¹² The selection of these countries was based on the availability of information

¹³ According to the EIB (2013), the banks in SSA are characterised by excess liquidity and this is an indication of what the banks deem as the scarcity of credit-worthy borrowers.

provide assets as collateral when borrowing are subjected to worse lending conditions than firms that provide collateral. The presence of assets provides some sort of assurance to lenders and for that matter, the risk of default increases with the absence of collateral. Consequently, lenders may impose tougher lending conditions in a situation where borrowers are unable to supply any assets as collateral. For instance, an average of 80 percent of loans that are granted to firms require the provision of collateral (World Bank Enterprise Surveys, 2011).

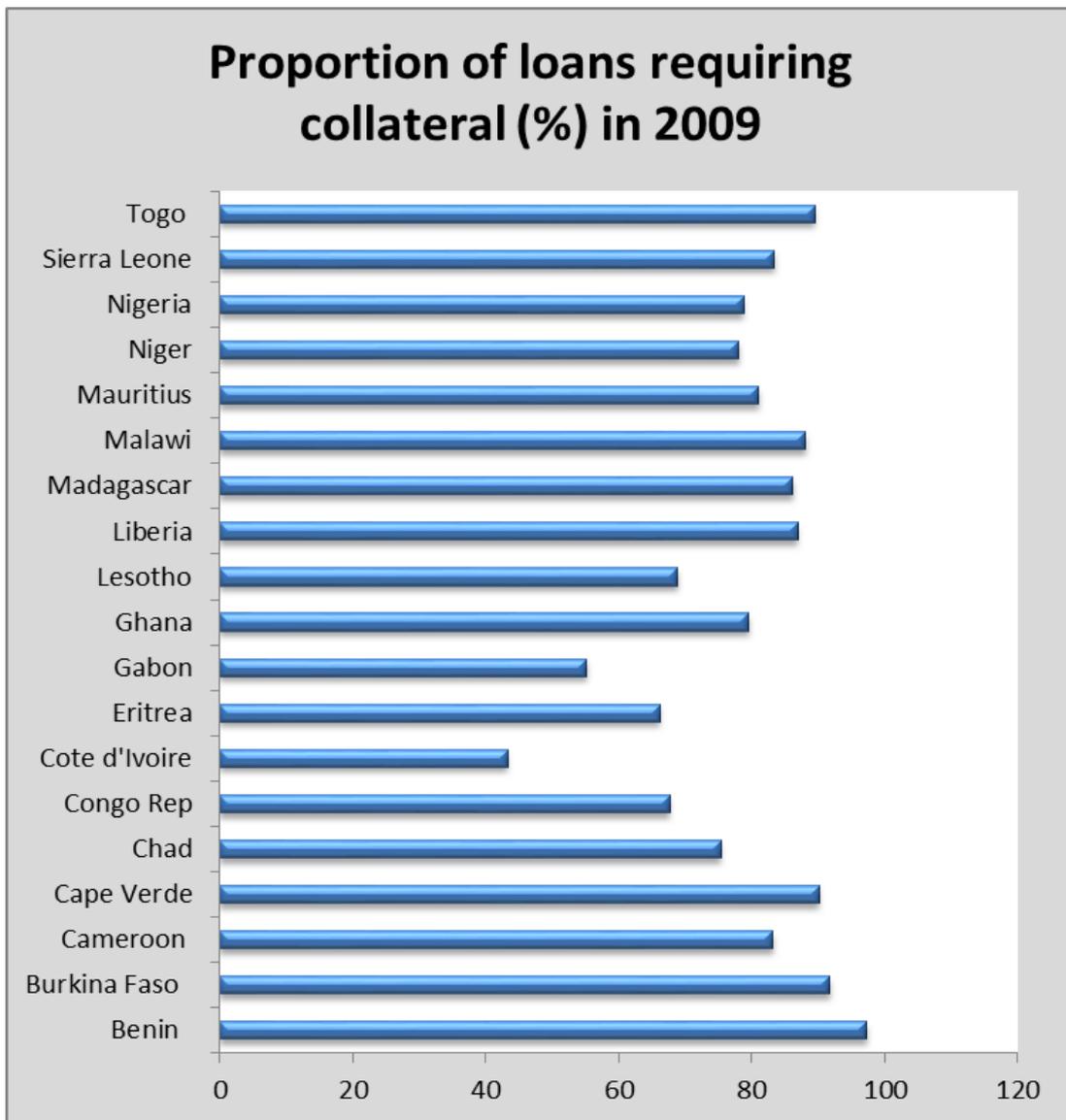


Figure 2. 3: Proportion of loans Requiring Collateral¹⁴

Source: World Bank Enterprise Surveys (2011)

¹⁴ No data was available for Ghana and Nigeria for 2009. Therefore, data used for Ghana and Nigeria were 2013 and 2007 respectively.

Figure 2.3 above depicts the percentage of loans granted to manufacturing companies requiring collateral among some selected countries within SSA. The availability of collateral enhances the availability of credit to firms. Thus, financial lenders will often be reluctant to offer any assistance to firms that do not provide the required collateral.

It is important to point out that the type of finance that may be available to firms in SSA may be different from that available to their counterparts in the developed parts of the world. The major reason behind this is that the financial market in SSA is still at its developmental stage and that firms' access to different types of finance is highly limited. For instance, many countries in SSA do not have bond markets. Even where bond markets exist, the public sector dominates bond issuance and the private sector is completely absent in the issuance of bonds. In Ghana for instance, out of the numerous companies in the country, only HFC bank regularly issues corporate bonds in the country.

Figure 2.4 indicates the corporate bond market capitalization (from 2001 – 2010) as a percentage of GDP of SSA countries with bond markets.

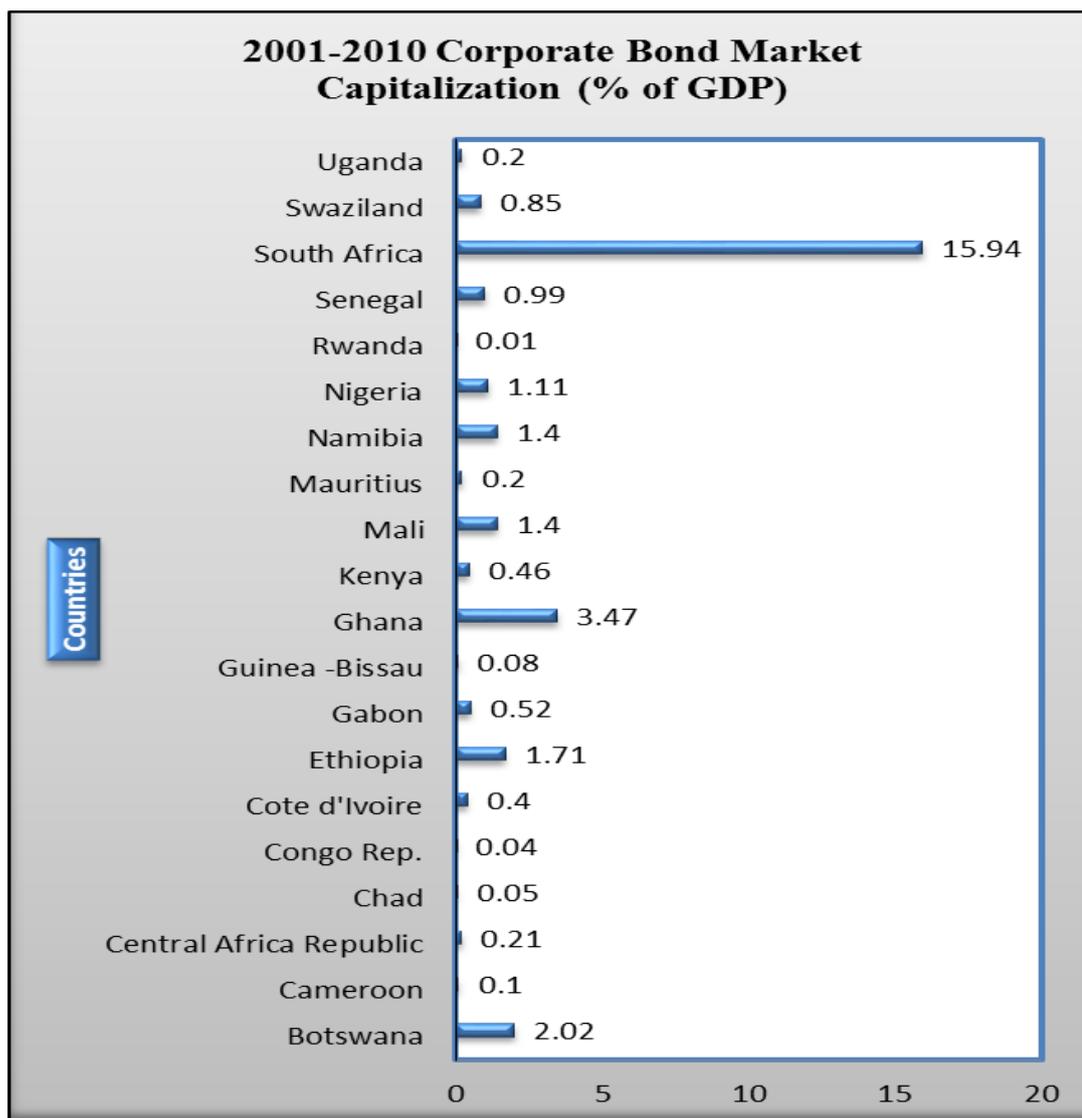


Figure 2. 4: Corporate Bond Capitalisation in SSA
Source: Mu, Phelps and Stotsky (2013).

From 2001 to 2010, the average corporate bond market capitalization (as a percentage of GDP) of SSA stood at 1.12 percent and in 2010, the total corporate bond market capitalisation of all countries in Africa (as a percentage of GDP) stood at 1.8 per cent¹⁵ (Mu et al., 2013). This indicates that bond markets in Africa are still at a fundamental stage of their development. Within the Sub-Saharan region, Ghana was the second country¹⁶ to issue sovereign bonds. Ghana took this historical step in 2007 when the country issued its debut \$750 million Sovereign Bond on the international capital markets.

¹⁵ In 2010, the corporate bond market capitalization as a percentage of GDP for US and Europe stood at 98.6per cent and 46.4per cent respectively (Mu et al. 2013).

¹⁶ South Africa was the first country within the Sub-Saharan region to issue sovereign bonds.

Of course, the need for self-reliance in various economies within SSA requires that all available fundraising avenues are tapped to meet the investments needs of both the private and the corporate sector. Yet, not much attention has been given to the development of the bond market in SSA. Given the nature of this financial environment in this region, firms largely depend on internally generated funds (World Enterprise Surveys, 2011), compared to their counterparts in economies where the financial institutions are well established and properly regulated.

Table 2.1 shows how manufacturing firms in some selected countries in the SSA financed their investments in 2009.

Table 2. 1: Sources of funds for investment

Country	Investment proportion financed internally (per cent)	Investment proportion financed by banks (per cent)	Investment proportion financed by equity/stock sales (per cent)
Benin	88.5	2	0.6
Burkina Faso	77.2	15.6	2.4
Cameroon	67.3	13	3.5
Cape Verde	56.7	23.9	13.9
Chad	83.8	2.3	2.5
Congo Rep.	84.6	4	1.2
Cote d'Ivoire	89	3.7	-
Eritrea	94	1.3	1.1
Ghana¹⁷	86.5	9.6	0.6
Gabon	92.9	3.2	0.4
Lesotho	50.9	23.3	6.6
Liberia	79.8	6.7	2.8
Madagascar	79.5	6.1	2
Malawi	75.5	13.4	2.9
Mauritius	51.9	30.8	-
Niger	89.2	7.8	1
Nigeria¹⁸	92.8	1.3	0.1
Sierra Leone	87	3.7	5.2
Togo	70.3	13.1	1.8
Average	78.8	9.7	2.9

Source: World Bank Enterprise Surveys (2011)

Table 2.1 indicates that firms in SSA finance an average of 77.5 percent of their investment activities from internal sources. The proportion of funds that is provided by banks and what the stock market provides for investments remain at a low level. In Guinea for example, in 2006 only 0.5 percent of investment funds came from banks and 94.1 percent was raised internally (WBES, 2011). This highlights the

¹⁷ There was no data available for 2009 and therefore data used was for 2007

¹⁸ There was no data available for 2009 and therefore data used was for 2007.

limited roles of banks and the stock market in terms of financing for firms in the Sub-Saharan region.

Many fundamental problems confront the Sub-Saharan region of Africa and these problems impact negatively on the debt-equity choice of firms within the region. SSA continues to remain highly uncertain as a result of the region's exposure to high political instability. This has given rise to numerous incoherent economic policies within the region. In addition to this, as demonstrated by the Fisher equation¹⁹, high levels of inflation (as depicted by Figure 2.5) have made the lending interest rate (see Figure 2.6)²⁰ within this region higher than that of their western counterparts. There is therefore a heightened demand for measures to solve these economic challenges to encourage the flow of funds needed by firms for their investment activities.

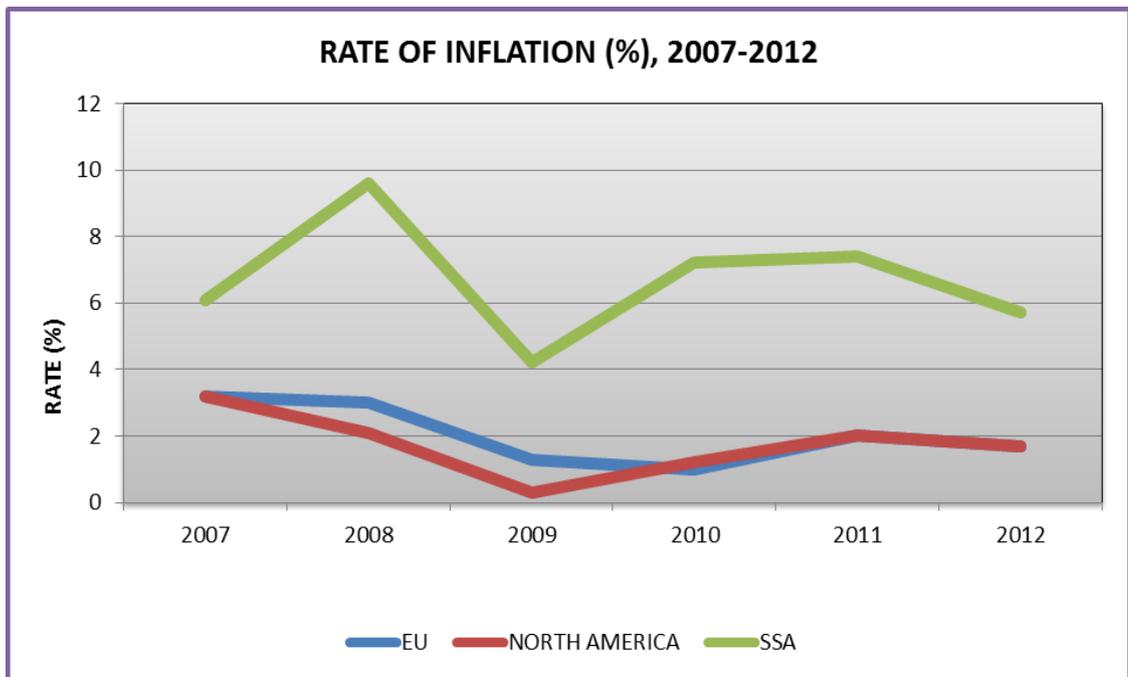


Figure 2. 5: Rate of Inflation

Source: World Bank (2014)

¹⁹ The Fisher Equation explains the relationship between interest rates and inflation. Expressed mathematically, the Fisher Equation is real rate of interest + inflation = nominal rate of interest

²⁰ Figure 2.6 shows the lending interest rate for some selected SSA countries for 2011. The lending interest rate is the bank rate that meets the short – and medium-term financing needs of the private sector. The corresponding figures for US and Japan were 3.25per cent and 1.5per cent respectively.

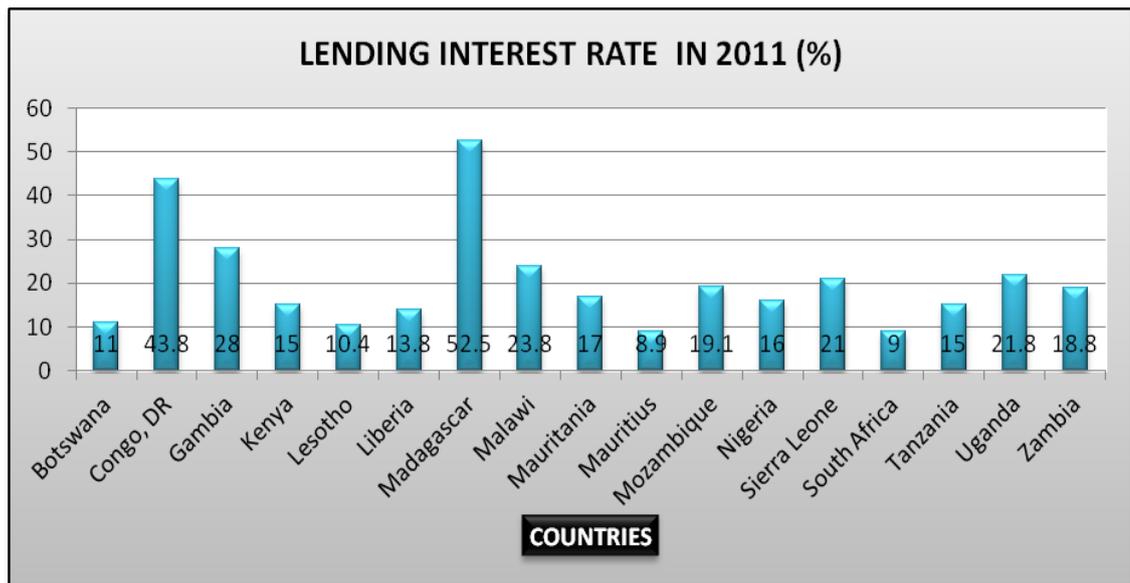


Figure 2. 6: Corporate Lending Interest Rate (percent)²¹

Source: World Bank (2012)

2.4.3. The Pan-African Banks

In recent times, many economies within SSA have seen a growth in pan–African banking groups across many countries within the Sub-Saharan region (EIB, 2013; KPMG, 2013). Banking sector reforms introduced within the last decade in many countries in SSA have restored stability in the financial services in many African countries. A typical example of these pan-African banks is Togo’s Ecobank²², which now operates in more than 32 countries within Africa. Several other banks (e.g. United Bank of Africa, Standard Bank and Stanbic Bank) have also expanded across many countries within SSA. According to EIB (2013), these four banking giants manage more than 30 percent of the total bank deposits in not less than 13 countries within SSA.

One of the major contributions of these banking groups is the facilitation of international cross-border trade for firms, as these banks provide platforms for firms to easily manage their transactions across the region (Global Finance, 2012). Besides, the spread of these banking groups have encouraged the spread of technology within the sub-region and generated competition within the national

²¹ For 2011, no information was available regarding the lending interest rate in Ghana. However, according to Bank of Ghana, the lending interest rate in Ghana as of 1st December 2011 was 7.04 %.

²² Ecobank is the largest pan-African banking group among the pan-African banks with over 1200 bank branches across SSA.

banking system (EIB, 2013). However, as these banking groups expand rapidly, institutions that are required to supervise and regulate their operations have not evolved rapidly to match up with their expansion. This is a threat to the banking industry in SSA and raises challenge for regulators within this region (EIB, 2013; IMF, 2013).

2.4.4. Micro-Finance Institutions

Inadequate financial services constitute a major challenge for the development of the corporate sector in almost all countries in Africa. Addressing this gap demands creating new institutions to enhance access to financial services within this region. Thus, over the past few years, African countries have seen a growth in the activities of microfinance institutions (hereafter MFIs), with most of these MFIs operating in eastern and western parts of SSA (CGAP, 2012)²³. In Ghana for instance, within the last decade, MFIs have been growing at a rate of 20 – 30 percent annually (Pollio and Obuobie, 2010).

The introduction of MFIs constitutes an important element in supporting the development of the private sector in SSA. The MFIs are important actors in the financial sector in Africa as they provide financial services to small and medium size businesses. According to (EIB, 2013), MFIs seem to target SMEs. Not being able to provide necessary documentation in the form of formal financial accounts, it is sometimes cumbersome for SMEs to access credit services from the commercial banks. Thus, the SMEs become a natural target group for MFIs. The MFIs provide opportunities for SMEs to save and access credit with a higher degree of flexibility than the commercial banks. Traditionally, MFIs concentrate on the provision of microcredit to the poor (Hermes and Lensink, 2011; Galema, Lensink, Spierdijk, 2011; Mwenda and Muuka, 2004). In recent times however, there has been a shift from microcredit into diverse services (Galema, Lensink, Spierdijk, 2011).

Services that are provided by these MFIs include deposits, loans, money transfer, payments and insurance services. The MFIs depend predominantly on deposit funding from their customers as the source of funds for lending, even though most of

²³ CGAP (The Consultative Group to Assist the Poor) is a global partnership of 34 leading organisations that seek to advance financial inclusion.

these deposits tend to be in short-term in nature (CGAP, 2012). Most of these MFIs tend to charge high interest rates even if there is reduction in inflation and the central bank's base rate. Most of these MFIs indicate that their unwillingness to reduce their lending interest rates is because of significant levels of non-performing loan.

Although MFIs have been expanding rapidly across many countries in SSA, these institutions face a host of challenges including high operating costs and inadequate technological innovation (Lafourcade, Isern, Mwangi, and Brown, 2005). In addition, there has been an increase in competition from some commercial banks in Africa as these commercial banks have moved into microfinance. For instance, the Commercial Bank of Zimbabwe and K-REP in Kenya have started providing microfinance, in what is known as "downscaling" (Hermes and Lensink, 2011).

2.4.5. Stock Markets in Sub-Saharan Africa

The preceding section gives a general overview of the nature of financial credit facilities available to firms in SSA. This is vital in fostering our understanding of some of the issues underpinning the debt-equity choice of firms within SSA. Within the past few years, most economies including those in Africa, as a result of the liberalisation of the financial market, have turned their developmental approach towards more dependence on private companies and on the utilisation of organised capital markets to finance these companies. According to Nwankwo and Richards (2001), many developing economies are trying to turn their economies from state domination to market domination. Therefore, stock market development is a central element in terms of the liberalisation of the financial market in SSA (Yartey and Adjasi, 2007). Accordingly, this section sheds light on the nature of the stock markets in SSA.

The purpose behind the establishment of stock market is to serve as a source of long-term capital that supports the growth of an economy in general and also help to diversify the financial market. Thus, businesses will not have to rely predominantly on the traditional banking sector as a means of financing their activities, but can also depend on the stock market as a way of generating the funds needed. In line with this, Yartey (2006) observed that the institutionalisation of the stock market is

required to enhance economic development by providing the means of savings that will eventually improve the quantity and quality of investment.

The history of the stock market in SSA dates back to 1887 when the Johannesburg Stock Exchange was founded. However, most of the other stock markets in SSA were established within the last thirty years. Unfortunately, the establishment of stock markets in SSA has been at the insistence of governments rather than as a result of the response to the demands from the corporate sector seeking stock markets as a means of broadening their financial options. In addition, until recent times, non-residents investors had limited access to stock exchanges within this region. For instance, before 1993, foreigners and non-resident Ghanaians could not invest in the Ghana Stock Exchange without seeking approval from the Bank of Ghana and these restrictions gave rise to low volumes in these markets (Emenuga, 1997).

Among the stock exchanges in SSA, the Johannesburg Stock Exchange (JSE) is relatively more developed than the other stock markets within the region. The JSE accounts for 90 percent of the total market capitalisation of all stock markets in SSA (Yartey and Adjasi, 2007). Still, the JSE has low liquidity levels by global standards (Irving, 2005). It is also worth mentioning here that there has been a remarkable improvement in terms of the performance of stock markets in SSA over the past few years (Yartey and Adjasi, 2007). For instance, in 2008 the total market capitalisation of the Ghana Stock Exchange (GSE) increased by 44 percent (GSE 2012). In spite of this improvement and efforts made by various governments within the region to improve the state of stock markets in SSA, stock markets continue to face a host of developmental challenges including low liquidity levels, high costs of going public, informational deficiencies, high transaction costs, manual operations and inadequate market infrastructure (Deutsche Bank, 2013; KPMG, 2013).

Political and institutional structures that are vital for the smooth running of stock markets within this region are completely inadequate and these conditions thwart the market's effectiveness in intermediating capital flow (Irving, 2005). Despite these developmental challenges, some of the stock markets within SSA have been serving as a major source of funds for firms within the continent. For instance, according to

GSE (2012) the stock market in Ghana has been a major source of capital inflow for investment purposes in Ghana.

Indeed, recent evidence has shown an increased interest in investing in both the bond and stock markets in SSA (Deutsche Bank, 2013; IMF, 2013). This is an important element in promoting the developments of various capital markets across SSA. Unfortunately, due to inadequate market size and liquidity problems among many countries in SSA, the bulk of recent inflows is likely to move into a small number of countries in SSA with relatively frontier markets (IMF, 2013).

In general, stock markets in SSA are characterised by limited numbers of domestic firms as compared to stock markets in other less developed market economies (World Bank, 2012). This low patronage of the stock market by indigenous firms in SSA is attributed to the reluctance of firms to reduce their dependence on bank finance as well as the absence of seasoned entrepreneurs with the experience and resource to float a company. In addition to this, there is also inadequate public awareness of the benefits associated with investing in shares (Emenuga, 1997; Irving, 2005).

It is important to appreciate the fact that the mere establishment of stock markets in SSA is of no value unless the right environment is created for stock markets to function effectively. Until the fundamental challenges of African stock markets are addressed, stock markets within this region will continue to remain small and illiquid and will not be able to boost the financing opportunities of the corporate sector.

In short, access to funds remains one of the biggest challenges for firms in SSA. The development of financial system in SSA lags behind the progress of the real sector economy, making it difficult to provide the necessary funds and services to the private sector. This undoubtedly presents a significant constraint to economic growth and development. Similar to the observation of Park (2011), the financial system in SSA remains structurally unbalanced. This indeed, can undermine the structural resilience and stability of the financial systems within SSA. The lack of well-developed domestic stock markets in SSA limits the availability of capital needed by the corporate sector for long-term projects.

Additionally, the regulatory frameworks that are required in creating and promoting the capital market are not well developed. The few institutional structures available

are characterised by bureaucratic procedures (Kwakye, 2010) and uncertain policy environments full of corrupt practices (Julian and Ofori-Dankwa, 2013). As a result, the ability of SSA's financial system to create the enabling environment to generate innovation remains uncertain. Indeed, the presence of these conditions stifles the growth of the financial system in that investors become less attracted towards investing in the region.

Apart from these, the performance of the domestic resource mobilisation (especially through the bond and stock markets) by the corporate sector remains discouraging. Also, the absence of a well-developed financial infrastructure (e.g. public credit registries, private credit bureaux and payment and settlement systems) constrains the effective operation of financial intermediaries by increasing information asymmetries and legal uncertainties, which increase risk to lenders and impede the supply of credit, especially from foreign investors. For instance, the development of the credit reporting industry in SSA remains hindered by a weak and bureaucratic legal framework. The SSA economy can still be described as a cash-based economy which creates high transaction costs. As indicated by Bawumia (2010), the absence of a potent payment and settlement system infrastructure constrains the development of an efficient domestic capital market, which is vital for supplying the long-term funds needed by the private sector.

Besides, the financial system in SSA remains largely fragmented (Dahou et al. 2009), thwarting the deepening and broadening of the region's financial services and thus effectively constraining the mobilisation of the region's savings for its vast investment needs. Another challenge facing the financial system in SSA (particularly the banking sector) has to do with the difficulty that many businesses go through in opening bank accounts. For instance, the high level of documentation required for opening accounts poses a serious challenge for many individuals. Furthermore, the improper address system in SSA and the informal nature of the SSA economies make it difficult for individuals to get the documentation required to open a bank account. This constrains the financial system as it limits savings mobilisation.

2.4.6. The Financial System in SSA and the Global Financial Crisis

There is a widespread impression that there is a low level of financial integration of Africa's financial systems with the rest of the world. This low level of integration could be a blessing in disguise by insulating the region from the direct effects of the 2007/08 global financial crisis. For instance, scholars (e.g. KPMG, 2013; Allen and Giovannetti, 2011; Kiyota, 2009) observed that the global economic crisis had a minimal impact on the financial system in SSA due to the region's low level of integration with global financial markets. Indeed, banking systems in SSA are characterised by minimal levels of cross-border banking linkages and less exposure to complex financial products (Allen and Giovannetti, 2011; IMF, 2009).

The 2007/08 financial crisis came as a surprise to many. What began in the U.S. sub-prime mortgage market quickly spread to other sectors of the U.S. economy by first affecting the financial markets, before extending to the real economy and then spilling over worldwide (Allen and Giovannetti, 2011). The financial crisis had different impacts on different economies (IMF, 2009) and its impact on SSA was relatively modest (Allen and Giovannetti, 2011). The banking systems in Africa were well positioned to handle the impacts of the 2007/08 financial crisis (IMF, 2013; KPMG, 2013). Countries in SSA with relatively well-developed financial systems were initially affected by the crisis due to their cross-border financial linkages (IMF, 2009)²⁴.

Banks in particular came under remarkable pressure during the crisis period (Allen and Giovannetti, 2011). Most countries in SSA have a high degree of foreign bank presence and this exposes the region to contagion risks (Kiyota, 2009). Available evidence further suggests that some major international banks with subsidiaries in SSA experienced stresses during the global economic downturn. However their spillover impact on operations in SSA was minimal (IMF, 2013; Allen and Giovannetti, 2011; Kiyota, 2009). ADB (2009) even observed that subsidiaries of some international banks in SSA saw a significant increase their market capitalisation during the financial crisis. For instance, Standard Bank of Ghana and Nedbank of Swaziland saw an increase in their market capitalisation between 2007

²⁴ The IMF (2009) observed that in SSA, South Africa, Ghana, Kenya and Nigeria were hit first by the global economic downturn leading to falling prices in the equity market, pressure on exchange rates and capital flow reversals.

and 2009. Thus, as described by Murinde (2009), foreign banks operating SSA were protected from the contagion impact of the global economic downturn.

In general, the global financial crisis led to a reduction in exports from SSA and slower economic growth, which affected borrowers, and thus leading to a high level of non-performing loans. Thus, the banking systems in SSA were indirectly affected by the financial crisis through international trade linkages (IMF, 2013). However, the magnitude of the impact of the crisis depended on a combination of factors including the performance of macroeconomic indicators and the level of dependence of the economy on external financial flow, as well as the extent to which the financial system inter-relates with the international market (Allen and Giovannetti, 2011)

In discussing the macroeconomic background of SSA, it is important to look at the issue of corporate governance (henceforth CG) since it is vital in enhancing capital inflow to firms (Mehran, 1992). As such, in the section that follows, an overview of CG from the perspective of SSA is provided.

2.5. Corporate Governance

2.5.1. Introduction

The previous section of this chapter has provided a general idea of the financial market in SSA. This is vital in fostering our understanding of the various financing opportunities available for firms within the region. Nonetheless, the issue of corporate governance is also a vital factor that influences the availability of finance to firms. The term ‘corporate governance’ has been defined by different scholars from different perspectives. For example, Shleifer and Vishny (1997) define corporate governance as “the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment” (p.737). The Organisation for Economic Co-operation and Development (2003) hereafter referred to as OECD, in its report also defined corporate governance as a system by which business corporations are directed and controlled. Monks and Minow (2011) defined corporate governance as the relationship among various participants in determining the direction and performance of corporations.

Good CG ensures transparency and a reduction of mismanagement among firms. This ensures that resources are used in the best interests of shareholders. Jensen and Meckling's (1976) agency theory is among the major theoretical viewpoints on CG. Agency theory is about separation of ownership and control. Investors commit their funds or resources into firms and these resources are expected to be managed by other individuals (agents) with the view of generating returns for these investors. However, this separation of ownership and control can lead to potential conflict between the managers and the owners. Personal interests of managers can overshadow the interests of the shareholders, thus leading to expropriation of funds. Firm managers can misuse company resources by spending on things that do not bring about improvement in the company's performance. As such, CG measures are the means of ensuring that investors or suppliers of finance are provided with a convincing assurance that firm managers will act in their best interests by ensuring that resources are used towards the improvement of the company's performance. In other words, the CG mechanisms offer protection for the rights of shareholders against any selfish interests of firm managers (Shleifer and Vishny, 1997).

The past few years have witnessed a growing interest in the issue of CG and several factors have indeed given rise to the heightened interest in CG. These factors include major financial scandals and other fundamental failures in the US and other developed economies such as the failure of the Royal Bank of Scotland in October 2008. Fraudulent accounting manipulation in the Enron, Polly Peck International, Parmalat and Madoff investment scandals led to some of the major insolvencies in history. In line with this, Becht, Jenkinson and Mayer (2005) observed that the issue of corporate governance has been given keen attention due to the perceived failures of corporations brought about by firms being run for the selfish interest of the managers rather than the maximisation of the shareholders' capital.

CG is all about the rules that control the operation of a firm. Scholars (e.g. Johnson, Boone, Breach and Friedman, 2000) have demonstrated that corporate control influences the inflow of capital. This eventually impacts on financing decisions of firms. The nature of CG is crucial in the determination of the risk premium demanded by shareholders and also underlines why firms are able to raise different levels of funds. Chen, Chen and Wei (2009) asserted that efficient firm-level CG is

essential in the reduction of cost of capital employed by firms. Since the required returns demanded by investors are also influenced by the risk level of the firm. Thus, better firm-level governance leads to a reduction of the risk premium, thereby lowering the overall cost of debt employed by firms. Other scholarly works (e.g. Wu, 2005) have also demonstrated that firms that are better governed stand a better chance of being evaluated more highly, and have a better chance of growth than their counterparts that have less effective CG measures.

2.5.2. Evidence from SSA

CG structures exist in all countries, but there are differences in the composition of the structures across countries. According to OECD (2006), corporate governance issues do not only vary from one business to the other but also among countries. It must be appreciated that institutional development of a country is vital for CG and that effective corporate governance system is essential for establishing the proper investment environment (Khan, 2011). However, in many cases, developing and transitional economies do not have the strong and sound institutional structures that are crucial in enforcing the acceptable level of CG (CIPE, 2001). Young, Peng, Ahlstrom, Bruton and Jiang (2008) observed that generally, CG structures in less developed market economies are similar to those of the developed economies. Nonetheless, the institutional frameworks in less developed market economies are weak (Julian and Ofori-Dankwa, 2013), leading to less efficient and unpredictable legal systems.

Better corporate control is crucial to attract capital to SSA. Many firms in Africa have in place CG codes that reflect the principles of OECD. Still, the degree to which these firms comply with CG principles is very limited and thus, the desired effects of these CG principles are not being realised (Mensah, 2001). For example, in Nigeria there is a lack of protection for the rights of minority shareholders in the country, despite the availability of laws that are supposed to protect such rights (Okpara, 2011). In some cases for instance, minority shareholders may not even be allowed to express their views during general meetings. Nigeria has adequate laws that are meant to protect shareholders' rights. Yet these laws are often flouted because shareholders are not aware of their rights. There is also a lack of

commitment on the part of board members regarding the discharge of their duties. Additionally, states have failed in supervising and enforcing such laws, as government departments that are supposed to supervise such laws are usually influenced by politicians and other law makers. Thus, there are problems such as a weak regulatory framework, inadequate disclosure, lack of transparency and other corrupt practices among firms in Nigeria (Okpara, 2011).

The situation in Nigeria is not very different from other countries in SSA. For instance, in the case of Kenya, weak CG continues to be a major problem. The collapse of many firms in the country in recent times has also been attributed to the ineffectiveness of CG measures (Musikali, 2008). These are of course some of the major reasons that have hindered major foreign investment into this part of the world.

Although South Africa is considered to have a financial market which is similar to those in some developed countries according to the Institute of International Finance (hereafter IIF) report in 2007, poor CG has been identified as a major problem that has led to many corporate scandals in the country. This, in the view of IIF (2007) depicts a disconnection between the CG structure and the real CG practices in the country. A common problem with some South African firms that is normally highlighted by investors is the failure of the companies to provide adequate information about their CG practices (IIF, 2007).

In the case of Ghana, different measures that aim at encouraging good CG have been initiated. This includes the enactment of the Securities Industry Law of 1993, which led to the establishment of the Securities and Exchange Commission (previously known as the Securities Regulatory Commission). This commission among other things controls the fund management industry, oversees the security laws that affect joint investment schemes and assesses how funds that are collected through public subscription are utilized. This commission also ensures that companies disclose information that is required by the investing public (Securities and Exchange Commission, 2011). This is vital in dealing with the issue of information asymmetry between firms and their stakeholders and also for an efficient capital market. Accordingly, Abor (2007) observes that in fostering transparency, stakeholders demand that relevant information is disclosed by corporate bodies. As part of best

corporate practice, the Securities and Exchange Commission further demands that all listed companies also appoint independent directors. This is important as these independent directors bring external expertise to the firm, thereby strengthening the overall management of firms (SEC 2011). However, sometimes strong political ties and lobbying lead to the appointment of individuals who may not have specialised skills and knowledge to act as independent directors, thereby giving rise to dysfunctional boards of directors.

In order to protect the rights of investors, legislation has been established in many countries within SSA to create a more liberal environment for investment purposes. For instance, similar to the British legal framework, Ghana's constitution provides for the independence of the judicial system and prevents any kind of interference from political leaders. This is imperative in terms of increasing the confidence of investors in the country as it ensures that investors' rights and their investments are well protected. The establishment of unconventional means of resolving disputes within the judiciary such as the Arbitration Centre in 1996 and the Fast Court system by the New Patriotic Party (NPP) government also attests to the determination of Ghana's government to increase the confidence in the legal framework that among other things protects interests of a commercial and economic nature. These alternatives ensure that cases are acted upon with speed and efficiency.

Certainly, it must be pointed out that effective enforcement and monitoring of existing CG regulations constitute a major challenge to a host of countries, especially the developing ones. The availability of these measures does not mean that companies comply with them to the fullest extent. There is still the issue of a low level of transparency/disclosure among many firms in many countries within SSA (e.g. Tsamenyi, Enninful-Adu and Onumah, 2007). There are also inadequate effective mechanisms for dealing with firms that fail to live up to CG expectations. In some cases, political influence leads to some CG rules being circumvented.

2.6. Corruption in SSA

Closely related to the issue of corporate governance is corruption, which is indeed a major challenge to good CG. Mensah et al. (2003) observed that companies worldwide have put in place stronger corporate governance measures, introduced

code of ethics and provided training programmes, all towards dealing with corruption. Yet corruption continues to be a major problem that confronts CG in both developing economies and the most advanced economies such as the US and the UK, where democratic and other institutional frameworks are well advanced. In line with this, the Centre for International Private Enterprise asserts that corruption exist in every part of the world, and that it would be a mistake to think that some countries are corruption-free (CIPE, 2001).

However, the effects of corruption on one country can be different from the other due to different levels of institutional development. In spite of the number of anti-corruption measures that have been proposed at both national and international levels, corruption continues to be a major barrier to both the private and the public sectors especially in SSA (Lawal, 2007). The 2012 corruption index of Transparency International (Henceforth TI) which ranks countries according to their perceived levels of public corruption indicates that a greater portion of the 176 countries surveyed scored below 50 on a scale of 0 (highly corrupt) to 100 (very clean). Figure 2.7 indicates the corruption perception index (CPI) of some selected SSA countries²⁵ in 2012.

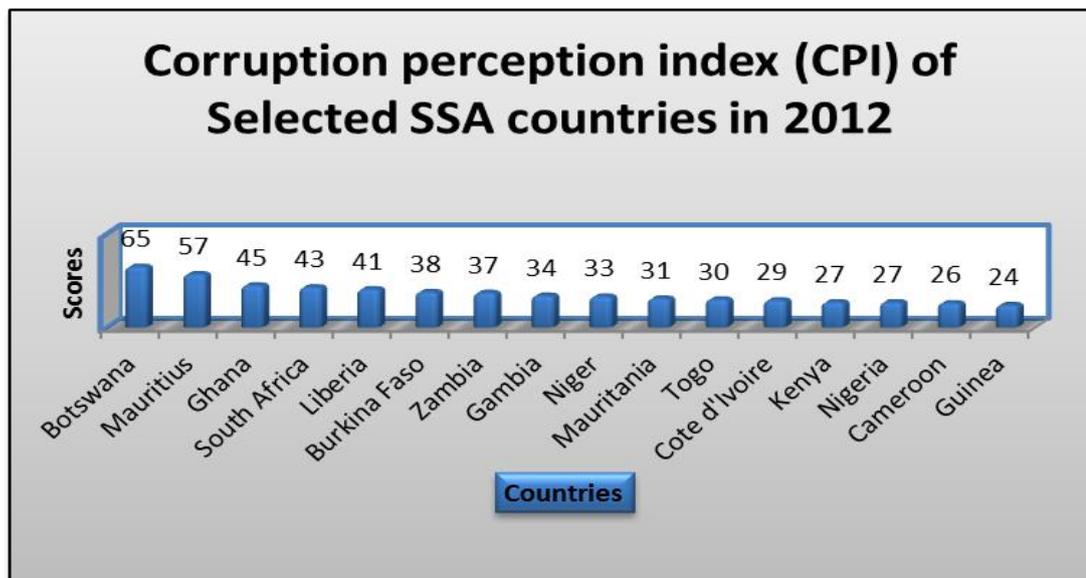


Figure 2. 7: Corruption Perception Index

(Source: TI, 2012)

²⁵ The comparative figures for UK and US are 74 and 73 respectively. Denmark, Finland and New Zealand had the best score in the world (i.e. 90).

Almost all the African countries assessed in 2012 by the TI scored below 50. This indicates the widespread nature of corruption in these economies. Africa is seen as one of the most corrupt places in the world and this has contributed to the low inflow of capital needed by the corporate sector and has limited the expansion of the financial services. In spite of the numerous measures that have been adopted to deal with the issue, the problem still persists in SSA, as efforts continue to show mixed results (Hanson, 2009). In the case of Nigeria for instance, Okpara (2011) observed that corruption accounts for the ineffective corporate framework in the country. In the context of Ghana, a number of measures have been taken to deal with the issue. Examples of such measures are the Ghana Anti-Corruption Coalition (GACC) that was launched in 2001 and the setting up of the National Institutional Renewal Programme aimed at transforming a number of institutions. Despite the implementation of these measures and other educational programmes initiated by the Ghana Integrity Initiative (Ghana's version of Transparency International), corruption is seen by most Ghanaians as a serious problem in the country and as such, most public departments in the country are regarded as low in honesty and integrity (Mensah, Aboagye, Addo and Buatsi 2003). The situation in Ghana is similar to other countries within SSA.

No matter what form corruption takes, it is imperative to note that corruption has detrimental effects on the development of a nation, including the creation of inefficiencies in the market system, thereby leading to wastage of limited available resources. It can even push a country into a political crisis. The way any society perceives corruption will undoubtedly affect the way the issue is dealt with in that society. Where corrupt practices are accepted as part of the societal norms, then dealing with it will require more effort. Effort to deal with corruption should begin from the top governmental levels. Once this is done, it will be much easier to deal with the issue at the other levels of the economy. Weak corporate governance provides fertile ground for corrupt practices (Mensah et al. 2003; Wu 2005). Thus, encouraging good corporate governance, in the form of maintaining strong internal control measures and the appointment of a competent and dedicated board that represents the interest of shareholders, and also renders regular accountability as required, must be seen as some of the steps in reducing the incidence of corruption.

These measures deter individuals from indulging in any corrupt practices due to the high possibility of being caught. The recent increase in the importance of the issue of corporate governance all over the world should be welcome news for those who continue to champion the anti-corruption campaign. This is important in maintaining investors' confidence in the capital market, especially in developing economies such as SSA.

2.7. Chapter Summary

This chapter has provided a macroeconomic overview of the African continent. This is essential in providing the background information of the context from which this study is conducted. Clearly, the continent faces huge developmental challenges on the one hand and has great potential on the other. The level of economic development of this continent lags behind the rest of the world as Africa faces huge infrastructural gap and relatively poor regulatory environment. The pace of growth across the continent remains uneven due to varying preconditions for social and economic development among the countries. Much remains to be done to encourage the flow of capital resources into this part of the world. Generally, the capital market, which is vital in the allocation of the resources into the different sectors of the economy, remains narrow and illiquid in the African continent. The financial systems remain small and inefficient at financial intermediation. Inadequate CG measures and the issue of corruption are some of the major challenges of the financial systems in SSA.

Having provided the macroeconomic background information of the context this study, I now proceed to examine the theoretical background of this study.

**PART II:THEORETICAL PERSPECTIVE AND
RESEARCH PROCEDURE**

Chapter 3

Literature Review

3.1. Introduction

The financing decision is of paramount importance to every firm. This is underscored by the evidence that there is a considerable corpus of research literature on capital structure decisions of firms. As such, under this chapter I will be looking at some of the theories explaining the capital structure decision among firms. These include the traditional theory, irrelevance model, the trade-off, the pecking order and the free cash flow theories. The market timing theory is also considered in this literature review. Studies conducted in testing some of these models are also considered. The limitations of the models are also looked at under this review. Firm, industrial and country-level determinants of capital structure are also considered under the second part of the literature review. The final parts focus on the studies conducted in testing the applicability of theories of capital structure in both advanced and less developed markets.

3.2. Theories of Capital Structure

A wide range of theoretical perspectives that aim at explaining the capital structure decisions of firms have been propounded in the field of corporate finance and other related area of studies. There is however lack of consensus among these theories in explaining firms' financing behaviour as each of these theories looks at the issue of capital structure from a different perspective. According to Eldomiaty (2007) each theory of capital structure presents a diverse explanation of corporate financing with respect to different assumptions. This section of the thesis focuses on some of the theories of capital structure, their limitations and studies conducted in testing these theories. This section begins by examining the traditional theory of capital structure.

3.3. Traditional View of Capital Structure

Also known as the intuitive view, the traditional view arguably dates back through many decades and seeks to explain capital structure decisions of firms based on intuition. Its proponents believe that the value of a company and its capital structure are in fact related. Thus, a firm's level of debt or gearing has an impact on its value. Hence, there is an optimal level of debt at which the cost of capital is minimised, or the value of the firm is maximised (Samuels, Wilkes and Brayshaw (1997)). As the firm brings in a considerable size of debt into its capital structure, the weighted average cost of capital will fall. This is because the benefit of low-cost debt finance more than outweighs any increases in the cost of equity needed to compensate equity holders for higher financial risk. On the other hand, as the proportion of debt goes up, equity holders will demand increasingly higher returns and ultimately, this increase will begin to outweigh the benefit of cheap debt finance and the weighted average cost of capital will rise as the firm's value falls. Furthermore, at an excessive level of gearing, the cost of debt will begin to go up (as debt holders become agitated about the security of their loans), equity holders will continue to increase their required returns and this will give rise to a rapid increase in weighted average cost of capital. At a higher level of gearing, certain problems (e.g. less assets left to offer as collateral for new loans; restrictive conditions from investors and other stakeholders) become more possible. Both customers and suppliers begin to be doubtful and this could have detrimental effects on overall sales (Samuels et al. 1997; MacKie-Mason 1990; Wrightsman 1978)

It is evident from the traditional theory's perspective that for firms to operate effectively and profitably, they must keep an optimal level of gearing at which the WACC is minimized or the value of the firm is maximized. Thus, firms that operates beyond this level of gearing are likely to have a damaging consequence on their overall performance and their future survival as well.

A number of criticisms have been levelled against the traditional theory. The most prominent criticism to this proposition was postulated by M and M (1958). Based on the assumptions of the irrelevance theory, M and M (1958) arguably noted that under a perfect market condition, the firm value is not contingent on the capital structure of the firm. Therefore, the irrelevance theory is counterpoised against the traditional

theory, by arguing that there is no need to manipulate the capital structure by applying only debt or equity finance or a certain proportion of each. To M and M (1958), finance managers cannot in any way increase the value of their firms by just altering the capital structure of their firms. In the section that follows, the irrelevance theory of M and M (1958) is examined.

3.4. Irrelevance Theory of Capital Structure

M and M's Irrelevance theory of 1958 has provided the platform for the huge interest in the corporate financing behaviour. In their pioneering work on capital structure, M and M made a number of assumptions in deriving their famous irrelevance theory which has in recent times attracted a wide variety of research in corporate finance and other fields in the academic circles. The assumptions include the following;

1. No taxation for either individuals or companies
2. No transaction cost
3. Debt is risk free
4. Perfect capital markets where investors have the same information as management regarding the future state of affairs upon which they can act rationally

They also assumed that a firm's average cost of capital and for that reason, the value of the firm is independent of its capital structure. To them therefore, there is no optimal capital structure that maximises the firm's value and for that matter a firm can make use of any amount of debt or equity. In contrast to the claim of the traditionalist perspective therefore, M and M (1958) argued that the market value of their company cannot be changed by simply altering the capital structure.

In addition to the above, M and M (1958) assumed that the rate of returns that shareholders of a firm demand goes up as more debt is applied. The reason behind this argument is that shareholder see the firm as more risky as the firm stands a high chance of experiencing a financial distress (i.e. due to the high level of debt in the capital structure). As a result of this, the increase in cost of equity offsets any benefits derived from the use of cheaper debt finance and therefore the weighted average cost of capital remains the same. The implication of this is that the choice of finance is not relevant to the wealth of shareholders and firms can therefore make

use of any mix of funds (Modigliani and Miller 1958; Shyam-Sunder and Myers 1999).

According to M and M, firms that operate in the same kind of business or industry (e.g. firms in the construction industry or in the retail industry) and which have identical operating risks must have the same overall value, regardless of their capital structures. M and M (1958) base their argument on the fact that the value of a firm depends on the future operating income generated by its assets and not by altering its debt-equity mix. In other words, the manner in which this operating income is divided between returns to equity holders and debt holders must not make any difference to the total value of the company. Accordingly, the overall value of the company will not change so as its average cost of capital (Stiglitz, 1974). The implication of M and M's argument is that financial managers who want to maximise the value of their firm (i.e. increasing the wealth of shareholders), must aim at other aspects of the firm rather than just altering the debt-equity level.

3.4.1. Limitations of the Irrelevance Theory

The irrelevance theory offers a number of assumptions (e.g. perfect market conditions; no transaction costs) to support its theoretical proposition. However, in reality, these assumptions do not exist and therefore the underlying notions of the theory are not realistic. The irrelevance theory has been considered as being limited in its validity. The most valid criticism is that the impact of tax could not be ignored in view of the fact that debt interest is tax deductible (Green et al., 2002; Cheng and Shiu, 2007). The existence of taxes and differences in information, as well as the presence of agency costs certainly influence firms in their financing decisions. Firms consider these factors in the choice of capital to ensure that the best financing decision is made.

Critics of the irrelevance theory (e.g. Green et al., 2002) question M and M (1958) assumptions and contend that the advantages derived from debt (e.g. deductibility of interest payment) could influence firms to finance their operations using debt finance rather than employing only equity finance. The criticisms levelled against M and M (1958) theory therefore made them modify their model to reflect the idea that the

corporate tax system gives tax relief on payments of interest (M and M 1963; Myers, 2001).

In their previous argument, M and M (1958) were of the view that firms that differ in their capital structure only, must have the same total value of debt plus equity. The reason behind this being that it was the size of the company's operating earnings stream that determined its value, and not the manner in which it was split between equity holders and debt holders. The corporate tax system nonetheless, carries a distortion under which debt holders' returns in the form of interest are tax deductible to the company, whereas returns to equity holders are not. In view of that, M and M (1963) concluded that firms that are geared have advantage over un-geared firms (that is, they pay less tax and therefore will have greater market value and a lower weighted average cost of capital). In addition, M and M's (1958) theory was criticised on the grounds that the irrelevance theory ignores the cost involved in financial distress (e.g. bankruptcy costs) which comes about as a result of excessive use of debt (Brigham and Ehrhardt, 2008).

Despite the fact that the underlying assumptions of M and M (1958) were not generally welcomed due to their unrealistic nature, further scholarly works did focus on relaxing some of the assumptions in developing a more realistic approach in testing the financing behaviour among firms. Testing the M and M's (1958) theory in a real world situation is practically impossible due to the nature of the underlying assumptions. Nonetheless, the consensus view is that the irrelevance theory provided the platform that has indeed influenced the development of many other theories of capital structure of the modern days including the well-known trade-off model.

3.5. Trade-off Theory of Capital Structure

This is one of the commonly recognised models of capital structural theories and remains one of the most influential theories of the capital structural models in modern times. In contrast to the irrelevance theory, the trade-off theory presupposes that there are costs and benefits connected with the use of debt as against equity. As a result, firms must choose an optimal capital structure that trades off the marginal benefits and costs of debt after taking into consideration market imperfections (e.g. agency costs, taxes and bankruptcy costs). The marginal benefit derived from debts

reduces as the level of debts increases and at the same point the marginal cost of debts rises as debts rises. Thus, a rational firm will optimise by the trade off point to find out the optimum level of equity and debt to finance its activities. The benefits of debts are the advantages derived from tax and the reduced costs of the agency problem regarding free cash flow, while the costs of debt denotes the bankruptcy costs, as well as the increased agency costs that come about when the creditworthiness of the company is in doubt due to its rising debt level (Dawood et al., 2011; Yu-Shu, Yi-Pei and Chu-Yang, 2010; López-Gracia, Sogorb-Mira, 2008; Bancel and Mitto, 2004; Shyam-Sunder and Myers 1999; Scott, 1977).

3.5.1. Empirical Studies of the Trade-off Theory

In testing the applicability of the trade-off model, pieces of empirical evidence are identified in literature that attempt to provide support for the key theoretical position of this theory. Notably, Frank and Goyal (2003) conducted a study to look into the relative significance of 39 factors in the leverage decisions of US firms that are traded publicly. In general, the result was consistent with the trade-off model, where a firm's leverage increases in line with the average leverage in the industry, with the presence of collateral and with firm size. More importantly, they observed that firms that are deemed risky by lenders have lower leverage ratios. This is because financial lenders are not willing to lend to such firms, thus leading to a lower leverage level. On the other hand, they found that an increase in leverage leads to a higher interest rate, not a drop in the interest rate as might have been expected by the theory. Financial lenders are made nervous by high levels of debt that increase the risk of default, thus pushing the interest rate up.

Similarly, Kjellman and Hansen (1995) conducted an investigation into the capital structure practices of some listed firms in Finland. Their result revealed that most Finnish firms seek to maintain an optimum leverage or target capital structure policy as suggested by the trade-off theory, even though, small Finish firms are unlikely to maintain a target capital policy. This clearly supports the prediction of the trade-off hypothesis. Furthermore, Taggart (1977) examined the trade-off theory using a static approach and realised that the movements in the market value of equity

counterbalance the movement in the market value of long-term debt as predicted by the trade-off theory.

3.5.2. Limitation of the Trade-off Theory

Despite its popularity, the trade-off theory has been criticised due to some limitations inherent with its argument. For instance, Chen (2004) observed that the trade-off model has not been able to offer any explanation to the corporate behaviour concerning the stock market response to decreases and increases in leverage which constantly give rise to stock price decreases and increases respectively. Another major criticism that has also been levelled against the trade-off theory is its failure to suggest an explanation for alternative financing patterns among firms (Smart, Megginson and Gitman, 2007). Indeed, the explanation offered by the theory-off theory does not completely describe the financing behaviour seen among firms.

Furthermore, under the trade-off model profitable firms should borrow more to take the advantage of tax to shield their income. Thus, a positive relationship is expected between profitability and leverage (Tong and Green, 2005). However, there are limits to which this assumption can be accepted as scholarly evidence also depicts negative relationship between profitability and leverage (Sheikh and Wang, 2011; Chakraborty, 2010; Frank and Goyal, 2009; Cheng and Shiu, 2007). It must be noted that the available empirical evidence does not wholly support the trade-off model and for that matter, critics (e.g. Myers, 1984) argue that different theories of capital structure are likely to exist.

3.6. Pecking-order Theory of Capital Structure

The pecking-order theory (henceforth POT) of Myers (1984) is one of the prominent theories of capital structure and it seeks to offer an explanation into alternative financing behaviour among firms, something which was overlooked by the trade-off theory. The theory does not seek to search for an optimal capital structure through a theoretical process (as it has no precise or a well-defined capital structure target). However, POT postulates that firms initially depend on internally generated funds, which is then followed by straight debt, convertible debt and finally new issue of

equity (Dawood et al., 2011, Gaud, Hoesli and Bender, 2007; Chen and Strange, 2005; Fama and French, 2002; Chirinko and Singha, 2000; Kjellman and Hansen, 1995; Barclay and Smith, 1999; Myers and Majluf, 1984; Myers, 1984). Internally generated funds have the least issue cost, followed by debt and equity in that order.

Existing scholarly works offer a variety of explanations for the preference of internally generated funds to other sources of funds. For instance, funds from outside sources (such as debt) may lead to increased scrutiny over the activities of the firm (Kjellman and Hansen, 1995; Ang and Jung, 1993). Creditors and shareholders tend to carefully watch the activities of the firm to ensure that their funds are put to good use. Managers however do not feel comfortable being monitored and thus rely on internally generated funds in order to avoid the drawback of outside interference of their operations.

An alternative explanation offered for the reliance on internally generated funds is based on the idea of asymmetric information. This is where, due to their access to various information about a firm, managers know that the value of the shares is greater than the current market value. When it comes to a fresh project, the predictions of managers could be higher and more pragmatic than that of the market.

In such a situation, where the firm issued fresh shares, there is the likelihood that their prices could be very low, therefore shifting wealth from existing shareholders to the fresh ones. This under-pricing could lead to existing shareholders rejecting projects that could have generated a positive net present value. The issuance of new debt may be interpreted as a sign of bad news. Ryen, Vasconcellos and Kish (1997) argued that in a situation where a firm sees its stock as under-priced, the firm managers are unlikely to issue new stock even where there is a positive net present value project. As a result of that, there is the natural tendency to rely on retained earnings which has no problem with asymmetric information.

The next option according to POT is debt, if additional funds are needed over and above the retained earnings. In this sense, firms that generate a lot of wealth and for that reason have high retained earnings are more likely to use less debt finance than firms that generate less internal funds (Dawood et al. 2011; Abor, 2008; Smart et al. 2007; Fama and French, 2002; Samuels et al. 1997; Myer, 1984). The issue of equity

comes in as a last option and this will only take place when information asymmetry is at its minimum (Ryen et al. 1997).

Alternatively, transaction cost (e.g. issuance expenses) has also been offered in explaining the POT (Kjellman and Hansen 1995). It is worth pointing out that the cost involved in employing any external funds influences management decision regarding the choice of funds. Funds from equity investors have a high transaction cost and firms will only resort to this after exhausting all less costly avenues. Myers and Majluf (1984) see the use of retained earnings by firms as the safest option that reduces the cost associated with transaction and information asymmetry. This also prevents the dilution of ownership (Kjellman and Hansen, 1995). Narayanan (1988) also suggests where a firm with an asymmetric information problem is allowed to choose between equity and debt, such a firm is likely to choose debt or will completely discard the investment that is being financed.

Notable scholarly works offer explanations for the asymmetry information among firms. For instance in the UK and the US, Seifert and Gonenc (2008) observed that among other things, the information asymmetry problem is caused by the widespread ownership of firms in these countries and as a result, managers have more information on what is happening within the company than shareholders. In Japan and Germany however, they observed that the problem of information asymmetry is due to the restrictions on investors' rights and also a lesser and distorted flow of information. Indeed, lack of proper regulations could easily lead to an information gap between the management and the stakeholders.

Brounen, Jong and Koedijk (2006) agree that the information that managers have is exposed to outsiders by the financing decision taken by management. They further argued that companies that follow the pecking order model tend not to have a specific or a target debt ratio because their preferences are determined by the ordering in relation to the issuance of fresh capital. Commentators (e.g. Frank and Goyal, 2003) have pointed out that high growth companies that have high financial needs are likely to end up with a high proportion of debt. The explanation offered for their argument is that managers will be unwilling to issue equity and may therefore depend on debt for its activities. This assumption however challenges earlier

literature (e.g. Barclays, Morellec and Smith, 2001) which demonstrate that high growth firms make use of less debt. Myers (2001) did point out that debt finance constitutes the bulk of external finance in capital formation.

3.6.1. Empirical Studies of POT

Existing scholarly works on POT seeks to test the applicability of the theory as to whether firms finance their investment by following the order postulated by this theory. For instance, Seifert and Gonenc (2008) examined the existence of the pecking order theory in four major countries (UK, US, Japan and Germany). While their results from Japan were consistent with the POT mainly during the 1980s and the early parts of the 1990s, the results from the other three remaining countries were not consistent with the pecking order hypothesis. During the latter part of their study however, Seifert and Gonenc (2008) observed that the evidence for the pecking order model among Japanese was diminished, because of less restrictions on equity issues, coupled with enhanced investors' rights, thereby encouraging dependence on other funds rather than retained earnings.

Other notable empirical works in Europe and the US (e.g. Beattie et al. 2006; Benito, 2003; Lemmon and Zender, 2002) have also found evidence for the pecking order hypothesis. In contrast to the above results, in their investigation into the existence of the pecking order model among some US companies, Frank and Goyal (2003) noted that equity financing is not dominated by debt financing. Despite the fact that equity finance is seen as more expensive than debt finance due to the relative risk of the two sources of finance, firms may still resort to equity finance, especially where there is the existence of a high level of finance risk due to the substantial level of previously existing debt. Also, in some cases financial lenders may require assets to be used as collateral for the acquisition of debt finance and in the absence of such collateral, firms will have no other choice than to resort to equity finance.

Fama and French (2002) also tested both the pecking order and static theories using system equations and found out that firms that are profitable and those with new investments have higher dividend payouts. They further noted that firms that are more profitable are less geared. The result of Fama and French (2002) was in line with the predictions of both models. It must however be pointed out that profitable firms could still have lower levels of dividend payment and not higher payments as

observed by Fama and French (2002), especially where there is the need for funds to finance new investment opportunities. Big projects could require large amounts of funds and where a firm wishes to reduce its dependency on external funds, there is the likelihood that the level of dividend payment will be reduced in order to channel a greater proportion of the available earnings into such investments opportunities.

Other scholarly works include Ang, Fatemi and Tourani-Rad (1997), who investigated the capital structure and dividend policies among some listed Indonesian firms and noted that firms prefer internally generated funds to other sources of funds. This is consistent with the pecking order theory. However, no evidence was found regarding the problem of information asymmetry as firms were prepared to make more information available publicly.

In trying to establish whether the pecking order model or the trade-off explains a firm's financing decision, Shyam-Sunder and Myers (1999) concluded that the trade-off theory can be rejected and that the pecking order theory has a much better time-series explanatory power than trade-off theory in terms of testing the statistical power of alternative hypotheses. The general consensus is that each of the theories of capital structure describes some financial pattern among firms. Fama and French (2002) showed in their research that both the pecking order and trade-off theories explain some of firms' financing behaviour and for that, none of them can be rejected.

Furthermore, Helwege and Liang (1996) also tested the presence of the pecking order theory among US companies that went public in the year 1983. The pecking-order hypothesis predicts that firms will resort to the use external funds, once they have exhausted any available internal funds. Helwege and Liang (1996) found out that firms that generate surplus funds do not resort to the external market for any additional funds as predicted by the theory. However, firms do not seek external funds just because of a shortfall in internal funds but may be due to other reasons. Those firms that were investigated did not appear to follow the pecking-order model laid down by its proponents. The evidence from this study indicated that firms were prepared to issue equity finance, regardless of the availability of debt and that the

presence of information asymmetry was not seen as an engine for the reliance on debt finance.

Similarly, Baskin (1989) examined the pecking order model and observed that the payments of higher dividends diminish the amount of the retained earnings and consequently, increase the demand for debt. It is important to note that there is a close relationship between dividend payment and the retained earnings available for investment. Thus, higher dividend payment could lead to less funds being available for investment purposes. Consequently, debt may be sought to support any investment project. This situation leads to a negative relationship between dividend payment and the amount of funds available for investment purposes. Similar to the above empirical studies, Donaldson (1961) noted that management was strongly in favour of internally generated funds and will only resort to debt finance when the retained earnings is not sufficient for their investment activities. This shows a consistency with the pecking order theory. Norton (1989) also found a similar result.

3.6.2. Limitation of POT

The POT is among the very few capital structural theories that have received a lot of support. However, a greater proportion of the study in testing this theory has been based on the developed economies (e.g. Seifert and Gonenc, 2008; Beattie et al. 2006; Benito, 2003; Lemmon and Zender, 2002), with very limited study from the developing ones. Thus, the applicability of this theory in the developing economies is not well known. It must be emphasized here that dissimilarities in the institutional structures of both the developing and the developed economies could affect the applicability of this theory across the globe. Despite the popularity of this theory in explaining the financing patterns among firms, the POT has failed to give explanations of certain regularities in capital structure. For instance, in a study of the pecking order theory using managers from South Korea, Ang and Jung (1993) pointed out that firms prefer bank loans to internal funds, despite the presence of asymmetric information. A similar result was also obtained by Ang et al. (1997) who concluded on the evidence obtained from investigating the capital structure of Indonesian firms that firms do not rely on internally generated funds because of the issue of information asymmetry and that firm may still strongly prefer internal funds

even in the absence of information asymmetry. Their results therefore do not wholly support the pecking order theory put forward by Myer (1984). Along similar lines, Vasiliou and Daskalakis (2009) found no evidence of the pecking order theory among Greek firms. This clearly indicates inconsistencies in the argument of the pecking order hypothesis and that Myers pecking order model may not always hold despite the presence of information asymmetry.

Minton and Wruck (2001) have also pointed out that firms seek credit from the capital market even when they have not fully utilized their internally generated funds. Under the pecking order hypothesis, firms will only turn their attention to external funds (debt) after utilising all the internally generated earnings. Minton and Wruck (2001) are however of the view that firms will seek debt when even all internally generated earnings have not been fully consumed. This argument contradicts the prediction of the POT where one would expect all internally generated funds to be used before seeking external finance.

In their study of the pecking order theory in providing an account of the financing pattern among American companies between 1971 and 1998, Frank and Goyal (2003) pointed out that American publicly traded companies in the 1980s and 1990s do not match the evidence postulated by Myers in 2001. Frank and Goyal (2003) further observed that the pecking order hypothesis is much more evident in the financing behaviour of large firms rather than small ones. Smart et al. (2007) also observe that the pecking order theory fails to take into consideration the effects that bankruptcy costs, tax and issuance of security cost have on the amount of debt a firm uses. Another empirical weakness of this model observed by Frank and Goyal (2009) is that tangibility and the role of firm size in debt-equity choice do not flow clearly from the fundamental logic of this theory.

Like other theories of capital structure, the pecking order model does not provide an explanation for the overall financing behaviour among firms. This has contributed to a new way of looking at the capital structure decisions among firms by incorporating issues of credit supply, which has not been given attention by followers of the pecking order and the trade-off models.

3.7. Free Cash Flow Theory of Capital Structure

In 1986, Jensen propounded the free cash flow theory. Jensen (1986) argued that unless the excess cash flow in a company is given back to its investors, managers are motivated to cause their firms to grow further than their optimal size by spending greatly on activities or projects, even though such projects might yield negative NPV. Since all shareholders cannot be involved in the management of the firm, the day-to-day management of the firm is left in the hands of management (agents). Managers are therefore expected to make decisions aimed at maximizing the wealth of the shareholders. However, the interest and objectives of management may differ from that of the shareholders of the firm. Managers could conduct their activities to their own advantage and may spend the resources of the firm for their personal happiness at the expense of the wealth maximization of shareholders. This conflict of interest has been identified as one of the main factors giving rise to the agency problem.

Excessive cash under management control could widen the divergence of interest of managers and shareholders. Therefore, the increase in leverage entails financial discipline in managers and thwarts pointless investments, due to the fact that creditors require their scheduled payments such as interest payment and demand any free cash flow that is available to the company and keeping the company slim and cost-efficient. In other words, the use of debt ensures that less funds are made available to management to engage in any venture that is not in line with the interest of the owners of the firm (Kayo and Kimura, 2011; Berger and Bonaccorsi di Patti, 2006; Grossman and Hart, 1982; Jensen and Meckling, 1976). Creditors will have the firm declared bankrupt if it is not able to meet its debt obligations and management and it is likely to face legal action. In view of this, Grossman and Hart (1982) stated that if bankruptcy is expensive for the managers for the reason that they may lose the opportunity of control and reputation as well as the loss of salaries, then a rise in the level of debt could coerce managers to generate the needed cash flows to meet interest debt repayments. This decreases the probability of management engaging in extreme empire building. The use of debt also ensures that firm managers work as hard as possible to meet the interest commitment required by creditors (Ryen et al. 1997). Similarly, Gaud et al. (2007) observed that the use of

debt places constraints on managers regarding the payout of cash. Therefore, apart from the tax advantage derived from debt as explained by the trade-off hypothesis, the free cash flow theory believes that the use of debt helps in the reduction of the agency problem and this encourages managers to act in the best of shareholders.

3.7.1. Empirical Studies of the Free Cash Flow Theory

Scholarly works testing Jensen's theory include Miguel and Pindado (2001) who examined how ownership concentration reduces the free cash flow problem by using data from 133 Spanish companies. They concluded that low ownership concentration reduces the negative impact of free cash flow compared to high ownership concentration. According to them, firms with highly concentrated ownership tend to have greater incentives to control managers. For this reason, these firms need to issue less debt in order to prevent managers from carrying out investment projects with a negative NPV.

Gul (2001) also examined the explanatory power of the free cash flow theory in managers' choice of FIFO versus LIFO in inventory management. The relationship between free cash flow and the choice of inventory methods is based on the idea that there is a possible conflict of interest between shareholders and firm managers when LIFO is the tax minimization method. Non-value maximising managers of firms with the free cash flow problem are motivated to select the FIFO inventory method (an income increasing method) in order to boost their compensation. Nonetheless, since debt serves as a monitoring device and reduces the agency problem as argued by Jensen's free cash flow hypothesis, using data from 88 US firms, Gul (2001) demonstrated that managers of firms with high free cash flow are less likely to choose FIFO than managers of firms that have low debt and high free cash flow.

Another empirical testing of the free cash flow theory is that of Kallapur (1994). Using data from 112 large, mature NYSE firms, Kallapur (1994) examined whether on average firms suffer from the free cash flow problem. Kallapur (1994) based this study on the idea that with the presence of the free cash flow problem, earning response coefficients depend positively on payout ratios. This is because rather than earnings being wastefully retained, shareholders prefer it to be paid as dividends. Kallapur (1994) concluded that there is a positive relationship between earning

response coefficients (ERCs) and payout ratios as predicted by the free cash flow hypothesis.

3.7.2. Limitation of the Free Cash Flow Theory

While the use of debt has been seen as a way of dealing with the agency problem between management and shareholders (Jensen, 1986), it must be pointed out that the excessive use of debt could have detrimental effects on the operations of a firm. These effects include the inability to meet financial commitments (e.g. interest payments) as they fall due which leads to serious implications on the survival of the firm. Booth et al. (2001) argued that the use of risky debt could give rise to creditors having a share in a firm's profitable investment returns, in so doing hauling out some of the NPV. In view of this, shareholders may even forego positive investment opportunities. Although debt restrains management from undertaking certain unhelpful activities, it is important that managers do not employ debt at level that could put the future of their firms into doubt.

3.8. Market Timing Theory of Capital Structure

Baker and Wurgler (2002) have also propounded a new theory of capital structure known as market timing theory, which looks at the effects that the timing of the market has on the capital structure. The theory assumes that the existing capital structure is the cumulative effects of past attempts to time the equity market. Baker and Wurgler (2002) argue that both the long term leverage ratio and market-to-book ratio are correlated and that firms that have low leverage raise capital when their equity valuations are high and conversely firms with high leverage raise capital when their equity valuations (market-to-book ratios) are low. According to Baker and Wugler (2002), market timing means that new shares are issued by companies when they perceive that they are overvalued and that companies repurchase own shares when they consider these to be undervalued. Baker and Wurgler (2002) demonstrated that the effect of market timing on capital structure is very persistent. Using an earnings based evaluation model, Elliott, Koeter-Kant and Warr (2008) asserted that firms can lower their cost of equity by successful timing of the equity

market and this ensures that existing shareholders benefit at the expense of new equity holders.

3.8.1. Empirical Studies of the Market Timing Theory

Among those who have conducted studies in testing the validity of this theory are Elliott, Koeter-Kant and Warr (2007) who tested the effects of market timing on how firms finance their funding deficit. Elliott et al. (2007) concluded that there is the high possibility that firms with overvalued equity will issue equity to deal with the financial deficit than their counterparts that are undervalued. In a similar vein, Mahajan and Tartaroglu (2008) studied the market timing model and observed that leverage in most of the countries studied was negatively correlated to the historical market-to-book ratio. They further established that with the exception of Japan, all other countries studied revealed that after the issuance of equity, firms do rebalance their capital fully. This result however questions the market timing model which rule out the issue of firms rebalancing their capital structure in relation to short-term shocks such as equity market timing attempts.

3.9. Summary and Conclusion on Theories of Capital Structure

This chapter has provided an account of the various theoretical models explaining the capital structure policy among firms. Certainly, since celebrated paper of M and M (1958), the issue of capital structure has received a huge amount of attention from different quarters in the academic arena aimed at finding a coherent explanation regarding the factors that influence firms' choice of capital structure. There are several theoretical differences among the various models of capital structure. Earlier on, M and M (1958) demonstrated that capital structure decision has no effect on the value of the firm and for that matter, a firm can make use of any type of finance. A subsequent study by M and M (1963) however demonstrated that by relaxing some of the assumptions of the irrelevance theory, the debt-equity mix can influence the value of the firm. Unarguably, M and M (1958) irrelevance theory did set the pace for the study of capital structure policy among firms and eventually influenced the development of other well-known theories including the pecking order, the trade-off, the free cash flow and the market timing theories. Yet, the irrelevance theory has been subjected to considerable criticism. In his speech to the American Finance

Association in 1984 where the pecking order model was first presented, Myer (1984) observed that firms finance their investment activities by first using internally generated funds before resorting to debt and equity as a last resort.

At the other extreme, the trade-off model also assumes that there are costs and benefits associated with the use of debt and that value-maximizing firms must choose an optimal capital structure that trades off the marginal benefits and costs of debt. Jensen's (1986) free cash flow model also observes that unless the excess cash flow in a company is given back to its investors, managers (acting as agents of stakeholders) can pursue actions that enable firms to grow further than their optimal size by spending greatly on activities or projects that might yield a negative NPV. Alternatively, the market timing model also believes that the existing capital structure is the cumulative effects of past attempts to time the equity market. Limited number of these theories appears to have many advocates. The pecking order model and the trade off theory tend to have the popular support (Seifert and Gonenc 2008). However, no single theory of capital structure has been successful in providing a broad explanation for the financing behaviour among firms. Each of these theories provides a unique explanation of financing behaviour of firms.

Despite the numerous pieces of studies that have been conducted in testing the capital structural theories, there is no consensus regarding the superiority of any of these theories. Firms' financing decisions continue to be a puzzle and difficult to test. The debate and search for an optimal capital structure therefore continues. The primary concern of the present study expands upon this general understanding of capital structure policy by exploring the concept from the perspective of SSA where empirical study on the subject is extremely limited.

Across these different theoretical perspectives, a growing number of studies observe that financial managers do not just make decisions on the type of capital to use but rather are influenced by certain factors. What are these factors and to what extent do these factors influence the choice of capital sources? An attempt is made in the next sections to find answers to these questions by examining the firm- and country-level determinants of capital structure.

3.10. Determinants of Capital Structure

The previous section examines various theories of capital structure. Corporate finance literature (e.g. Joeveer, 2013; Sheikh and Wang, 2011; Frank and Goyal, 2009; Chen, 2004; Deesomsak et al. 2004) has demonstrated a link between various firm or country level factors and leverage. This section therefore focuses on firm-level and country-level determinants of capital structure.

3.11. Firm-level Determinants of Capital Structure

Scholarly works (e.g. Joeveer, 2013; Sheikh and Wang, 2011; Dawood et al. 2011; Zou and Xiao, 2006; Chen, 2004; Wiwattanakantang, 1999; Harris and Raviv, 1991) observe that theories of capital structure and their empirical tests have yielded a reasonably comprehensive set of features (e.g. profitability; tax rate; asset tangibility; firm size; firm growth; earnings volatility) that influence the financing decisions of firms. In the light of this, I examine the various firm-level factors²⁶ that underline the financing decisions of firms.

3.11.1. Earning Volatility

Under the trade-off hypothesis, firms which have high inconsistency in earnings have a greater risk of not being able to meet their debt commitments. Such firms are likely to encounter situations where cash flow may be too low which increases the probability of failure to pay their creditors and meet other financial commitments. In a situation where bankruptcy costs are higher, a rise in volatility of earnings (proxy for firm risk) leads to a decrease in a company's debt ratio. De Angelo (1980) observed that the cost of debt is high for companies whose earnings are variable as a result of the fact that investors can predict with less accuracy their future earnings based on the information that is available publicly. Building on the above argument, Titman (1984) observed that stakeholders' fear of bankruptcy places limitations on the amount of debt that a company may be willing to take on. In most cases, financial lenders are reluctant to extend any meaningful financial help to firms with earnings volatility due to the fear of default. Thus, firms with a high degree of risk are less likely to use much debt (Bradley, Jarrel and Kim, 1984; Kim and Sorensen,

²⁶ Due to data limitation, only six of the firm-level factors discussed below were tested in this thesis.

1986; Wiwattanakantang, 1999 and Johnson, 1997). Other studies that also suggest an inverse relationship between earnings volatility and debt include Titman and Wessels (1988); MacKie-Mason (1990); Kim, Mauer and Sherman (1998).

Notwithstanding the above studies, a number of other empirical studies (e.g. Esperance et al. 2003; Michaelas et al. 1999; Jordan, Lowe and Tylor 1998) have indicated a positive relationship between risk and debt ratio. The assumption here is that firms with earning volatility employ more or additional debt to invest in other business operation to ensure stability in earnings. Thus, the relationship between earnings volatility and leverage remains mixed.

3.11.2. Size of the Firm

Various scholarly works have demonstrated a link between firm size and leverage. Nonetheless, the relationship between firm size and leverage seems to be unclear. The traditional argument is that larger companies are more diversified than smaller ones and for that matter, large companies have less variability in earnings, thus enabling them to cope with higher debt ratios. This argument supports the view of the trade-off model. In this case, a positive relationship is expected between size and leverage (Voutsinas and Werner, 2011; Frank and Goyal, 2009; Salawu, 2007; Smart et al., 2007; Cheng and Shiu, 2007; Zou and Xiao, 2006; Bancel and Mitto, 2004; Korajczyk and Levy, 2003; Frank and Goyal, 2003; Wald, 1999 ; Castanias, 1983; DeAngelo and Masulis, 1980)

The role of a firm's size in the determinant of capital structure has also been recognized by Rajan and Zingales (1995), who pointed out that firm size and the possibility of default are likely to have an inverse correlation. The larger the firm, the less the likelihood of default and therefore, bigger firms would be expected to use more debt than smaller firms. Normally larger firms have a huge asset base that could even be relied upon by financial lenders in case of default. Larger companies are therefore more likely to be able to repay debt more easily and also less likely to fail than smaller firms. This is empirically supported by Cassar and Holmes (2003), whose investigation of 1555 Australian firms revealed a positive correlation between debt ratio and firm size. Also, Baner (2004) looked at the capital structure practices of some listed firms in selected Eastern European countries. His findings revealed a positive relationship between firm size and leverage. In addition, Qian, Tian and

Wirjanto (2009) investigated the determinants of capital structure of publicly Chinese listed firms and found a positive relationship between a firm's size and leverage.

Several other empirical studies have shown a positive relationship between a firm's size and debt (Hovakimian, Hovakimian and Tehranian, 2004; Abor, 2008; Kim et al. 1998; Barton, Ned and Sundaram, 1989). Friend and Lang (1988) pointed out that managers of larger firms are more likely to influence debt ratios in protecting their own interest in the company due to the diluted ownership of such large firms, thus limiting ownership control over managerial decisions. Since debt has no effect on the dilution of ownership, firm managers who wish to limit ownership control and any other influence will employ debt rather than issuing equity. It must be pointed out here that there are limits to how far this argument can be taken due to the fact that although debt holders do not dilute the ownership concentration of a firm, they could enter into some sort of restrictive covenant with firms. This restricts future financing decisions of such firms. These restrictions are important in helping firms meet their interest payments and avoid increasing the riskiness of any existing debt. Equally, financial lenders use restrictive covenants to ensure that loans are used for the stated purpose. Therefore, debt does not fully enable firm managers to protect their interest as proposed by Friend and Lang (1988) but could also exert control over managerial decisions.

Bevan and Danbolt (2002) noted that larger firms are more likely to have a better credit rating than smaller firms and for that reason, larger firms have access to financing from non-banking sources, which are normally unavailable to smaller firms. Notwithstanding the above studies, Rajan and Zingales (1995) observed that in Germany, larger firms tend to have less debt than expected. One may argue that the larger the firm, the greater the possibility of generating internal funds that are sufficient to support business operations, thus leading to an inverse correlation between firm size and debt.

Similarly, Chen (2004) observed a negative relationship between size and long-term debt among Chinese firms and argued that the inverse relationship between size and the long-term debt could be attributed to large Chinese firms having a better reputation, thus enabling them to gain access to equity finance. Wiwattanakantang

(1999) holds the view that information about larger firms is made more available to the public than information from smaller firms. The various regulatory frameworks in most countries ensure that larger firms periodically make certain vital information available to the public. This reduces the problem of information asymmetry as suggested by the pecking–order model and therefore favours the use of equity finance by these large firms. This leads to an inverse relationship between size and amount of debt used.

Pike and Neale (2006) also pointed out those smaller firms which do not over-depend on debt capital, are by and large forced to do so due to their inability to raise equity financing. Most of the smaller firms are unable to meet the requirement needed to be listed on the stock market and as such, they are forced to depend on debt for their business operations.

Whilst some studies including Cassar and Holmes (2003), Baner (2004) observed a positive relationship between firm size and leverage, others including Rajan and Zingales (1995 and Chen (2004) rather questions the logic behind this and thus claim a negative relationship between firm size and leverage. It is therefore striking to observe that the effect of a firm’s size on leverage remains tentative. It is however important to note that financial lenders often consider small firms to be more risky than large firms. This is a particular issue for newer firms, which may not have got established track records and sufficient quality assets to serve as security for loans, thus making the acquisition of debt capital difficult.

3.11.3. Tangibility (Asset Structure)

Extensive literature exists on the relationship between asset tangibility and leverage. For instance, Bradley, Jarrell and Kim (1984) observed that firms with more tangible asset are more likely to have higher financial leverage. This is based on the fact that such firms can borrow at cheaper interest rates if such debt is secured against the assets. Equivalently, the trade off theory suggests that firms with tangible assets tend to use such asset as collateral so that lenders could rely on the assets in case of financial distress. Williamson (1988) takes the above argument a step further by observing that tangible assets reduce lenders’ risk as lenders are protected from the moral hazard that arises as a result of default. In line with this, Frank and Goyal

(2009) commented that tangible assets are easier to value than intangible assets, thus leading to a reduction in expected distress cost.

In a similar line of argument, Wiwattanakantang (1999) maintained that firms that are unable to provide assets as collateral when borrowing are subjected more stringent lending conditions than firms that provide collateral. Along similar lines, Cheng and Shiu (2007) also claimed that the asset base is crucial in the acquisition of long-term debt, especially in countries where there is an absence of good creditor protection. In spite of the above findings, Chakraborty (2010) observed that studies from some developing economies tend to produce mixed findings between tangibility and leverage. In his study of listed firms in some Eastern European countries, Baner (2004) found a negative relationship between tangibility and leverage.

3.11.4. Tax rate

M and M (1963) argued that firms that have large tax liability are expected to make use of debt to gain advantage in the deductibility of interest payments. The tax advantage ensures that the firms' tax commitments reduce and thereby make more profit available to shareholders. Therefore, a positive relationship is expected between tax and debt. In line with this, Ross, Westerfield, Jordan and Firer (2001) pointed out that a high tax rate serve as an incentive to borrow more. Other studies (e.g. Frank and Goyal, 2003; Graham and Harvey, 2001) have revealed a similar result.

In their study of the capital structure of firms, Barakat and Roa (2004) observed that firms in taxed countries use more debt than firms in un-taxed countries (e.g. Saudi Arabia and Jordan). Other empirical works (e.g. MacKie-Mason, 1990) have however given different views regarding the positive relationship between tax and leverage. Using discrete choice analysis in studying the incremental financing decision of firms, MacKie-Mason (1990) observed that numerous firms failed to show significant effects on tax behaviour due to that fact that debt-equity ratios are the cumulative outcome of separate decisions of years and most tax shields have an insignificant effect on the marginal tax rate for most companies. Likewise, Graham (1999) noted that in general, taxes have some effects on the financing policy of firms, however the degree of the influence is mostly not so pronounced.

Generally, while the tax rate is seen as one of the important firm-level features in influencing capital structure, it is important to note that the degree by which taxation influence firms in their capital structure decision may vary from one country to the other due to the differences in the tax system. Thus, a good understanding of the tax system in the context in which the firms operate is crucial in understanding the impact of tax on debt-equity choice. For instance, some economies in SSA grant various tax incentives to their listed companies in order to help the growth of their exchanges. Ghana for instance grants fifteen years of tax incentives for firms listed on the Ghana Stock Exchange (GSE). Consequently, a rise in corporate tax may encourage firms to go public, leading to an increase in equity capital.

3.11.5. Profitability of the Firm

The pecking order theory postulates that firms with high profits will be expected to maintain a minimal debt ratio since they can generate internal income to finance their activities. Consequently, a negative relationship is expected between firm profitability and leverage (Sheikh and Wang, 2011; Zou and Xiao, 2006; Chen and Strange, 2005; Hall et al. 2004; Cassar and Holmes, 2003; Fama and French, 2002; Myers, 2001; Shyam-Sunder and Myers, 1999; Wiwattanakantang, 1999; Barton, Ned and Sundaram, 1989; Titman and Wessels, 1988). The trade-off theory however suggests a positive relationship between profitability and leverage due to the tax shield on interest the payment derived from the use of debt (Pike and Neale, 2006; Tong and Green, 2005; Frank and Goyal, 2003; Ooi 1999). It could also be argued that profitable firms are more attractive to financial lenders due to having a lower risk of financial distress and are therefore more likely to take on much debt than less profitable firms. Fama and French (2002) also argued that profitable firms with large investment commitments are likely to have a high leverage level, especially when investments are larger than earnings. In general, there is no conclusive evidence on the relationship between profitability and leverage despite the numerous theoretical and empirical works. Whereas the tax-based theories suggest a positive relationship, the pecking-order suggests otherwise.

3.11.6. Growth Opportunities

The pecking order model predicts a positive relationship between growth opportunities and leverage (Kayo and Kimura, 2011). In a similar vein, Cheng and Shiu (2007) concluded that firms that have growth opportunities utilize more liabilities in general. Thus, firms with a higher growth potential but that have inadequate internal cash flow will require more funds. According to the pecking order model, firms employ more debt to finance growth opportunities since managers avoid issuing new shares due to the presence of information asymmetry (Chakraborty, 2010; Cespedes et al. 2010; Salawu, 2007; Zou and Xiao, 2006; Booth et al. 2001; Rajan and Zingales, 1995). However, in their study of the Chinese listed firms, Huang and Song (2002) found no evidence that firms with good growth prospects have a high leverage ratio. This is in line with the agency theory that predicts an inverse relationship between growth opportunities and leverage (Kayo and Kimura 2011).

Consequently, the empirical findings on the relationship between leverage and growth are either positive or negative. The general consensus is that firms that generate enough profit and have large growth opportunities are expected to finance this with internally generated funds, since it is always cheaper to do so than to borrow from outside. On the other hand, firms with growth opportunities that have less retained earnings may have to depend on externally generated funds to finance such opportunities.

3.11.7. Government Ownership

Empirical works establish that a government owning a large percentage of the equity share in a firm is a positive indication to financial lenders of the company's guaranteed solvency. This, points to a positive correlation between government control and debt, as lenders would supposedly be prepared to lend more to such a firm (Harris and Raviv, 1991; Frank and Goyal, 2003).

In China for instance, scholarly evidence (i.e. Huang and Song, 2002) observed that the government was the biggest controlling shareholder in most listed Chinese firms. In the view of that, such companies were less probable to go into any financial difficulties than their counterparts that are privately owned. It is important to note

that financial lenders will be more than happy to lend to such government-owned firms because of their guaranteed solvency. Debts that are granted to governments are seen as more secured as governments can easily raise money to defray such debts, even in case of economic difficulty. Despite the fact that the government of China owns a large percentage of shares in most Chinese firms, Chen (2004) found a negative relationship between government control and debt. The absence of a properly developed financial market and better regulations for protecting bondholders would mean that creditors are not willing to lend to firms in China even if such firms are largely controlled by the government. In their study of taxed and non-taxed Arab economies, Barakat and Rao (2004) did not find any evidence that government ownership is a significant determinant of corporate debt.

3.11.8. Managerial Ownership

The role of managerial ownership in debt-equity choice is also well noted in literature (e.g. Wiwattanakantang, 1999). Different managements may have different attitude towards risk. For instance, risk-averse managers may tend to employ funding strategies that reduce the overall financial risk of their firm. Debt finance poses a greater risk to firms as debt commitments must be met to avoid the firm being declared bankrupt. In this case, less debt may be employed by risk-averse managers.

Furthermore, firms that have concentrated ownership are unwilling to share control rights with others and therefore rely on debt rather than the issuance of equity to avoid the dilution of control. Wiwattanakantang (1999) noted that owner-managers of family businesses are not willing to issue equity and therefore depend on debt for all business operations in order to prevent the dilution of the families' controlling power. In his study of international joint ventures in Ghana, Boateng (2004) built on the above discussion and argued that managements' desire to maintain control of their firms ensures that in making capital structure decisions, debt is favoured against equity, even if the cost does not favour the use of debt so as to avoid any influence from the equity investors.

Related to the above is the observation reported by Cespedes, Gonzalez and Molina (2010) who conducted a study in the capital structure of Latin American firms. Their results indicated debt levels similar to firms in the US. In relation to the US, Latin

American firms enjoy lower tax benefits and experience higher bankruptcy costs. Therefore, firms in Latin America would be expected to employ a lower level of debt. Cespedes et al. (2010) however contended that one of the reasons for the presence of the heavy use of debt among firms in Latin America is the unwillingness to issue equity in order to avoid sharing control rights. In conclusion, available empirical evidence suggests a positive relationship between managerial ownership and leverage.

3.11.9. Uniqueness of a Firm's Product

Various attempts have been made to establish the relationship between uniqueness and debt-equity choice (e.g. Chakraborty, 2010). Firms which offer unique products or services tend to have their customers and other related groups experience reasonably high costs in a situation where there is a liquidation, thus increasing its bankruptcy cost. Less debt is therefore expected to be employed by such firms to avoid experiencing any financial distress which could have serious detrimental impacts on their future operations. Theoretically, a negative relationship is expected between leverage and uniqueness (Titman, 1984; Chang, Lee and Lee, 2009). It could be argued that firms that provide unique services or products can have a very high demand for their products or services and for that matter may require more funds in order to expand so as to meet the expected demand. Therefore, in this situation, a positive relationship will be expected between uniqueness and leverage level.

3.11.10. Dividend Policy of Firm

The debt-equity choice of a firm can also be determined by the dividend policy of that firm. Adedeji (1998) and Baskin (1989) argued that there is a positive relationship between dividend pay-out and debt. A firm that pays out a generous dividend will mean that there will be lower retained earnings available for investment. The firm will therefore resort to the use of debt if any investment opportunity comes up that requires resources greater than the retained earnings. This is consistent with the prediction of the pecking order hypothesis (Salawu, 2007).

3.11.11. Age of the Firm

As a firm continues in operation, it is seen as an ongoing business and for that reason, its ability to take on more debt is enhanced. It is obvious that any responsible lender will be much more prepared to extend financial assistance to a firm that has been in operation for a considerable longer period than a firm that has not been in business for long or has no track record. Being in business for a longer period is seen as a guaranteed solvency. Therefore, age and debt are said to be positively related (Abor, 2008). According to Diamond (1989), aged companies which have an extensive credit history will have a comparatively low default possibility and smaller agency costs in using debt financing than companies that are newly established.

Hall, Hutchinson and Michaelas (2004) however argued that there is an inverse relationship between age and debt. To them, firms that have not been in business for long may not have accumulated enough capital for investment opportunities and for that matter, may be forced to borrow more from outside to finance investment opportunities.

It is worth mentioning here that lenders may be prepared to extend financial assistance to newly established firms, especially in situations where those firms are deemed to have bright future prospects. Thus, even in the absence of an extensive credit history, newly formed firms may still have access to a considerable amount of debt finance for their operations. From the above discussion, it is clear that there is a positive relationship between age and leverage. Older firms with better established track records stand a better chance of securing debt finance than newly established ones with insufficient track records. There are however exceptional situations where younger firms show a positive relationship with debt (Hall et al., 2004).

3.11.12. Liquidity

The pecking-order theory predicts a negative relationship between liquidity and leverage since firms with greater liquidity prefer to use internal earnings rather than external funds so as to protect shareholders against the interests of debt holders. On the other hand, the trade-off theory predicts a positive relationship between liquidity and leverage since firms with greater liquidity have the ability to meet their debt obligations on time (Deesomsak et al., 2004; Sheikh and Wang, 2011).

3.12. Implications of Firm-level Factors and Leverage

Table 3.1 summaries the implications of the above firm-level factors on leverage as postulated by various theories of capital structure.

Table 3. 1: Firm-Level Factors and their relationship with leverage

Firm-Level Variable	Predicted Sign	Theory	Empirical Evidence
Volatility	+	Trade-off	Sheikh and Wang (2011), Bradley et al. (1984)
	—	Agency	Titman and Wessels (1988);
Firm Size	+	Trade-off	Barton et al. (1989)
	—	Pecking order	Titman and Wessel (1988)
Asset Tangibility	+	Trade-off and pecking order	Chung (1993)
Profitability	+	Trade-off	Dammon and Senbet (1988)
	—	Pecking order	Friend and Lang (1988)
Growth	+	Pecking order	Deesomsak et al (2004)
	—	Agency Trade-off	Sheikh and Wang (2011),
Liquidity	+	Trade-off	De Jong et al. (2008)
	—	Pecking order	Sheikh and Wang (2011), Viviani (2008)

3.13. Summary and Conclusion on Firm-level Determinants

This section of the thesis has given an account of the intrinsic firm characteristics that are vital in explaining capital structure policy among firms. It has been demonstrated that firms' choice of particular funds depend on various circumstances. Available theoretical and scholarly evidence suggests that it is not easy to give a definitive answer as to the exact effects of these firm-level factors on debt-equity choice. Still, this thesis seeks to understand the manner in which these firms-level features affect firms from the perspective of SSA, particularly whether the outcomes of studies in the developed economies are also applicable in less developed ones.

One thing that needs to be pointed out is that so far, most studies on the determinants of capital structural practices of firms (particularly from the context of SSA) have focused mainly on these firm-level characteristics. These features have been found across countries and the degree to which they affect firms' financing decision may differ from country to the country due to institutional differences. The next section examines some of the country-level factors that underline debt-equity choice of firms.

3.14. Country-Level Determinants of Capital Structure

In the preceding section, I have examined firm-level factors that are vital in the determination of firm's capital structure. Indeed, the importance of institutions in shaping both human and economic activities (including financial decisions of firms) is evident in the literature (Julian and Ofori-Dankwa, 2013; Faria and Mauro, 2009; Wan, 2005; Co, 2004). However, so far, the analysis of the determinant of debt-equity choice has focused mainly on firm-level characteristics with very little attention on country-level factors (Gungoraydinoglu and Oztekin, 2011). Different countries have different institutional structures and other socio-economic features, and these features account for differences in debt-equity choice of firms, especially in cross-country comparisons. For instance, Deesomsak et al. (2004) contended that a firm's own characteristics are not the only determinants of a firm's capital structure but also the result of the legal structure, the institutional environment and the corporate governance of the country in which the firm operates. This view is corroborated by other scholarly works (e.g. Fan, Rui and Zhao, 2008; De Jong, Kabir and Nguyen, 2008; Cheng and Shiu, 2007). Consequently, this section of the thesis focuses on some of the country-level characteristics that impact on capital structure decisions of firms. These factors are discussed below.

3.14.1. Nature of Financial Market

The level of development of a country's financial market can affect the debt-equity choice of firms. In a country with a well developed financial market (e.g. UK, US and Germany), firms are more likely to have better access to credit facilities than their counterparts in countries (e.g. Sudan) with poor financial facilities. The study in this area originates from the work of researchers including Cespedes et al. (2010) who

attribute the low issuance of equity finance in Latin America to the poorly developed financial markets in this area. A similar view is shared by Delcoursé (2007), whose empirical investigation revealed that most firms in less developed economies in Central and Eastern Europe depended predominantly on short-term debt as opposed to long-term debt, due to the underdeveloped nature of bond markets in these economies.

The above study supports an earlier work by Chen (2004). Chen (2004) observed that Chinese listed firms employ mostly short-term debt rather than long-term debt for financing their working capital needs. Most of the capital required for long-term investment is from equity. A common reason cited for this situation according to Chen (2004) is the underdeveloped nature of the bond market in China. In a similar vein, Faulkender and Petersen (2006) commented that firms with better access to public bond markets tend to have higher leverage levels than their counterparts with no access to bond markets. The role of financial market development in the debt-equity choice of firms is also documented in the work of De Jong, Kabir and Nguyen (2008). However, they take the above argument a step further by adding that a GDP growth can enhance the confidence of firms to employ in the market and this could influence firms in employing more debt in their capital structure.

3.14.2. Stock Market Development

A widespread view holds that the development of stock market facilitates the issuance and trade of equity and this should therefore reflect in the financing decisions of firms. Indeed, a number of empirical studies have reinforced this view. For instance, (Kayo and Kimura, 2011) observed a negative relationship between stock market development and leverage. (Kayo and Kimura, 2011) argue that firms in countries with well-developed stock markets reduce their level of debt capital, since stock markets provide an alternative to finance and investment through a more flexible source of capital. Stated somewhat differently, the development of stock market facilitates the issuance of equity capital and this reduces the leverage level of firms.

Previous works in the area of stock market development and financing choice of firms (e.g. Demirguc-Kunt and Maksimovic, 2006) however observed that stock

market development is more likely to affect firms differently depending on the size of the firm. For instance, unlike large firms, stocks from small firms are unlikely to be traded often due to the issuance cost and also there is high cost for traders to acquire information about small firms. In essence, the development of the stock market is likely to affect firms differently depending on the size of the firm.

3.14.3. Nature of Legal and Regulatory Environment

There is now an extensive literature linking the legal and regulatory environment to capital structure decisions. Empirical works point to the fact that an effective regulatory framework is one of the essential elements required to increase the confidence of financial lenders in granting financial assistance to firms. For instance, in emerging central and eastern European countries, Delcours (2007) observed that laws are not well developed to protect financial lenders in the event default, thus limiting lenders' ability to offer long-term financial assistance to firms.

According to Nivorozhkin (2003), firms in transitional economies (e.g. South Africa) depend more on external short term financing than on long-term financing. Nivorozhkin (2003) further pointed out that a poorly developed legal framework coupled with a weak bond market discourages the formation of enforceable debt agreements. Utrero-Gonzalez (2007) also commented that appropriate banking regulations ensure that financial lenders are well protected. This according to Utrero-Gonzalez (2007) reduces the need for collateral from firms before being granted financial assistance.

Likewise, Alves and Ferreira (2011) pointed out the importance of creditors and shareholders' rights, law and the capital market development in the determination of a firm's capital structure. To them, properly developed laws influence capital markets, creditors' and shareholders' rights, which impact on a firm's capital structure. For instance, a properly developed legal system creates incentives for the development of the capital market, thereby making more debt available to firms. Properly developed laws ensure that the financial market is well regulated, proper accounting standards are adopted and required information is made available publicly, thereby mitigating the issue of information asymmetry. The above study by Alves and Ferreira (2011) is in line with a study by Cheng and Shiu (2007) who

posited that firms in countries with better creditor protection make use of more debt than their counterparts in countries where creditors' rights are not well protected.

Gonzalez and Gonzalez (2008) also attempted to shed more light on the effects of the regulatory framework on firms' debt-equity choice by using data from 39 different countries. They concluded that firms in countries with better banking facilities and an effective regulatory framework are more likely to rely on external funds. Central to their argument is the fact that a properly developed legal framework and the rule of law enhance enforcing debt contracts with less difficulty.

3.14.4. Corruption

Scholarly developments have shown the effects of corruption on the capital structure of firms. For instance, literature underlines the level of corruption as an alternative measure of the severity of asymmetry information (Joeveer, 2013). Indeed, Joeveer (2013) contends that where there is a high corruption perception index (which indicates a low level of corruption), the symmetry information problem is less severe. Thus, countries that show a high corruption perception index are expected to make use of more external finance (e.g. debt). This suggest that in countries with a lower level of corruption, investors feel better protected and this provides opportunities for firms to access more debt.

3.14.5. Inflation

There is a growing body of scholarly literature on the relationship between inflation and leverage (e.g. Joeveer, 2013; Cheng, Shiu, 2007; Demircug-kunt and Maksimovic, 1996; DeAngelo and Masulis, 1980). However, empirical evidence on the relationship is mixed. Inflation leads to volatility in a firm's earnings, which is caused by uncertainty in the volume of sales, the firm's price and cost structure. This can lead to instability in a firm's operating income and even the probability of insolvency. DeAngelo and Masulis (1980) provided a pleasing explanation of the effects of inflation in financial decision-making. To them, inflation gives rise to an increase in the demand for corporate bonds due to a reduction in the real cost of debt. Inflation leads to a decline in the real cost of debt as noted by the Fisher effects. As such, firms in countries (e.g. Zimbabwe) experiencing a high degree of inflation

should employ a higher level of debt so as to expand their assets and exploit the residuals from the inflated asset and the fixed amount of liabilities.

A serious weakness with DeAngelo and Masulis's argument, however, is that it fails to recognize that inflation may lead to a reduction of the number of investment activities a firm can embark upon as a result of the fact that inflation generates interest rate uncertainty. Debt holder will tend to demand additional returns to compensate for inflation. Thus, firms may decide not to employ any more debt for their operations but rather wait and see if there could be any change that might be worthwhile. In effect, there will be a reduction of the number of investments that can be embarked upon by firms. Commentators including Demirguc-kunt and Maksimovic (1996) also observed that countries with high inflation tend to be associated with uncertainty. In such a situation, financial lenders are less willing to provide debt to firms. As a consequence, firms in countries with high inflation rate are expected to make use of less debt.

3.15. Summary and Conclusion on Country-Level Characteristics

Although, the importance of institutional structures in capital structure decisions is accepted (e.g. Joeveer, 2013; Gungoraydinoglu and Oztekin, 2011; Cheng and Shiu, 2007), the bulk of research on corporate leverage decisions have focused on firm-level factors that may not adequately explain the capital structure decisions of firms. Institutional structures can be critical in providing explanations for the diversity of capital structure decisions found across countries. Therefore, in this section of the thesis, I have explained that firm-level variables are not the only factors affecting firms' capital structure in terms of comparing debt-equity choice of firms across countries. The quality of the institutions and the macroeconomic environment in which firms are situated are also important. Accordingly, it is crucial that in looking at the determinants of firms' capital structure across countries, different macroeconomic conditions and the institutional environment are also considered. Surprisingly, studies from SSA that document the effects of country-specific factors on capital structure are difficult to come by. The purpose of this study among other things is to fill this gap by examining the effects of country-specific variables on capital structure of firms in SSA.

3.16. Network ties and capital structure

The preceding sections examine firm and country (institutional) factors that underlie the capital structure of firms. Indeed, researchers have long been interested in examining these factors as the main determinants of financing decisions of firms. However, despite the important of social and political network ties in Africa, studies that examine the effects of these network ties on financing decisions have been rare. Such omission is significant given that social and political network ties play a significant role in the allocation of resources in SSA (Acquaah and Eshun, 2010).

In less developed market economies such as those in SSA, governments and bureaucrats play crucial roles in providing resources and opportunities for firms as politicians and government officials have considerable power and control over the allocation of resources. Thus, many firms depend heavily on governments for valuable resources, including access to finance from various financial institutions (Acquaah and Eshun, 2010; Adjibolosoo, 1995; Li, Meng, Wang and Zhoug, 2008). For example, scholarly literature in Ghana suggests that managers develop personal and social networking ties with policymakers at different levels of government, and officials in government institutions (Kuada and Buame, 2000; Adjibolosoo, 1995). Since politicians and government officials have considerable power. Firms whose owner-managers are able to get access to these politicians and bureaucratic officials will more easily be able to secure the resources necessary for the strategic organisation of their activities and be successful in the acquisitions of loans and other financial resources that are required by their firms. This point seems to be consistent with Acquaah and Eshun (2010: 675) contending that “*politicians have control over most financial institutions and the awarding of major contracts, while bureaucratic officials control the regulatory and licensing procedures*”. Accordingly, it can be seen that developing extensive personal and social networking relationships with politicians and bureaucratic officials is likely to enhance firm access to financial resources and firms that have such network ties are likely to have higher leverage levels than firms that have no political connections.

The next section looks at the empirical studies on capital structure practices.

3.17. Previous Studies on Capital Structure Practices

The objective of this section is to provide an empirical evidence on previous studies in both the advanced and the less developed economies. I begin by first looking at some of the studies conducted in western economies such as the UK and the US, followed by a discussion of studies in some less developed economies, with the final part focusing solely on the few studies conducted in Africa.

3.17.1. Studies in the Advanced Economies

Following the path breaking work of M and M, a significant amount of both empirical and theoretical works on capital structure practices have been done, with the greater percentage centred on the developed economies. This section seeks to look at some of the studies that have been conducted in the advanced economies.

For instance, Bevan and Danbolt (2002) investigated the determinants of capital structure of UK firms by replicating the method of Rajan and Zingales (1995). Bevan and Danbolt (2002) observed that gearing is positively associated with tangibility and negatively associated with profitability. Furthermore, they observed that a firm's size is positively correlated to both short and long-term borrowing and negatively correlated to a short-term bank debt. Since gearing could be defined in diverse ways, Bevan and Danbolt (2002) contended that the relationship between gearing and these determinants depends on the definition of gearing employed.

Also, Gaud, Hoesli and Bender (2007) investigated the debt-equity choice of more than 5000 firms across 13 EU countries. Using panel econometric techniques, Gaud et al. (2007) observed that neither the trade-off nor the pecking order model in their most commonly accepted forms offer a suitable description of the capital structure policies in Europe. However, they found evidence of the effects of national environment (i.e. institutional factors) on a firm's financing choice. This appears to be in consistent with other empirical studies (e.g. Joeveer, 2013; Deesomsak et al. 2004). Gaud et al. (2007) further observed that debt does not constitute an appropriate form of financing for firms with value-enhancing investment projects but rather such firms issue equity. In contrast, when there is a lack of profitable projects,

debt disciplines managers (similar to Jensen, 1986) as firms prefer issuing debt and increasing dividends.

An investigation into the capital structure practices of US multinational companies was also conducted by Ramirez and Kwok (2010). Proponents of portfolio theory posit that diversification leads to risk reduction. Accordingly, multinational firms (e.g. Microsoft, American Express, Coca Cola) will be expected to have a lower level of risk. This lower level of risk should encourage lenders to extend debt to such firms due to the lower chance of default. As such, firms with international diversification will be expected to have a high level of leverage. Yet, Ramirez and Kwok (2010) observed that US multinational companies exhibit a lower level of debt than firms situated domestically. They also noted that many of the multinational companies investigated are likely to sell their products in countries that are less developed, thus subjecting themselves to more risk. This situation could account for the low level of debt of the firms investigated.

Voutsinas and Werner (2011) also investigated the effects of financial constraints on 1537 Japanese listed companies. Their results indicated the effects of monetary policy and credit supply on firms' capital structure. Smaller firms were found to experience financial constraints during the period of economic crisis. It is worth noting that financial lenders are careful at extending credit to firms during economic downturn, since the survival of many businesses can not be predicted with any degree of accuracy. Large companies often have large asset base, that serves as collateral in debt agreements. As such, these companies are better positioned than smaller ones in accessing the limited credit available in times of economic crisis. It is therefore not surprising that Voutsinas and Werner's (2011) study revealed that smaller firms had difficulty in obtaining credit in a period of economic downturn.

3.17.2. Studies in the Context of Developing Economies

The preceding section focuses on some of the studies conducted in testing the debt-equity choices of firms in the advanced economies. Over the last couple of decades, a few studies have been conducted in the context of the developing parts of the world to test the applicability of the capital structural theories. Surprisingly, the empirical

results of Delcours (2007) from eastern European countries and Chen (2004) from China showed that none of the capital structure theories derived from the Western setting provides a persuasive explanation for firms in developing countries. In testing the pecking order hypothesis for instance, firms seem to follow what they called a modified pecking order (i.e. retained earnings, equity, bank and possibly market debt) in financing their activities. Various reasons account for this. These include the underdeveloped nature of the financial markets in these economies, thereby limiting the availability of debt finance. Consequently, firms have to rely on equity finance for investment projects in situations where internally generated funds are not sufficient. Where these firms have to rely on debt, they depend on short-term debt rather than long-term debt. Empirical evidence from Booth, Aivazian, Demircug-Kunt and Maksimovic (2001), however, challenges the study by Delcours (2007) and Chen (2004). They conclude that the characteristics that are crucial in explaining the capital structure policies in the UK and the US are also vital in the developing economies, despite the presence of institutional differences among these developing countries.

Singh and Weisse (1998) also carried out a comprehensive analysis of financing patterns in ten least developed economies (India, Pakistan, South Korea, Jordan, Thailand, Mexico, Turkey, Malaysia, Zimbabwe and Brazil). They found no evidence for the pecking order theory. According to them, firms in these countries do not follow the strict hierarchy of financing preferences as prescribed by the pecking order theory.

In a similar study of the capital structure practices among Indian firms, Chakraborty (2010) however concluded that notwithstanding the differences in institutional structures between the developed and the developing economies, the dynamics which are important in explaining the capital structural decisions among firms in the developed economies are also vital in case of the emerging economies such as India.

Glen and Singh (2004) conducted a similar study using data from both developed and emerging economies and concluded that firms in emerging markets have higher levels of fixed assets than their counterparts in the developed economies. They further contended that firms in emerging markets show lower levels of leverage than their counterparts in developed economies. Under the trade-off model, one might

expect firms with larger assets base to employ more debt in their capital structure. Therefore, the low level of debt observed by Glen and Singh (2004) could be explained by the limited access to credit experienced by firms in many emerging economies.

Also, Nguyen and Ramachandran (2006) examined the capital structure decisions of small and medium sized businesses in Vietnam (a country characterised by a bank based financial system) and found out that the average leverage ratio was similar to firms in the US. Indeed, the availability of the banking based financial system in Vietnam makes it more likely that firms will have adequate access to debt financing. It is therefore not surprising that the leverage ratio was similar to that of the US.

In Malaysia, an investigation into the capital structure of firms by Mustapha, Ismail and Minai (2011) established the importance of firm-level characteristics such as profitability, ownership structure and tangibility in the debt-equity structure of Malaysian firms. They further observed that Malaysian companies in the property and construction sectors are more leveraged than their counterparts in the other sectors of the economy. The large asset base of firms in property and construction sectors accounts for the higher leverage level.

In relation to the Arab world, Alimari (2003) observed that firms in most Arab countries employ considerably less leverage than their counterparts in western economies. Firms in Arab countries tend to have less corporate tax commitments than their counterparts in the western economies. Higher corporate tax encourages firms to use more debt so as to gain advantage in the deductibility of interest payments²⁷. This explains why firms in Arab countries employ less debt than their counterparts in western world. Also, firms in Arab countries seem to follow a reverse of the pecking order model.

Using firm-level panel data along similar lines, Dawood et al. (2011) observed a low debt-equity ratio among Egyptian listed firms. In addition to this, the firms also showed a preference for equity over debt for financing new investments. Dawood et al. (2011) argued that managers see the use of debt today as a risk of raising further debt tomorrow and therefore resort to equity financing rather than debt financing.

²⁷ Interest payment is forbidden under Islamic doctrine.

Low usage of debt finance provides unused debt capacity that could be depended on in case the need arises in future. Dawood et al. (2011) further argued that unlike the developed economies, the bond markets in most less developed economies including Egypt are not well developed. This, according to them, account for the low leverage ratios among Egyptian firms.

3.17.3. Prior Studies in Sub-Saharan Africa

So far in SSA, there has been relatively little empirical work conducted in testing the applicability of capital structural theories. Some of the studies from SSA are considered below. In Nigeria, Salawu (2006) examined the capital structural practices of the Nigerian banking industry by sending questionnaires to 25 financial managers. His results revealed the important of tax, profitability, growth and ownership structure in the determination of the banks' capital structure. However, a major limitation with Salawu's study is the limited sample size. The study lacks robustness and appears to be over ambitious in its claims as the results obtained may not be a representative of all the banking institutions in Nigeria. A much larger sample size will be needed to validate Salawu's argument. Whatever the case may be, this study is among the limited number of studies from SSA that focus on the determinants of capital structure of the banking industry.

Yartey (2006) also attempted to assess the financing policies of firms in Ghana by replicating Singh's (1995) methodology of company accounts. He concluded that the average listed company in Ghana finances its long-term assets primarily from an external source, with less dependence on internally generated funds. The results established the importance of Ghanaian stock market as a significant source of finance for listed Ghanaian firms.

Boateng (2004) also explored the capital structural determinants of international joint ventures in Ghana. His results indicated that firms in the construction, textile and mining sectors employ higher leverage than their counterparts in the Agriculture sectors, food processing industry, financial and transport sectors. Firms in construction, textile and mining sectors tend to have large asset bases that serve as collateral for loans. Thus, this might have accounted for the high leverage levels among firms in these industries.

Doku, Adjasi and Sarpong-Kumankuma (2011) also examined the development of the financial market in Ghana and its influence on the capital structure of listed firms by using a panel data framework involving 21 listed firms from the Ghana stock exchange, with the data covering 1995 to 2005. Their study revealed equity and debt financing as a crucial complements. It is sufficient to state that although their research is recent and therefore seems to provide new evidence regarding the financing behaviour among the listed firms in Ghana, one should however be careful with the degree to which the outcome of this research can be accepted. The study cannot be generalised as the true reflection of the financing pattern among the listed firms in Ghana due to the sample size employed in the study. The explanation for this lies in the fact that the limited sample size of firms employed in this study undermines the statistical significance of the results and the credibility of the inferences. Indeed, a better study would examine a large, randomly selected sample of listed firms rather than a handful of firms used by Doku et al. (2011).

Ramlall (2009) examined the capital structure of Mauritius firms. He looked at 395 non-listed firms, excluding financial companies. Ramlall noted a negative relationship between leverage and firm's size. The relationship between asset tangibility and leverage was however noted to be positive. In addition, Ramlall's results provides further evidence for the existence of the modified pecking order theory whereby short-term debt precedes long-term debt.

In conclusion, it must be emphasised that corporate financing policy has become a key area of concern in recent times, especially due to the latest financial crisis that led to massive government bailouts in some countries. It is however evident from literature that there are less rigorous empirical or academic studies on the subject from the perspective of SSA. It is important that the subject matter is looked into at a more comprehensive way. This underscores the importance of this research.

In many respects, the present study differs from the few existing studies in the SSA in a number of ways. Firstly, to the best of my knowledge, no study from SSA has so far examined the effects of country-level factors (especially their moderating roles) on debt-equity choice across countries in SSA. Thus, this study is the first to consider that. Another differentiating objective of this thesis is to examine the effects of the 2007/08 global financial crisis in debt-equity choice in SSA, an aspect which

is yet to attract the attention of researchers from SSA. Indeed, the pattern of corporate financing decision in SSA may have changed over the past few years due to the global financial crisis. However, the specific question of how the financing pattern has been affected by this global financial crisis has not yet received a clear answer. Thus, it is important that this issue is given an attention in this study. In addition, a number of studies (especially those conducted in the advance markets) have provided support for the existence of the pecking order model. This study is among the first studies to test the presence of the pecking order theory in SSA.

3.18. Conclusion on Previous Studies of Capital Structure

This section has presented some of the prior studies on capital structure practices among firms. In general, most of the studies are based on information obtained from developed economies (e.g. Joeveer, 2013; Beattie et al. 2006; Chen, 2004). Findings from less developed economies appeared quite recently. In the case of SSA, the available evidence suggests that research on capital structure tends to be somewhat fragmented and deeply limited. It is imperative to recognize the fact that developed economies are becoming increasingly important to investors in recent times as a result of the failure of the world's major economies such the UK due to the financial crisis. Less developed market economies have been much more resilient to the recent global financial crisis (IMF, 2013; Allen and Giovannetti, 2011; Kiyota, 2009). Consequently, it is important to understand and appreciate the driving force behind the debt-equity choice of firms in these economies. This underlines the importance of this study from the context of SSA. So far, literature reviewed points out that not much study has been conducted on capital structure practices of firms in SSA. This study therefore adds to the few existing studies in the context of less developed market economies in general and SSA in particular.

Chapter 4

Conceptual Models and Empirical Hypotheses

4.1. Introduction

This chapter focuses on the development of theoretical models that determine the capital structure of firms. The first part of this chapter re-examines the trade off and the pecking order theories of capital structure as the key theories that underpin the current study. Next, the theoretical connections between firm-level factors and capital structure are presented. Third, the hypotheses pertaining to the moderating effects of firm size on the relationship between other firm-level factors and leverage are examined. The fourth part of this chapter examines the moderating role of the asset tangibility on the relationship between earnings volatility and leverage. In the fifth part, the moderating effects of rule of law on the relationship between tax, asset tangibility and leverage are also examined. Finally, a summary and a conclusion of the chapter are presented.

4.2. Theoretical Underpinnings

The M&M (1958) study on capital structure set in motion the development of various theoretical works on capital structure. M&M based their well-known irrelevance theory on a number of assumptions including no taxes; no transaction costs; no default risk; both investors and firms can borrow at the same interest rate; and perfect and a frictionless market. Some debt obligations including financial distress and bankruptcy costs are ignored by M&M's irrelevance theory. Therefore, in their subsequent work, M&M (1963) relaxed some of their earlier assumptions to reflect the fact that the corporate tax system gives tax relief on interest payments. The irrelevance theory inspired subsequent theories of capital structure. A review of the literature on capital structure (e.g. Sheikh and Wang, 2011; Frank and Goyal, 2009; Cheng and Shiu, 2007; Tong and Green, 2005; Chen, 2004; Deesomsak et al. 2004) identifies two main theories, which are often adopted by researchers interested in examining the determinants of debt-equity choice of firms. These theories are the trade-off theory and the pecking order theory. Under the trade-off theory, firms

choose their capital structure by trading off the benefits of using debt against its cost. The benefits of the use of debt include tax savings and the reduction in terms of agency costs of equity derived from excess cash flow. The costs of debt on the other hand include higher interest rates and potential financial distress, which may occur when too much debt is used by the firm (Matee, Poutziouris and Ivanov, 2013).

The next theory (i.e. the pecking order theory) emanates from the work of Myers (1984) and this theory is as a result of asymmetric information. Asymmetric information is a situation where managers of firms have more information than others (e.g. shareholders or the public) about a firm in terms of investment opportunities, the rate of internal cash flow and the future landscape of the firm. In other words, firm managers tend to have superior information compared to shareholders and outsiders. Consequently, the cost involved in issuing new securities becomes a critical factor and it goes above a discussion of the cost and benefits associated with the use of debt. This asymmetric information generates a hierarchy of cost regarding the use of external financing (Matee et al. 2013; Tong and Green, 2005). Under the pecking order theory therefore, a hierarchy of financing sources is used where internal finance (i.e. retained earnings or excess liquid asset) is used as the first financing source. Where the internal funds are insufficient to meet the firm's need, an external source of funds that minimises the additional cost of information asymmetry is then used. In this case, debt is used. Equity is chosen as a last resort. Baskin (1989) observed that in comparison of different sources of funds, equity entails a larger information asymmetry cost and therefore is of less interest to firms given the cost involved in its issuance. Thus, the pecking order theory posits a unique optimal capital structure to which all firms gravitate in the long-run (Tong and Green, 2005).

The above theoretical perspectives have influenced most of the studies on capital structure. As pointed out in Chapter 3, empirical literature on capital structure identifies a number of firm-level variables that influence capital structure and the two main theoretical perspectives of capital structure (i.e. the trade-off and the pecking order theories) provide almost opposite explanations on how each of these determinants influences the debt-equity choice decision. Against this background, I examine four separate but interrelated models in this thesis. In the sections that

follow, each of these conceptual models is considered and the various hypotheses are formulated.

4.3. Firm–level factors and capital structure

Notable scholarly works on capital structure (e.g. Joeveer, 2013; Gungoraydinoglu and Oztekin, 2011; Sheikh and Wang, 2011; Huang and Song, 2006; Chen, 2004; Wald, 1999; Rajan and Zingles 1995; Barclay and Smith, 1996) identify a number of firm-specific attributes that underline the debt-equity choice of firms. This section sets up the various hypotheses regarding firm-level factors and capital structure.

4.3.1. Profitability (PR) and leverage (LEV)

Myers' (1984) pecking order theory posits that there is a negative relationship between profitability and leverage, since firms with high profit are expected to make use of less debt for their investment activities. Myer and Majluf (1984) argue that because of the presence of informational asymmetry between firm managers and investors, a hierarchy of financing decisions exist among firms. Thus, firms prefer to use their internal earnings for any investment activity rather than employing debt, to avoid potential dilution of ownership and control. Following this argument, a firm will resort to external debt only when internal earnings are insufficient for investment activities. Where external capital is needed, firm managers will rely on debt capital before relying on equity capital. Several empirical studies (e.g. Zou and Xiao, 2006; Chen and Strange, 2005; Hall et al. 2004; Cassar and Holmes, 2003; Fama and French, 2002; Myers, 2001; Wiwattanakantang, 1999; Shyam-Sunder and Myers, 1999; Barton, Ned and Sundaram, 1989; Titman and Wessels, 1988) have shown a negative relationship between profitability and leverage. Indeed, debt interest payments reduce profit. Previous studies from the context of developing economies (e.g. Abor 2008, Ramlall, 2009; Yartey, 2011) have noted a negative relationship between profitability and leverage. A high level of profit could also indicate a signal of quality and therefore profitable firms will take on less debt to distinguish themselves from lower quality firms (Schoubben and Hulle, 2004). Following from the above theoretical stance, it is predicted that:

H1: There will be a negative relationship between profitability and leverage.

4.3.2. Earnings volatility (VT) and leverage (LEV)

Earnings volatility is another firm level characteristic that fits in with the logic of the trade off theory of capital structure. Under the trade-off hypothesis, firms which have inconsistent earnings (a proxy for firm risk), have a greater risk of not being able to meet their debt commitments. Such firms are likely to encounter situations where their cash flow may be too low and therefore increasing the probability of failure to pay creditors and meet other financial commitments. In a situation where bankruptcy costs are higher, a rise in volatility of earnings leads to a decrease in a company's debt ratio. De Angelo (1980) observed that the cost of debt is high for companies whose earnings are variable as a result of the fact that investors can predict with less accuracy their future earnings based on the information that is available publicly. Besides, under the pecking theory, earnings volatility also worsens the asymmetric information problem and therefore creditors are likely to protect themselves by strengthening the conditions surrounding debt acquisitions (Schoubben and Hulle, 2004). Building on the above argument, Titman (1984) observed that stakeholders' fear of bankruptcy places limitations on the amount of debt that a company may be willing to take on. In many instances, financial lenders are reluctant to extend any meaningful financial help to firms with high earnings volatility due to the fear of default. Thus, firms with high degree of risk are less likely to use debt (Wiwattanakantang, 1999; Johnson, 1997; Kim and Sorensen, 1986; Bradley, Jarrel and Kim, 1984).

As a result of high level of environmental uncertainty in many developing countries (such as those in SSA), firms with inconsistent earnings are less likely to be attractive to financial lenders (in terms of granting financial assistance). Indeed, empirical studies (e.g. Abor, 2008) from some SSA countries have noted a negative relationship between earnings volatility and leverage.

In the light of the above theoretical discussion, I hypothesize that:

H2. Earnings volatility will be negatively related to leverage.

4.3.3. Asset tangibility (TA) and leverage (LEV)

Asset tangibility remains an important determinant of the capital structure of firms, especially in developing economies (e.g. SSA) where there are inadequate

institutional structures for protecting creditors' rights. In such places therefore, tangible assets serve as collateral in the acquisition of debt. This argument suggests a positive relationship between tangibility and leverage. Indeed, both the trade-off theory and the pecking order theory agree on this positive relationship of asset tangibility on leverage. Bradley et al. (1984) observed that firms with more tangible assets are more likely to have higher financial leverage. This effect derived from the fact that lenders are more willing to lend to firms with tangible assets, as these assets serve as a guarantee in case of possible liquidation of the firm.

In general, asset tangibility provides more room for cheap borrowing and in the view of Wiwattanakantang (1999), firms with fewer tangible assets could be subjected to severe lending conditions. These restrictive conditions constrain the ability of such firms to borrow more or are forced to issue equity rather than debt (Scott, 1977).

The importance of asset tangibility in the acquisition of loans in developing economies is evident in a number of empirical studies (e.g. Fosu, 2013; Sheikh and Wang, 2011; Viviani, 2008; Huang and Song, 2006 and Deesomsak et al, 2004). These studies point unambiguously to the positive asset tangibility-leverage relationship. Indeed, prior studies from the context of Ghana (e.g Abor, 2008) noted a positive relationship between asset structure and leverage. This supports the fact that because of weak creditors' right in the country, tangible assets serve as a guarantee in debt acquisition.

Based on the discussion above, I propose:

H3. The relationship between asset tangibility and leverage is positive.

4.3.4. Firm size (SZ) and leverage (LEV)

Numerous empirical studies on capital structure (e.g. Voutsinas and Werner, 2011; Frank and Goyal, 2009; Zou and Xiao, 2006; Korajczyk and Levy, 2003) have identified firm size as a major component that affects the capital structure of firms. The trade-off theory observes that large firms are more diversified and have less volatile earnings than smaller firms. Therefore, larger firms have lower bankruptcy risk and lower bankruptcy cost. This condition allows large firms to take on more debt (Antoniou, Guney and Paudyal, 2002). In addition to this, empirical studies

argue that large firms have fewer information asymmetries. These conditions make it easier for large firms to access the credit market (Deesomak et al., 2004; Schoubben and Hulle, 2004). Considerable evidence exists from the context of SSA (e.g. Abor, 2008; Salawu, 2006) that shows a positive firm size–leverage relationship. The preceding discussion leads to the next hypothesis:

H4: Firm size is positively related to leverage.

4.3.5. Firm growth(GR) and leverage (LEV)

It is recognised in capital structure literature that there is a link between firm growth and leverage (e.g. Psillaki and Daskalakis, 2009; Cheng and Shiu, 2007; Chen, 2004). The trade-off theory predicts a negative relationship between growth opportunities and leverage due to the fact that growth opportunities cannot be collateralised. Further, a growth opportunity could serve as alternative quality signal and therefore, in order to distinguish firms with high growth opportunity from those with less growth potential, high growth firms may take on less debt. Consequently, there will be a negative relationship between growth opportunities and leverage (Schoubben and Hulle, 2004). Firms with growth opportunities could be considered as risky by financial lenders and therefore face difficulties in raising debt finance (Psillaki and Daskalakis, 2009). Various empirical studies (e.g. Kayo and Kimura, 2011; Rajan and Zingales, 1995) have predicted a negative relationship between growth opportunities and leverage. Indeed, empirical studies from some countries in SSA (e.g. Ramlall, 2009; Salawu, 2006) have revealed a negative relationship between growth and leverage.

Thus, in the light of the above discussions, it is hypothesised that:

H5: Firm growth opportunities are negatively related to leverage.

4.3.6. Tax (TX) and leverage (LEV)

The impact of tax on capital structure forms the main theme of M&M's irrelevance theory of 1958. According to the irrelevance theory, companies that have large tax commitments make use of debt in order to gain advantage by the deductibility of interest payments. The tax advantage ensures that a firm's tax commitment reduces

and thereby makes more profit available to shareholders. Therefore, a high tax rate serves as an incentive for firms to borrow more (Ross, Westerfield, Jordan and Firer, 2001). The above argument is also in line with the logic of the trade-off theory. In line with this, a number of empirical studies (e.g. Frank and Goyal, 2003; Graham and Harvey, 2001), have found a positive relationship between tax and leverage. This demonstrates the important role of tax in corporate financing decisions. However, it is important to point out that studies that have found a positive relationship between tax and leverage have been primarily based within the context of developed economies where issues relating to tax form an important component in financing decisions. Similar to the argument of Julian and Ofori-Dankwa, (2013) and Robertson, (2009), capital structure decisions are likely to vary according to the level of economic and institutional development. Thus, the results of the tax-leverage relationship have not been subject to substantial testing in developing economies (e.g. SSA) where institutional conditions (e.g. weak regulatory environment, high level of corruption) could alter the direction of the tax-leverage relationship. Therefore, there is theoretical justification to think that institutional conditions could matter in the tax-leverage relationship (Julian and Ofori-Dankwa, 2013).

Indeed, there are several reasons that one might expect tax-leverage implication for firms in developing economies to be different from those in developed economies. First, accounting and auditing standards in many developing countries, including those in SSA, tend to be relatively lax. This undoubtedly gives room for firms to manipulate their accounting records and therefore tax avoidance becomes more pervasive. Second, SSA is a region with a worldwide reputation for corruption and this tends to influence the behaviour of firms. For example, Tanzi (1998) argued that corruption reflects the massive impact of poor institutions. Bribery and corruption facilitates the evasion of tax and firms in developing economies will prefer to bribe tax administrators and therefore pay less tax.

In sum, contrary to the extant literature, I argue that the institutional conditions in SSA, distinct from those in the developed economies, allow firms to marginalise their tax obligations. The above logic suggests that this contextual condition is likely to affect the relationship between tax and leverage. Indeed, studies done in some developing economies have demonstrated a negative significant relationship between

tax and leverage (Abor, 2008; De Jong, et al. 2008; Huang and Song, 2006). Thus, within the context of weak institutional environment, tax and leverage are more likely to demonstrate a negative relationship. This leads to the next hypothesis that:

H6: For firms operating in SSA, the tax rate is inversely related to leverage.

Based on the above hypotheses, the conceptual model for the analysis is summarised in Figure 4.1.

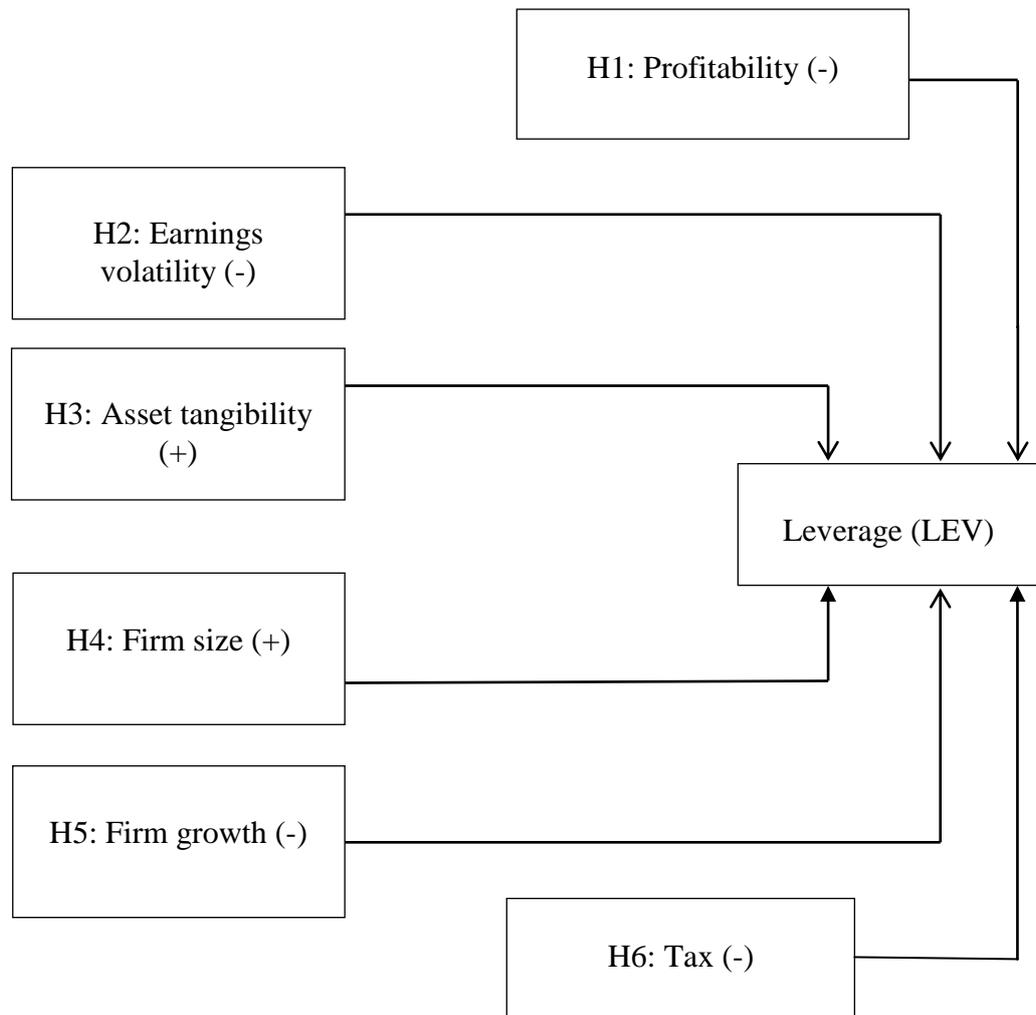


Figure 4. 1: Conceptual model 1

4.4. The moderating role of firm size

Various empirical contributions pertaining to the effects of firm-level factors are evident in both the context of the developed and less developed economies. The discussion above has focused exclusively on the direct impact of firm-level factors on leverage. A remarkable feature of almost all studies on capital structure (e.g. Mateev, Poutziouris and Ivanov, 2013; Sheikh and Wang, 2011; Psillaki and Daskalakis, 2009; De Jong, Kabir, and Nguyen, 2008; Zou and Xias, 2006; Deesomsak et al. 2004) is the assumption of a linear relationship (either positive or negative) between firm-level factors and leverage. There is indeed no evidence on the interaction among firm-level factors and leverage. In this part of the thesis, I argue that firm size matters in the relationship between other firm-level factors and leverage. Thus, the subsequent section examines the moderating role of firm size on the relationship between other firm-level factors and leverage.

4.4.1. Firm size (SZ), profitability (PR) and leverage (LEV)

Numerous scholarly works on the determinants of capital structure provide explanations of the role of firm profitability as a key explanatory factor in determining leverage levels of firms (e.g. Joeveer, 2013; Abor, 2008; Salawu, 2006; Zou and Xiao, 2006; Chen and Strange, 2005; Bhaduri, 2002; Myers, 2001). Based on the logic of the pecking order hypothesis, several empirical studies (Huang and Song, 2006; Hall et al. 2004; Fama and French, 2002) have suggested a negative relationship between profitability and leverage. The main argument emanating from these studies is that profitable firms are likely to have more retained earnings and are less likely to take on less debt. On the contrary, trade-off models provide a conflicting prediction and argue that firms with high profits require a greater tax shield and therefore use debt to protect their profits (Huang and Song, 2006; Bhaduri, 2002).

Despite the various scholarly advances on the effects of profitability on leverage, the role of firm size in the relationship between profitability and leverage remains uninvestigated. Firm size is likely to have an impact on the profitability level of the firm. For instance, large firms may enjoy some advantage such as economies of scale

and large sales volume, which could enhance their profit levels and therefore reduces their dependency on debt capital. The bigger the size of the firm, the greater the amount of profitability and vice versa. Thus, the profitability-leverage relationship may be conditional on firm size. In the light of the above discussion, I propose that:

H7: Firm size moderates the relationship between profitability and leverage so that the relationship is negative.

4.4.2. Firm size (SZ), earnings volatility (VT), and leverage (LEV)

The effects of earnings volatility on leverage are evident in many empirical works (e.g. Cheng, Lee and Lee, 2009; Abor, 2008; Deesomsak et al, 2004; Wald, 1999; Wiwattanakantang, 1999; Bradley et al, 1984). The main theme emanating from these studies is that earnings volatility increases the possibility of financial distress, as firms may not be able to meet their debt obligations. Larger firms tend to have a bigger market size and many divisions in different sectors or countries that can compensate for each other. Therefore, larger firms should have less volatility in earnings than smaller firms which usually have a small market size. Thus, the earnings volatility-leverage relationship may be contingent on firm size. This discussion leads to the next hypothesis that:

H8: The earnings volatility-leverage relationship is positive when moderated by firm size.

4.4.3. Firm size (SZ), asset tangibility (TA), and leverage (LEV)

The importance of asset tangibility in the acquisition of debt is well documented in the literature from the context of developing economies (e.g. Fosu, 2013; Sheikh and Wang, 2011; Ramlall, 2009; Abor, 2008; Viviani, 2008; Deesomsak et al, 2004; Wiwattanakantang, 1999). For large firms operating in less developed economies, empirical studies have always assumed a positive and significant relationship between asset tangibility and leverage. It also seems reasonable to argue that differences in size should matter in the asset tangibility-leverage relationship. One would expect that small firms should have less tangible assets to be used as a

collateral for debt acquisition (e.g. Abor, 2008). Large firms should therefore have a large asset base to serve as collateral (Cassar and Holmes, 2003). Thus, it seems reasonable to argue that firm size moderates the asset tangibility-leverage relationship. Following the above discussion, my next hypothesis is stated as follows:

H9. The relationship between asset tangibility and leverage is moderated by firm size so that the relationship is positive.

4.4.4. Firm size (SZ), Tax (TX), and leverage (LEV)

Among other things, the current study enriches the notion of the firm tax-leverage relationship by addressing the question of whether the tax-leverage relationship is conditioned by the size of the firm within a less developed market environment such as SSA. Empirical test of theories of capital structure have predominantly assumed a positive relationship between tax and leverage (e.g. Frank and Goyal, 2003; Ross, Westerfield, Jordan and Firer, 2001; Graham and Harvey, 2001). The central argument of these studies is that a higher tax rate encourages firms to borrow more in order to take advantage of interest deductibility. While this argument might hold for firms operating in the developed world, the picture might be completely different for firms operating in less developed economies such as those in SSA.

The variation in the level of economic and institutional development should shape the tax-leverage relationship. For firms operating in less developed economies, because of weak regulatory institutions (Julian and Ofori-Dankwa, 2013), firm size should matter in the tax-leverage relationship. For instance, large firms in less developed economies should be able to manipulate individuals and regulatory institutions in their favour. Specifically, large firms should be able to pay bigger bribes to reduce their tax liabilities better than small firms should. Besides, in developing countries such as those in SSA, network ties (e.g. business, social or political network ties) play numerous important roles in the activities of firms (Adomako and Danso, 2014; Boso, Story and Cadogan, 2013; Acquah and Eshun, 2010; Li, Wang and Zhous, 2008; Kuada and Buame, 2000; Ellis, 2000; Adjibolooso, 1995). Developing extensive social and political network ties with

politicians and bureaucrats is likely to affect the activities of the firms, including tax payments. Bigger firms are more likely to have bigger network ties than smaller firms. Thus, these conditions should be able to assist large firms to reduce their tax liability. One would therefore expect that small firms, which usually have no or limited network ties and an inability to pay larger bribes, would be subjected to a relatively large tax burden. The above argument leads to the next hypothesis that for firms operating in SSA:

H10²⁸. For firms operating in SSA, firm size moderates the association between tax and leverage so that the relationship is negative.

²⁸ It is important to note that all firms used in the current study are large firms

The conceptual model for the above hypotheses (i.e. H7 – H10) is presented in Figure 4.2:

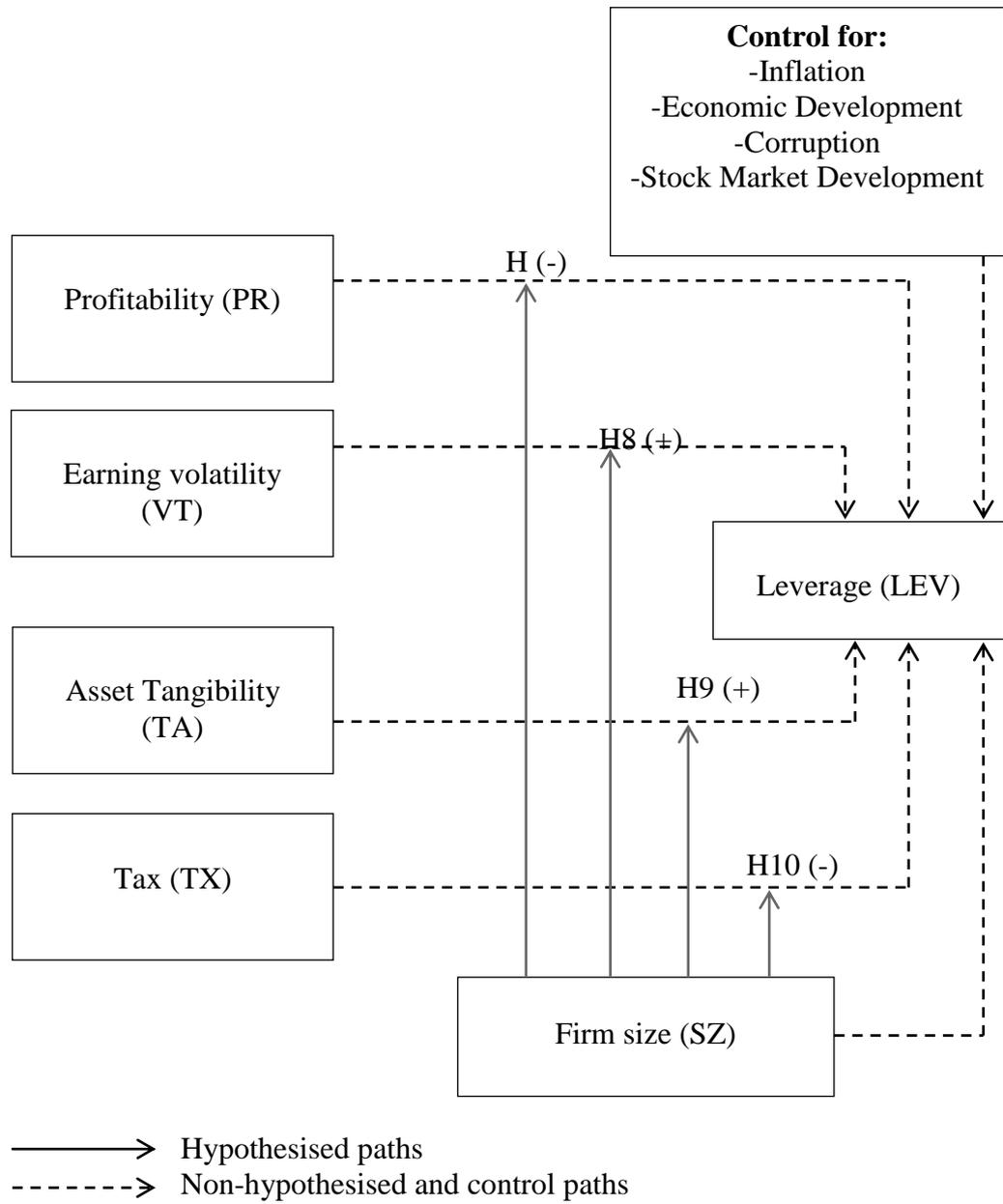


Figure 4. 2: Conceptual model 2

4.5. Earnings volatility (VT), asset tangibility (TA), and leverage (LEV)

Research into corporate leverage determinants have made a significant contribution to our knowledge of the effects of earnings volatility (a proxy for risk) on leverage. Previous empirical studies (e.g. Wiwattanakantang, 1999; Johnson, 1997; Kim and Sorensen, 1986; Bradley, Jarrel and Kim, 1984) have identified earnings volatility to be negatively related to leverage. The central proposition of their argument is that earnings volatility demonstrates a firm's possible inability to meet its debt commitments and therefore creditors are unwilling to lend to such firms. In the case of Ghana for instance, Abor, (2008) noted a negative relationship between earnings volatility (a proxy for risk) and long-term debt. This shows that firms with high level of risk use less debt to avoid accumulating financial risk. This line of argument lends support to the trade-off theory. However, empirical studies have not explicitly to consider the earnings volatility-leverage relationship when a firm has large tangible assets, which could be used as collateral to diminish the lender's risk of suffering non-payment. In other words, since the asset structure of a firm is related to the concept of financial distress cost (Daskalakis and Psillaki, 2008), the earnings volatility-leverage relationship could be conditional on the collateral value of assets. Hence, a high level of asset tangibility is expected to moderate the earnings volatility-leverage relationship.

Therefore, I propose that:

H11. Asset tangibility moderates the relationship between earnings volatility and leverage so that the relationship is positive.

The above discussion can be represented in Figure 4.3.

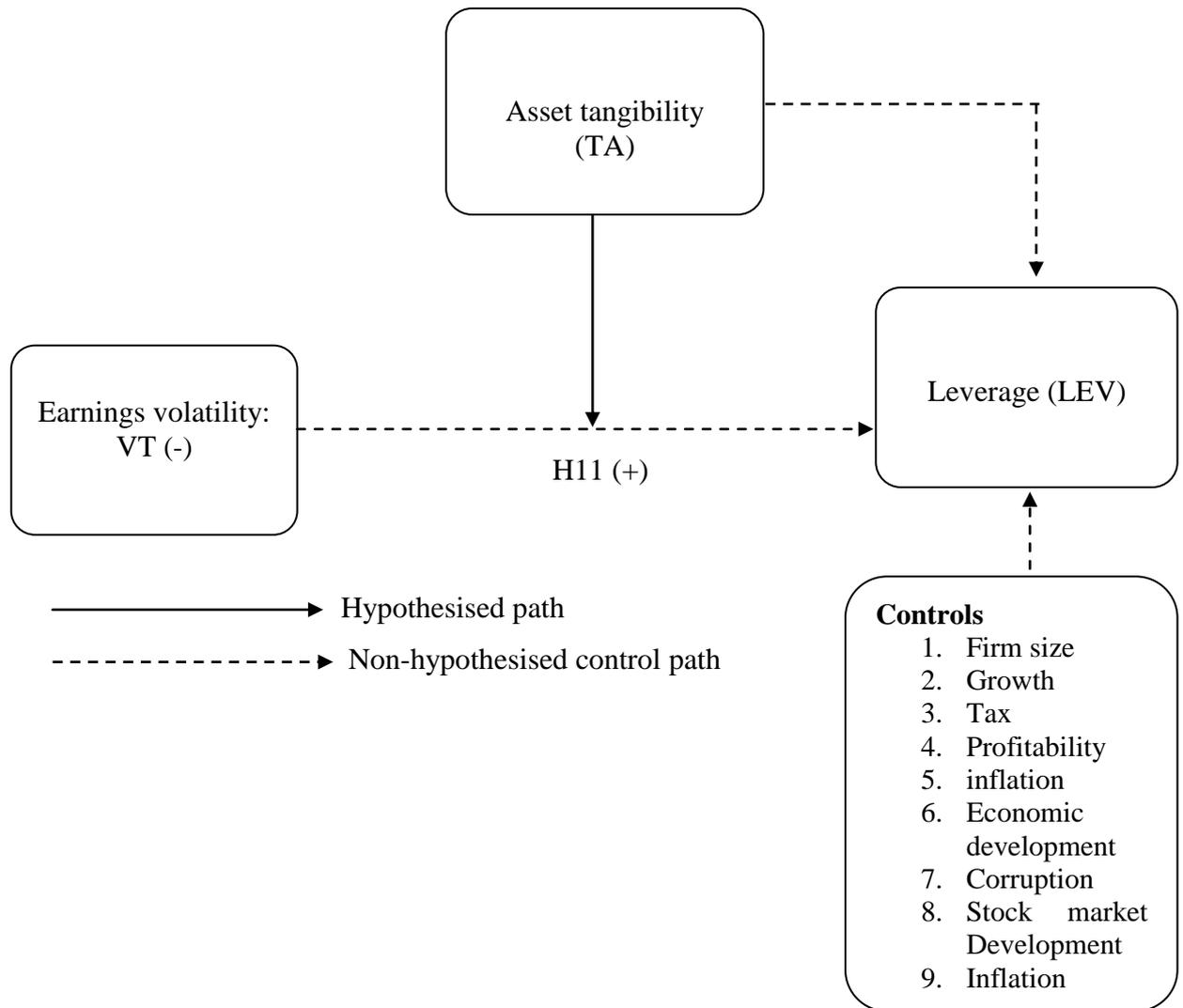


Figure 4. 3: Conceptual model 3

4.6. The moderating role of the regulatory environment (Rule of Law)

The role of institutions in shaping both human and economic activities is evident in literature (Adomako and Danso, 2014; Wang, 2005; Co, 2004). The general idea stemming from these studies is the idea of embeddedness (Hollingworth, 2002). This concept suggest that firms are embedded within the broader external environment (Roxas, Lindsay, Ashill and Victorio, 2007). Northian economics identify two main types of institutions that form the broader external environment. These are formal institutions and informal institutions (North, 1990).

Informal institutions include norms of behaviour, code of conduct and conventions that emanate from the way of life of the society (North, 1995). North (1995) further identified formal institutions to include the rule of law, property right protection regimes, political and economic freedoms, as well as corruption. Since firms are embedded within the broader social and economic spectrum, the institutional environment tends to influence the activities of these firms (Chiles, Bluedorn, and Gupta, 2007). For instance, empirical studies (e.g. Adomako and Danso, 2014; Djankov, La Porta, Lopez-de Silanes and Shleifer, 2004; Jonhson, McMillan and Woodddruff, 2002) posit that weak institutions in the form of the strength of legal enforcement, quality of commercial codes, extra-legal payments, administrative barriers and inadequate market supporting institutions constitute a barrier to the activities of firms. A typical example could be cited in the case of Ghana where excessive delays in court proceedings and the high cost of settling legal claims constrain the activities of firms in the country (Abor and Quartey, 2010). A recent World Bank report on doing business also identifies several institutional factors including a less reliable legal system and lack of consistency in enforcing agreements that constrain activities of firms in SSA (World Bank Doing Business, 2013).

A major institutional pillar is the regulatory environment that includes the extent to which rules and regulations are enforced. The regulatory environment could affect firms' access to finance (e.g. Beck, Demirguc-Kunt and Maksimovic, 2004; Levy, 1993). The premise for this argument is that the regulatory environment enables as well as constrains firms' operations and eventually firms' ability to raise capital

needed for their operations. However, where regulations are too cumbersome, restrictive of business' creativity and inefficient (in terms of cost), they are likely to limit the ability of firms to access capital. At the same time, where rules are poorly developed and enforced (as in the case of many countries in SSA), there is a danger of chaos, corruption and unproductive industrial practices, and the outcome is that business operations (including their access to finance) may be affected negatively. Thus, it would seem reasonable to argue that moderate (as opposed to low and high) levels of regulatory quality would be the ideal situation for firms' access to finance. In the sections that follow, the moderating effects of the rule of law on the relationship between firm-level factors and leverage are examined.

4.6.1. Rule of law (RL), asset tangibility (TA) and leverage (LEV)

The prevailing social and economic environment in the form of the quality of rule of law is likely to exert significant influence on corporate decisions including their choice of capital. By rule of law, I mean the extent to which agents have confidence in and abide by the rule of society and in particular the quality of contract enforcement, property rights, the police and the court (World Bank, 2013). Thus, institutional variations are likely to explain the diversity found across firms in terms of their financing decisions. Indeed, various empirical studies on capital structure including Fosu, (2013), Gungoraydinoglu and Oztekin (2011), Deesomsak, Paudal and Pescetto (2004), Huang and Song, (2006) and Viviani (2008) Bradley, Jarrell and Kim (1984), have identified asset tangibility as important components in debt acquisition in countries with lower-quality institutions. In such countries, as a result of weak creditors rights and high defaults on debt contract, tangible assets are used as collateral in debt acquisition. Thus, it is reasonable to suggest that in countries with a strong rule of law, asset tangibility should be less important in debt acquisition. This leads to the next hypothesis that:

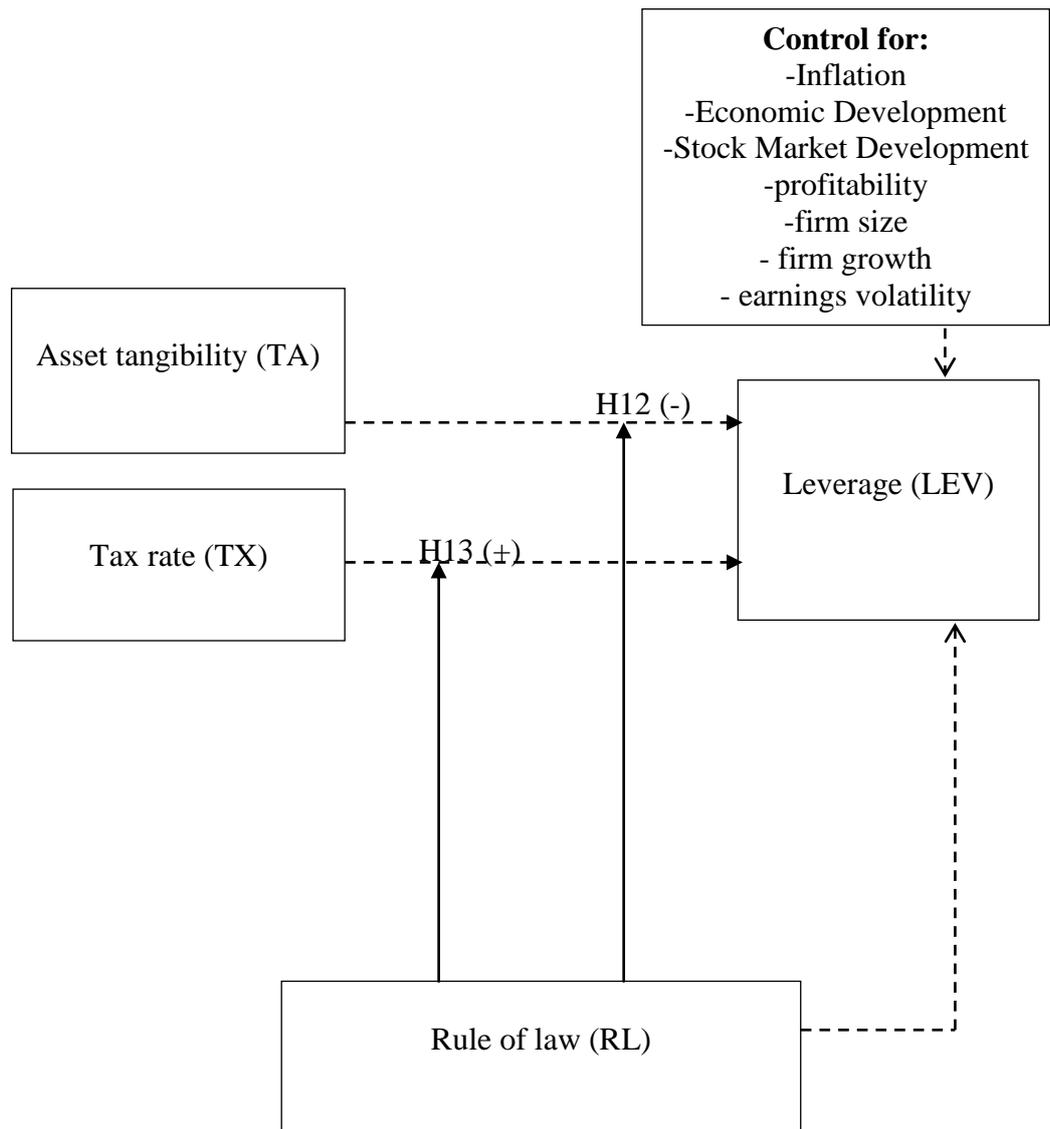
H12. A strong rule of law moderates the association between asset tangibility and leverage so that the association is negative.

4.6.2. Rule of law (RL), tax (TX) and leverage (LEV)

This thesis takes the key assumptions that the institutional environment in a country, that is made up of both formal and informal institutions, is likely to have a significant influence on the activities of firms. As noted above, the role of institutions in shaping economic activities has been given attention in the literature by a number of studies (e.g. Adomako and Danso, 2014; Levie and Autio, 2011; Wan, 2005; Co, 2004). In a weaker institutional environment characterised by weak or no rule of law, there is a high incidence of bribery and corruption as there is little governmental pressure on firms and this facilitates tax evasion. Thus, tax should be of less concern to firms in their financing decisions. Therefore, at a high level of rule of law, incidence of corruption and bribery is low and there is little chance for firms to evade compliance with the law (including payment of tax). Consequently, it is reasonable to posit that:

H13. With a strong rule of law, the association between tax and leverage is positive.

The discussion of the moderating role of rule of law can be represented in Figure 4.4.



—————> Hypothesised paths
 - - - - -> Non-hypothesised and control paths

Figure 4. 4: Conceptual model 4

4.7. Summary and Conclusion

In this chapter, a discussion of the study's formal hypotheses is presented. A wide range of theoretical perspectives such as the irrelevance theory, pecking order theory, the trade-off theory, the free cash flow theory and the market timing theory have been employed to access the factors that underline financing decisions of firms.

Across these theoretical perspectives, research into capital structure divides into two broad scholarly perspectives: the trade off theory and the pecking order theory. Accordingly, the trade off and the pecking order theories are used as the key theoretical underpinnings for the various conceptual models presented in this chapter. Frameworks relating to various firm-level factors and leverage, the moderating role of firm size and asset tangibility are presented. Fundamentally, the relationship between tax and leverage has been found to be positive (Frank and Goyal, 2003; Graham and Harvey, 2001). However, drawing upon the institutional difference arguments of Julian and Ofori-Dankwa (2013), this tax-leverage relationship might not always apply.

Also, firms do not operate in a vacuum and the nature of the environment could have impact on the activities of firms (Adomako and Danso, 2014). For instance, the extent to which rules and regulations are enforced in a society could influence the financing decisions of firms within that society. In other words, the quality of the regulatory environment could constrain as well as enhance the operations of firm (Gungoraydinoglu and Oztekin, 2011; North, 1994; North, 1990). Drawing upon this and to access it from the perspective of SSA, this chapter also explores the effects of rule of law as a key factor that influence financing decisions of firms. To illustrate this intuition, I examine how a strong rule of law moderates the tax-leverage and tangibility-leverage relationships. By rule of law, I mean the extent to which agents have confidence in and abide by the rule of society and in particular the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence (World Bank, 2013).

In order to achieve the objectives of this study, it is important that the right methodological process is adopted. Thus, the next part of this study sets out the methodological procedures regarding the gathering and analysing of data.

Chapter 5

Research Procedures

5.1. Introduction

This research examines the dimensions of capital structure of firms in eight countries in SSA by using both primary and secondary data. The specific research questions the study seeks to answer are:

1. How do firms in Ghana make their financing decisions?
2. Has the recent global financial crisis had any impact on the debt-equity choice of companies in Ghana?
3. What are the critical firm-level factors that affect debt-equity choice of companies in less developed market economies?
4. Do country-level factors also affect capital structure practices of firms in developing economies?
5. What are the moderating effects of firm size on the relationship between other firm-level factors and leverage?
6. Does asset tangibility moderate earnings volatility-leverage relationship?
7. Does rule of law moderate tax-leverage and asset tangibility-leverage relationships?
8. Are the theoretical models that explain the debt-equity choice in the advanced markets also applicable in the context of SSA?

In order to answer the above questions, it is important that appropriate data collection and analysis techniques are adopted. As such, this chapter outlines the research methodology procedures for this study. This chapter is organised into two main sections: the first part describes the general data collection procedures. Specific issues considered under the first part include the choice of methodology, sample selection, and detailed discussion of primary and secondary data collection procedures. The second part of this chapter focuses on the methods of data analysis. Since two sets of data are employed in this study, (i.e. primary data obtained using questionnaire and secondary data obtained from Datastream and the World Bank

global databases), the methods of data analysis section is further divided into two main sections. The first section looks at the analysis of the primary data and the second section discusses the analysis procedure of the secondary data.

5.2. The Research Design

Research methodology plays a fundamental role in solving any particular research problem. Using the appropriate research design helps the researcher to deal with the research question in efficient and effective manner. In other words, the research design provides the researcher with a road map for the achievement of the objectives of the research by ensuring that any evidence that is collected is appropriate for theory testing (Rindfleisch, Malter, Ganesan and Moorman, 2008). Using an inappropriate design can therefore lead to wrong research findings. As a consequence, in any piece of research, efforts must be made to identify the right method to arrive at a logical conclusion.

Bryman (1984) identified two main methods of data collection used in empirical studies and these are quantitative and qualitative methods. Quantitative methods are characterised by the use of hypothesis testing and fixed measurements, which is less flexible; while qualitative methods on the other hand are interpretative techniques that seek to discover rather than verify and may provide bases for further studies (Bryman, 1984; Thomas, 2003). Myers (1997) observed that qualitative research methods provide the opportunity to understand the people being studied from the social-cultural background within which they live. Thus, this method can be used in studying issues such as people's behaviour, beliefs, experiences and other aspects of culture. Thomas (2003) observed that quantitative research involves the use of numbers and statistical methods while qualitative methods involve studying things in their natural setting and try to make sense out of this based on the meaning people bring to them.

Several research designs or strategies could be used under both quantitative and qualitative research methods. As identified by Kerlinger (1973), a number of research strategies could be used when examining the relationship between organisational variables and these include cross-sectional and longitudinal designs. A

cross-sectional design involves the collection of data on more than one case at a single point in time to make inferences about a population. In contrast with cross-sectional design, longitudinal design is an extension of the cross-sectional approach in terms of duration for collecting the data and it involves the collection of data that spans over a longer period on a sample of a population (Bryman 2004; Rindfleisch, Malter, Ganesan, Moorma, 2008). Indeed, both cross-sectional (e.g. using questionnaire) and longitudinal designs (also referred to as panel data) are often used in finance research.

Despite the numerous advantages associated with these research designs, the choice of any research design or process should be informed by the objectives of the research in question as outlined by Creswell (2009). Considering the aim and purpose of this research, which aims at investigating the capital structure of firms in SSA and since this involved the use of both research questionnaire and panel data, both cross-sectional and longitudinal designs were adopted for the study. The usefulness of combining both cross sectional and longitudinal (panel) designs is well documented in the literature. According to Rindfleisch et al. (2008), combining the two research designs helps the researcher in addressing some critical issues including non-response bias, reliability assessment and construct validation. Consequently, combining the two research designs provides a better understanding of the research problem than using a single research design. For this research, the purpose of combining the two designs is to help the researcher collect different but integrated data which will help in providing a holistic view of the situation under consideration. In addition to this, in this present study, the research questions and hypothesis set require different data sets in finding answers to the individual research question and hypothesis. Table 4.1 presents the different data sources used in answering each of the research questions outlined.

Table 5. 1: Research Design Matrix

Research Questions	Type of Design	Source/Instrument
How do firms in Ghana make their financing decisions?	Cross-sectional and Longitudinal (panel)	Primary and Secondary Sources
Has the recent global financial crisis had any impact on the debt-equity choice of companies in developing economies such as those in Ghana?	Cross-sectional	Primary Source
What are the critical firm-level factors that affect the debt-equity choice of companies in less developed economies?	Cross-sectional and Longitudinal (Panel)	Primary and Secondary Sources
Beyond this, do country-level factors also affect capital structure practices of firms in developing economies?	Cross-sectional and Longitudinal	Primary and Secondary Sources
Are there any moderating effects of firm size on the relationship between other firm-level factors and leverage?	Longitudinal (panel)	Secondary Source
Does asset tangibility moderate the earnings volatility-leverage relationship?	Longitudinal (panel)	Secondary Source
Does rule of law moderate the tax-leverage and asset tangibility leverage relationships?	Longitudinal (panel)	Primary and Secondary Sources
Are the theoretical models that explain the debt-equity choice in advanced markets also applicable in the context of SSA?	Cross-sectional and Longitudinal (panel)	Primary and Secondary Sources

5.3. Population and Sample Choice

Based on the purpose of the study, the target population for the study include all firms in countries within the SSA sub-region. Since this study uses two sources of data (i.e. primary data from 119 firms in Ghana and secondary data from 359 firms in eight SSA countries including Ghana), the sample of firms can therefore be categorised into two. These are

1. Primary sample choice
2. Secondary sample choice

5.3.1. Primary Sample choice

Unlike secondary data, primary data are less open to public scrutiny and there could also be a high cost involved in gathering the data. Still, a key aspect of the use of primary data is that the data collection procedure could be designed to suit the objectives of the research in question. In other words, the researcher has in mind specific research aims, which influence his choice of appropriate primary data collection method and sample. As such, the information gathered is tailored specifically to find answers to the aforementioned research problem and questions. This is an advantage over secondary data, which may have been collected for other purposes and for that matter may not meet the objectives of the research under consideration (Saunders, Lewis and Thornhill, 2007).

The primary data for this study were collected from firms in Ghana through the use of questionnaires. Initially, the focus of this study was to be based on one country in SSA that has a relatively developed industrial base to facilitate the data collection process. Apart from this, the country was expected to have a relatively stable political and peaceful environment. This is also important since I decided to travel to the country to gather the data myself instead of using any other means. Based on these criteria, the focus was placed on Ghana. This is because the country is seen as one of the few developing economies in SSA with a relatively developed industrial base. Besides, the Ghanaian economy has been experiencing significant growth (an average GDP growth of 6.0% since the year 2002) and it is regarded as one of the fast growing economies in the world (World Bank, 2012). In addition, the country is regarded as one of the few developing countries that have robust democracies (World Bank, 2011). These promising economic conditions and the personal connections I have in the country facilitated the data collection process.

Since other countries in SSA also have their data on the Datastream global dataset, a decision was made that all firms from SSA with sufficient data on the Datastream should also be included in this study.

The target companies for the primary data included all firms on the database of the Ghana Register General department (the equivalent of Companies House). These

firms were targeted to ensure that credible information was obtained, as they are obliged by law to keep proper records. It was also required that the sampled firms showed variations with respect to their economic activity. This was to ensure that the selected firms were not limited to only one specific industry or sector of the Ghanaian economy but rather across the three main sectors of the Ghanaian economy. The purpose of doing this was to enable me to collect different but interrelated data from different firms with the three sectors. These sectors are the primary sector (i.e. those firms engaged in the production of raw materials and basic foods), the secondary sector (i.e. manufacturing, processing and construction) and the tertiary sector (i.e. service).

The selection of the sample for this study was done in two phases. In phase one, 3201 companies that were drawn from the Register General department database were grouped into ten based on the regions within which the firm is located, after which a stratified random sampling technique was used in selecting 50 firms each from the categories. In the second phase of the selection process, I made contact with the selected firms and out of the 500 firms that were contacted, 231 firms (46.2%) agreed to participate in the study. Although the number of firms that consented to take part in the study was less than the anticipated 50% rate, these firms were drawn from seven regions and the three sectors of the economy making the sample representative of the population.

5.3.2. Questionnaires

Having chosen to rely on cross-sectional data (in addition to panel data) for this study, it was imperative to choose a feasible cross-sectional data (primary data) collection approach. Several data collection methods are available for primary data collection. These include face-to-face interviews, telephone interview, online questionnaires, and mail/personally delivered questionnaires. In relation to the objective of this study, each of these methods of data collection is evaluated in the paragraphs that follow.

First, telephone interviews were deemed an inappropriate method for the current study given the nature of the information that was required from the respondents. For instance, respondents were required to provide some financial accounts information,

which could not have been done easily on the telephone. Given this limitation, it is, therefore, not surprising to find that finance researchers rarely use this method for the collection of survey data.

In addition, face-to-face interview was not adopted for this study in that it was considered inappropriate in terms of time. Since the study requires data from a large number of firms across the whole of Ghana, it would have been very difficult to conduct face-to-face interviews due to the limited period that was available for the data collection. In addition to this, since the researcher was interested in collecting enough data from a large number of firms to have an in-depth understanding of the problem under consideration, the use of face-to-face interviews would not have provided the type of information needed. Notwithstanding the advantages associated with online/email²⁹ method including less paper work, the ease of reaching a large number of respondents at the same time and the ease of transferring the data gathered on to a spreadsheet for analysis, this method was not chosen for a number of reasons. First, due to the risk of virus infection, many firms have strict policies against accepting emails with attachments. Besides, according to Weible and Wallace (1998), the email or online method is a less efficient method of data collection due to the amount of time and resources involved in creating, distributing, and collecting the data online.

Given the limitation associated with the methods of data collection mentioned above, a questionnaire was chosen as the appropriate method for this study. According to Churchill (1995), using the questionnaire also ensures that the responses were gathered in a standardised manner, as the researcher's opinion did not influence the respondents in responding to the questions in any particular ways. In enhancing the validity of the data collected using the questionnaire, the primary data gathered for this study was cross-checked with data obtained from the Datastream global database. This was crucial in helping to assess the validity and reliability of the two data sets used in this study. The subsequent section explains how the questionnaire was designed and administered in gathering the information needed for this thesis.

²⁹ This method involves emailing the questionnaire to the respondents or sending a web link containing the questionnaire.

5.3.3. Designing the Questionnaire

The designing of the research instrument plays an integral role in enhancing the validity and reliability of the study results. Although the use of questionnaires has become one of the common methods of data collection in most research studies (e.g. Adomako and Danso, 2014; Acquah, 2007; Beattie et al. 2006; Boateng, 2004; Edgar, 1991), it is necessary for the researcher to ensure that it is valid, reliable and unambiguous so that the results can be trusted (Creswell, 2009). In enhancing the validity and reliability of the instrument used in this present study, psychometric procedures suggested by the literature including De Vellis (2003) and Churchill (1979) were followed in the design of the questionnaire for this study. Based on the recommendation of Churchill (1979), Figure 4.1 shows the questionnaire development procedure followed in the current study.

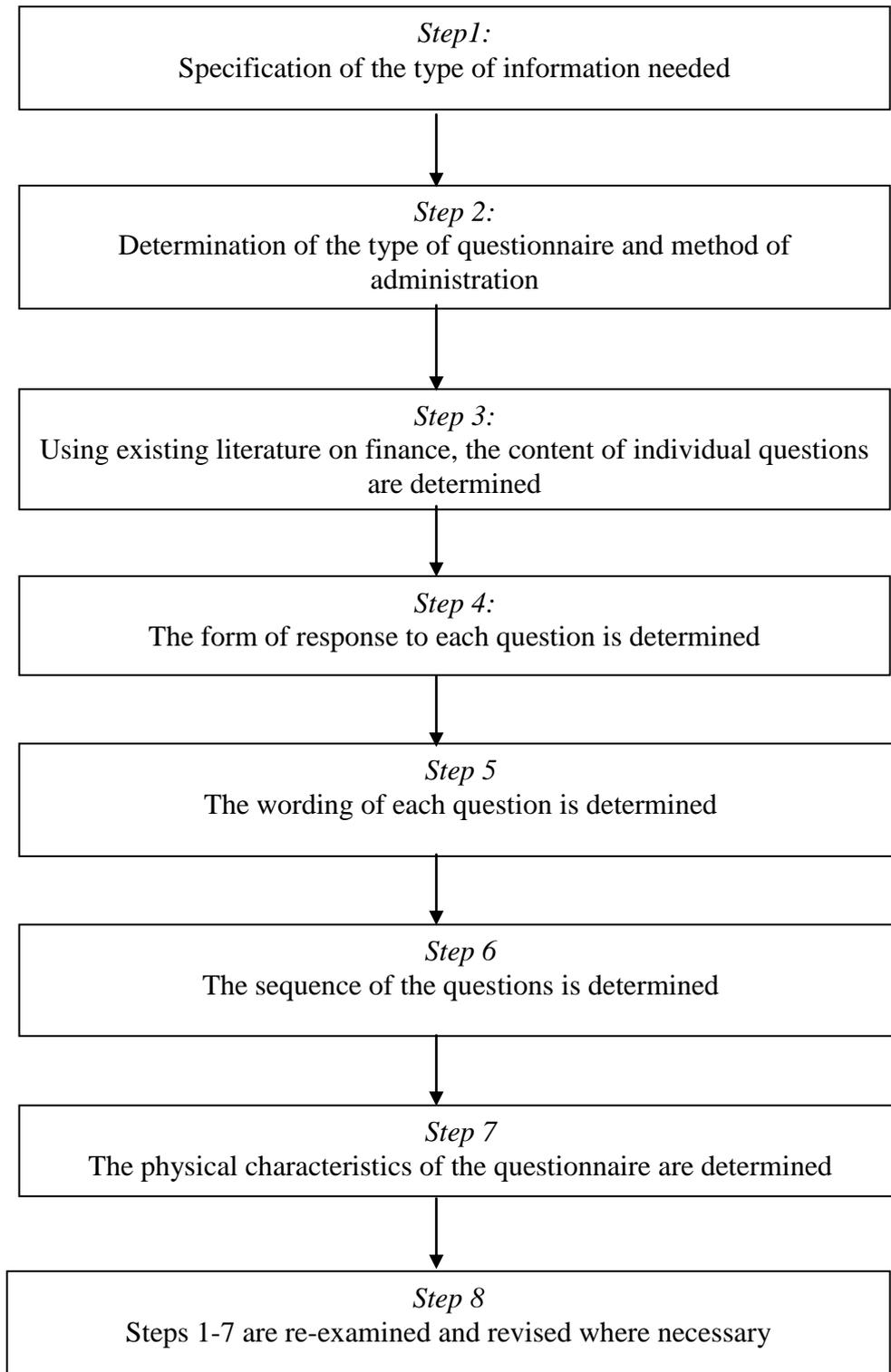


Figure 5. 1: Questionnaire Development procedure

5.3.4. Type of information sought

In line with the objectives of the current study, the existing literature was studied to locate the information needed to measure the constructs of interest. The designing of the questionnaire was informed by the ones used in similar studies by;

1. Brounen Jong and Koedijk (2006) who investigated the capital policies of four major European countries (i.e. Germany, France, Netherlands and the UK),
2. Beattie et al. (2006) who also studied the financial practices of firms in UK,
3. Fan and So (2004) in their study of the financial decisions of managers in Hong Kong,
4. Graham and Harvey (2001) which involves a study of 392 chief financial officers about capital structure, capital budgeting and cost of capital,
5. Edgar (1991) who also investigated the capital structure policy of small high growing corporations in the US; with special changes to suit the objectives of this thesis,

Using appropriately designed questionnaires is another important aspect of any piece of research that relies on them. In other words, the questionnaires should be well designed in such a way that they meet the objectives of the research. It is also important to observe that a well developed questionnaire plays a significant role in the reduction of measurement error. In using questionnaires, Saunders et al. (2007) observed that a number of factors should be taken into consideration. These include the characteristics of the respondents, the type and number of questions one needs to ask to obtain the required data, as well as the sample size required for analysis, taking into consideration the expected response rate. These factors were carefully considered in the design of the questionnaire for the current study.

The layout of the questions was also another important aspect that was considered. Saunders et al. (2007) contended that the layout of self-administered questionnaires needs to be clear and attractive, as this is important in encouraging the respondent to fill them in and at the same time, it should not appear too lengthy. Following these suggestions, the layout of the questionnaires for this study was designed to encourage responses from the respondents. The questionnaire had thirty-two

questions in all and was divided into three main segments. The first segment had a total of 13 items and questions focused on aspects including the job title of the respondent, gender, age and educational background of CEO, type of industry, and whether the company is listed or unlisted and ownership and control. The second section had 15 questions in total and the questions focused on the viewpoints that guide firms in their financing decisions. The third and final part had four questions and looked at firm-level factors relating to capital structure and the effects of the 2007/08 financial crisis.

5.3.5. Response Format

Various questionnaire response formats could be identified in the literature. Among these are open-ended questions, close-ended questions, dichotomous questions and multidichotomous questions (Churchill 1995). Out of the total 32 questions in the questionnaire, 28 of them were close-ended questions. The remaining four were open-ended and they required respondents to provide some short information. With the close-ended questions, the respondents were given a number of options to choose from. The advantages of using these types of questions over open ended questions³⁰ are that they are less time-consuming to respond to and also facilitate coding and subsequent analysis. It also reduces the possibility of misinterpretation of the questions on behalf of the respondents (Gilbert, 2002). In addition, close-ended questionnaires are considered a faster and less expensive data collecting procedure than other ways of gathering data (De Vellis, 2003). Indeed, the close ended-questions were deemed more appropriate, especially when responses had to be compared across multiple respondents in Ghana. As suggested by Gilbert (2002), a category of ‘other’ was also provided for those who could not find a suitable pre-coded response.

5.3.6. Measurement Scale

Another vital issue that was considered in the development of this questionnaire was the type of measurement scale to use. The main objective of the use of the survey

³⁰ With open ended questions, respondents have no options to choose from but are rather required to give their responses in whatever form they desire.

questionnaire in the current research was to access the opinion of firms regarding their financing decision. Thus, it was important that an appropriate measurement scale was used in capturing the information required. Indeed, different measurement scales are used in business and social science research. These measurement scales include nominal, ordinal, interval, and ratio scales. With the nominal scale, individual responses are categorised based on some characteristics without any order or structure. Also, with the ordinal scale, responses are ranked based on preference. The interval scale is a type of scale where responses are ranked into different numbers based on differences in the degree of order. The ratio scale combines the characteristics of all the other three measurement scales and this measurement scale is not often available in social research. Nominal and interval scales are predominately used in finance research in that these scales allow non-parametric and parametric statistical techniques to be conducted. Considering the nature of the responses that were required in the current study, nominal and interval scales were therefore used.

The next stage following the choice of the measurement scale was to decide the scaling technique to use. Different scaling techniques are used in the social science research. Among these techniques are the Semantic differential technique, the Likert scale, the Stapel scale, the Numerical scale and Constant-sum scale. Tull and Hawkins (1984) observed that the Likert scale and Semantic differential scales are the most commonly used scaling techniques in research. Considering the above argument and also based on the nature of the responses that was required as well as the characteristics of the respondents, a 5-point Likert scale was predominantly used in the questionnaire where respondents were asked to indicate the extent to which a series of statements applied to their financing decisions. Although Nworgu (1991) argued that a 5-point Likert scale gives room for no responses, the 5-point Likert type response format was adopted because it is considered to be generally most effective and easier to comprehend from the respondent's point of view and it is also extremely popular for measuring attitudes (Zikmund, 2003; Holmes, 1974). A copy of the questionnaire used in this study is found in Appendix 1 of this thesis. Table 5.2 shows how the questions from the questionnaire linked to the literature.

Table 5. 2 : Questions from the questionnaire linked to literature

<p><i>General Questions: Q1. Job title of Respondent Q7. Economic Activity of firm.</i> <i>Q2. Permission Q8. Stock market Listing</i> <i>Q31. Company Account information</i></p>		
<i>Subject</i>	<i>Main Question</i>	<i>Literature</i>
Characteristics of CEO	Q3-Q6. Indicate the gender, age, level of education of the CEO and the no. of yrs since becoming CEO.	Older CEOs are likely to choose lower leverage and having an MBA is associated with more leverage (See Bertrand and Schoar, 2003; Frank and Goyal, 2009)
Multinationality	Q9. Indicate your firm's association with any firm situated outside Ghana	Multinational firms are likely to have more debt due to the minimal level of risk perceived by lenders and large asset base (see Ramirez and Kwok 2010; Bradley et al., 1984)
Government Ownership	Q10-Q11. Does the Ghana Gov't own shares in your firm and the percentage (if any).	The Government owning a large percentage of the equity could be a positive indication to financial lenders of the company's guaranteed solvency (see Wiwattanakantang (1999), by Zou and Xiao, (2006)
Managerial Ownership and Control	Q12-Q13. Indicate whether any of those in management hold shares in your company and the percentage.	Firms with one owner may not be willing to share control rights with others and therefore rely heavily on debt rather than equity to avoid the dilution of control (See Cespedes et al. 2010; Boateng 2004; Wiwattanakantang 1999)

Table 5.2 (Cont.)

<i>Subject</i>	<i>Main Question</i>	<i>Literature</i>
Sources of Finance	<i>Q14.</i> Indicate your main source of finance	Firms in countries with poor institutions have limited access to external finance. (See Beck et al. 2002).
Relationship with Banks	<i>Q15.</i> How many banks does your firm have bank accounts with?	Firms with multiple sources of financial services are less likely to receive credit from potential lenders (See Cole, 1998)
Problems of financing	<i>Q16-Q17.</i> Indicate the problems your company faces in securing funds from banks/lenders.	Firms in developing economies fail to progress due to the issue of financing (See Salawu, 2006)
Pecking Order Theory (POT)	<i>Q18.</i> Ranking of retained earnings, debt/loans and equity finance in order of preference	It is argued that in financing activities, firms initially depend on internally generated funds, followed by straight debt and finally new issue of equity (See Myers, 1984; Fama and French, 2002; Dawood, et al., 2011)
POT	<i>Q19.</i> Indicate the factors that influence firms in choosing equity finance.	High transaction cost and loss of control through share dilution are among the factors that firms take into account in issuing equity finance (see Kjellman and Hansen, 1995 and Myers and Majluf 1984)

Table 5.2. (Cont.)

<i>Subject</i>	<i>Main Question</i>	<i>Literature</i>
POT	<i>Q20.</i> Indicate the factors that influence firms in choosing debt finance	To prevent loss of control, firms may depend on debt rather than issues of new equity. Other factors that influence firms in choosing debt finance include tax advantages and prevention of dilution of control (see Ang and Jung, 1993, Fama and French, 2002 and Kjellman and Hansen, 1995)
Short and Long term debt	<i>Q21.</i> Indicate the factors that influence your firm in choosing long and short-term debt.	Firms may borrow short term when they expect the long-term interest rate to reduce. Also, financial managers may match the maturity of asset with liabilities (See Bancel and Mittoo, 2004)
POT	<i>Q22.</i> In financing new investment opportunities, indicate why you may prefer retained earnings	Firms prefer retained earnings because it is cheaper and also prevent the dilution of control (see Ang and Jung, 1993 and Kjellman and Hansen, 1995)
Target Capital Structure	<i>Q23-25.</i> Indicate if your company has a target capital structure, the percentage of target debt and what/who influences the setting of the target.	Trade-off theories are built on the notion of target capital structure which balances the cost and benefits associated with debt and equity (See MandM, 1963)
Spare Borrowing	<i>Q26-28.</i> Indicate if your company has a spare borrowing capacity, its type and the reason for the spare capacity.	The existence of spare borrowing capacity ensure that special projects and unexpected opportunities are seized (See Myers and Majluf 1984; Allen, 2000)

Table 5.2. (Cont.)

<i>Subject</i>	<i>Main Question</i>	<i>Literature</i>
Financial Crisis	<i>Q29.</i> Indicate the effects of the recent (2007/08) financial crisis.	The recent financial crisis constrained the availability of credits to firms in less developed economies. (see Clarke, Cull and Kisunko, 2012)
Firm's Size	<i>Q30.</i> Provide the number of employees of the company	The larger the firm, the less likely it is to default and also there is less variability in earnings and therefore expected to use more debt than smaller firms (see Frank and Goyal, 2003; Wald, 1999; Cheng and Shiu 2007)

5.3.7. Content Validity of the Questionnaire

The evaluation of the face validity³¹ of the questionnaire is a useful assessment procedures in questionnaire design (Netemeyer, Bearden and Sharma 2003). Hair, Anderson, Tatham, Black (2006) observed that the face validity of a measure must be established prior to any theoretical assessment, especially where measures are borrowed from previous studies and transferred into a new context. This is because an understanding of the content of a measure or construct is important if statistical measures are to be correctly specified (Hardesty and Bearden, 2004). The face validity also ensures that the questionnaire contains all the information it is supposed to contain.

As suggested by Nunnally and Bernstein (1994), the questionnaire for the current study was sent to three academics in the UK who were knowledgeable in the field of finance, questionnaire design and also experienced in conducting research in SSA.

³¹ Face validity is the extent to which at the face value, the questions measure what they purport to measure

These individuals were asked to comment on the content validity of the questionnaires and the physical look of the entire questionnaire. This procedure was important in ensuring that the questions were appropriate in answering the research objectives. These individuals examined the appropriateness of the questionnaire in measuring the research objectives. All the three academics responded positively about the appropriateness of the questionnaire in answering the research question. However, because the questionnaire required companies to provide their financial information, these academics were doubtful as whether the companies would be prepared to provide all the information needed if I were not there personally. The concern raised necessitated that I deliver the questionnaires to the respondents myself instead of sending them through the post or via the email.

5.3.8. Choice of Respondents

As observed by De Vellis (2003), the source of information is important for the accuracy of any piece of research. This is because using an inappropriate source of information leads to inaccurate results and casts doubt over the integrity of the results obtained (Dillman, 2000). Consequently, the conclusion reached cannot be generalised to the intended population. As outlined in the objectives of this research, it was important that detailed information on the financial activities of all firms studied was provided. From this perspective, it was important that this study obtained the information required from the right informants. Informants who were most likely to be knowledgeable about the firm's financial practices and therefore should be able to provide accurate information on the key constructs of interest of the current study were contacted. Previous studies (e.g. Beattie et al., 2006; Fan and So, 2004; Graham and Harvey, 2001) have used various respondents including owners, CEOs, finance managers, and accountants. With their involvement in the financial operations of their firms, information from these respondents is more reliable than from other individuals within the firm. Consequently, in line with the purpose of the current study and existing literature, the above individuals were

chosen as key informants in the current study. The advantage of using these multiple informants was to reduce common method variance³² (Acquaah, 2007).

5.3.9. Pilot Testing of the Questionnaire

In using a questionnaire as instrument of survey, it is imperative that the questionnaire is pre-tested for reliability and to ensure that any omissions and mistakes can be spotted and dealt with appropriately. The pilot testing also ensures that the questions achieve the desired quality of measurement as observed by Tuckman (1999). The pilot testing enables the researcher to ascertain whether the respondents understand, interpret and respond to the questions well or not. As noted by Saunder et al. (2007), the pilot testing of the questionnaires enables the researcher to assess the validity of the questions and the reliability of the data intended to be collected. Remenyi, Williams, Money and Swartz (1998) observed that successful pre-testing gives the opportunity to measure various aspects of the questionnaire. These aspects include the clarity of the various questions, the covering letter, the quality of evidence and their suitability to use in statistical tests, the time taken to complete the questionnaire, the possible response rate, the cost involved in administering the questionnaire, the relevance and irrelevance of questions and whether any key issue has been overlooked.

As the research on financing decisions of firms in Ghana has received little attention so far, a pilot study was therefore important in helping to shape the entire questionnaire for the final survey. As such, in addition to the comments received from the three experts mentioned above, the questionnaire was further pre-tested with a selected group of firms in Ghana. In December 2012, the questionnaire for this study were sent out to firms to identify any problem associated with it. The pre-testing procedure adopted in this study involved contacting 20 firms in Ghana via telephone to solicit their willingness to take part in the pre-testing procedure. 12 of the firms that were contacted agreed to participate in the pre-testing procedure. The questionnaires were sent out to these 12 firms to complete them. Nine questionnaires (i.e. representing 75 percent) were returned with no major concerns raised. This gave

³² 'Common method bias describes the amount of spurious correlation between variables that is created by using the same source and creates false internal consistency, that is, an apparent correlation among variables generated by their common source' (Chang, Witteloostuijn and Eden, 2010).

an idea of the expected response rate and also showed the appropriateness of the questions. A reliability analysis of the pre-tested questionnaires revealed a Cronbach's Alpha value³³ of 0.873. Out of the nine questionnaires, two of them expressed concern about the length of the questionnaire and its effects on the entire response rate. With this concern, some changes and adjustments were made to ensure that the questions were more concise, whilst at the same time ensuring that the quality of the information sought was not compromised. In addition, some of the questions were spaced to enhance easy reading. The three firms that failed to respond to the questionnaires indicated that they were not willing to disclose any information relating to their financial practices to any third party. In all, the pilot test only led to minor modification of the entire questionnaire.

5.3.10. Administering the Questionnaires

Between February and March 2013, 231 questionnaires with covering letters and survey information sheets were personally delivered to 231 companies in Ghana. Each questionnaire was also accompanied with the full contact details of the thesis supervisors, thus lending credibility to the research. The questionnaires were personally collected within five weeks. One week after the respondents had been given the questionnaires, all the firms were contacted by phone to remind them of the collection date. This reminder was important in persuading those who had not filled out the questionnaires to get them ready for the collection date and also to check if they needed any further clarifications. I also visited some of the firms personally to remind them of the collection date. All these actions were taken to enhance the response rate. In the process of distributing the questionnaires, respondents were continually reminded about the need to provide accurate answers to the questions asked. This was important to ensure the accuracy and the reliability of the results obtained.

In terms of delivering the questionnaires to the respondents, there were other ways that the questionnaires could have been sent out to the respondents, for instance, by

³³ The Cronbach's Alpha value is used as the estimate of a reliability of a set of items and this value was obtained by running a Cronbach's alpha test in SPSS. As a commonly accepted rule of thumb, a Cronbach's alpha value of 0.7 and above shows high reliability of test scores.

email, fax or using the post. However, I decided to personally deliver the questionnaires to the respondents for two reasons:

1. First, the absence of reliable postal and other communication services in Ghana made the use of this method the best and efficient option in the current research. The use of this method helped to ensure that the questionnaires were delivered to the right respondents.
2. In addition to the above, this procedure allowed clarification of issues where necessary. Because I had face-to-face contact with the respondents, it allowed respondents to seek further explanation of any issues they were not clear with. This helped to increase the response rate and also encouraged prompt feedback from some of the respondents.

Additionally, it is important to state that in the current study, a few questionnaires were delivered via email as a result of a request of some respondents.

5.3.11. Covering Letter and Survey Information Sheet

To adequately evaluate the reliability and validity of measures, Spector (1992) argues that a sample of between 100 and 200 firms are needed in a piece of research. Accordingly, it was critical that certain measures were adopted to ensure that a certain number of responses were obtained for the current study. Therefore, as a way of keeping the response rate high, the use of a covering letter was vital to request the commitment and co-operation of the respondents (Churchill, 2005; Dillman, 2000). Saunders et al. (2007) observed that covering letters used in research provide the opportunity to convince the prospective respondents to take part in the research.

Following this argument, each questionnaire was accompanied by one covering letter. The use of the covering letter helped to increase the credibility of the study. As suggested by a number of researchers including Tuckman (1999), Mitchell and Jolley (2010), De Vaus (2002) and Connaway and Powel (2010), the covering letter used in this research included the following information:

- An introduction of the researcher
- The nature, aims and the usefulness of the study so as to dispel any fear that participation can have a detrimental effect on their privacy
- The relevance of the responses
- A request for cooperation from the respondents

- An assurance of confidentiality and anonymity
- An offer of the results to those firms which might be interested. This in particular was to serve as a form of incentive to encourage the respondents to fill out the questionnaires.

A copy of the covering letter (together with the questionnaire) is included in Appendix 1 of this thesis. In addition to the cover letter, a participant information sheet accompanied each questionnaire. The information on this sheet included the aims and implications of the research, what participants would be required to do with the survey, whether it was compulsory to take part in the research, the risk involved in taking part in the research, how the information gathered would be stored and how the findings from the research would be disseminated. A copy of the participant information sheet is included in Appendix 2 of this thesis.

5.3.12. Confidentiality and Anonymity

Connaway and Powel (2010) observed that the assurance of confidentiality and anonymity is one of the useful ways of increasing the response rate. The absence of this will give rise to respondents giving dishonest answers, and in some cases the respondents will not even be willing to fill out the questionnaires at all. This underlines the importance of maintaining respondents' confidentiality and anonymity. In both the covering letter and the participant information sheet, the respondents were assured that responses will be kept strictly anonymous and in complete confidence, and that under no circumstance will their individual identities be revealed to any third party and that any information gathered will be solely used for this research. This was important in ensuring sincere responses. Additionally, in order to ensure that the information from the respondents is securely stored, the coded responses were securely stored on the University of York's secure server and the paper form was kept under lock and key in one of the cabinets of the PhD room at the York Management School.

5.3.13. Ethical Considerations

Head (2009) observed that giving financial incentives to her participants had a positive influence on participation and response. She however argued that paying these participants had some practical, ethical and methodological issues, thus making her study unethical. Thus, in trying to minimise this challenge, I ensured that no monetary incentive was given to the respondents but the respondents were offered a non-monetary incentive by offering them the research findings (e.g. Acquah, 2007). In the cover letter, I stated that those interested in the research findings should provide their details at the back of the questionnaire for the findings to be sent to them. Out of the total 119 responses received, only one company requested the results.

Still on the issue of ethics, approval was sought from the ethics committee of the University of York before the questionnaires were sent out to the respondents. This was important to ensure that all the statutory requirements of using questionnaires are observed. A copy of the ethics submission form can be found in Appendix 3 of this thesis.

5.3.14. Challenges Encountered in Administering the Questionnaires

A number of challenges were encountered in the process of administering the questionnaire. The covering letter and the survey information sheet that were attached to the questionnaire explicitly assured the participants of the anonymity and confidentiality of their responses. However, some of the firms visited were initially unwilling to accept the questionnaire, as they were concerned about the disclosure of their financial information. With this, I had to reassure the participants that there was no way any person apart from myself and my two supervisors will know of their responses. Even after given this assurance, some of the firms failed to complete the questionnaire after keeping the questionnaire for two weeks.

In addition to this, there was the problem of some of the respondents understanding some of the terms in the questionnaire (e.g. target debt ratio). In such instances, I had to explain those terms/words to the respondents. There was also a problem with the collection of the questionnaires from the participants. Each participant was given a

maximum of two weeks for the completion of the questionnaire. A week before the collection time, I contacted each participant and reminded him/her of the collection date. Still, some of the firms failed to get the questionnaire fully completed for collection at the agreed date. This took me extra time to go back to these participants for the completed questionnaires. Also, two financial managers requested that I offer them some monetary incentives before they would complete the questionnaire. I however considered this as unethical since such incentives might bias the data collection process. I rather assured them that copies of the research findings would be made available to them when ready.

5.3.15. Reducing Drawbacks

A number of shortcomings have been identified as being associated with the use of questionnaires in research. These include a low response and non-response bias, which could potentially compromise the choice of statistical technique used in the data analysis. Also, where there are major differences between non responding and responding informants, non-response bias is potentially introduced and could undermine the outcome of the statistical analysis and makes it inappropriate to generalise the results beyond the sample investigated. (Churchill 2005; Rindfleisch et al. 2008; Blair and Zinkhan 2002). Churchill (1995) also observed that the physical characteristics of a questionnaire can significantly affect respondents' willingness to participate in a study. A poorly designed questionnaire is likely to convey to respondents that the research is unimportant, leading to a low response rate (De Vellis, 2003).

Because of the issues mentioned above, a number of measures were adopted in the current study to reduce the adverse effects associated with the use of a questionnaire in this research. These measures include the use of a covering letter. Churchill (2005) suggested that using a good covering letter with a detailed explanation of the reason for the research increases the response rate. As such, this measure was adopted to help increase the response rate. In addition to this, the layout of the questionnaire was made as attractive as possible, with simple and interesting questions at the beginning and more sensitive questions at the end of the questionnaire. De Vellis (2003) observed that lengthy questionnaires could place an

increased burden on respondents because of the amount of time they need to complete the questionnaire and this could eventually lead to a low response rate. As such, the questionnaire used in the study was not made too lengthy to discourage prospective respondents from answering them. At the same time, it was ensured that the information gathered was comprehensive enough to aid various statistical analyses. In addition to this, good quality office paper was used for the printing of the questionnaire and each questionnaire was clearly printed. Besides, self-addressed return envelopes were provided to firms that insisted on sending their response through the post, instead of being collected personally. To further increase the response rate, respondents were assured of a copy of the results of this study. All these measures were adopted to reduce any drawbacks associated with the used of questionnaire.

5.4. Secondary Data

Besides the use of primary data to examine the financial practices of firms in Ghana, this study also examined the firm-level determinants of capital structure of firms from eight countries in SSA (i.e. Botswana, Ivory Coast, Ghana, Kenya, Nigeria, Mauritius, South Africa and Zambia). In addition, the study seeks to examine how institutional structures impact on the debt-equity choice of firms in SSA. In order to achieve this, appropriate secondary data was collected from various relevant sources. Thus, this section describes the various sources of secondary data used.

5.4.1. Sources of Secondary Data

The secondary data was obtained from two major sources: the World Bank and the Datastream global database. In the first place, the financial data for 359³⁴ firms in eight SSA countries (including Ghana) was obtained from Datastream. A sample period of 2002-2011 was used for the selection of the firms. The selection of this time-period was based on the availability of enough firm-level data. The basis for selecting these firms was that each firm was required to have at least four years of available data over the study period. Thus, the final sample consisted of 359 firms

³⁴ I excluded data from financial and insurance firms, as well as utility companies since these firms are usually heavily regulated by governments and therefore tend to have capital structure dissimilar from other firms in the corporate sector.

with 2658 as the total number of observations. To facilitate the analysis of the data gathered, all financial data were converted from the various local currencies into the US dollars. The conversion of the data to a common currency (i.e. US dollars) helped to provide a common base for the analysis and comparison of the information. The conversion of the data from the various local currencies was also important in ensuring that the result from this study are comparable to other studies.

Apart from the use of Datastream for firm-level data, additional country-level data including information on levels of inflation, GDP, stock market capitalisation, levels of corruption, and rule of law were collected from the World Bank database. The geographical breakdown of the firm-level³⁵ observations used in this study is shown in Figure 5.2

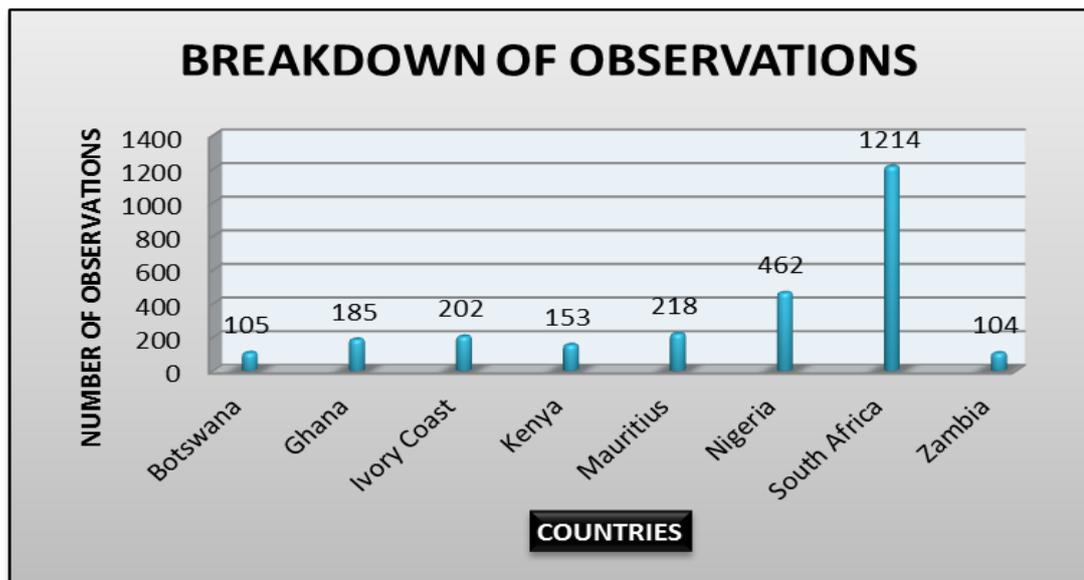


Figure 5. 2: Geographical breakdown of observations

5.5. Dependent Variable and the Independent Variables Used

The main independent variable tested in this thesis is leverage. Rajan and Zingales (1995) posit that there are several ways by which leverage can be defined or measured and the objective of the analysis dictates the measure to adopt. For instance, leverage can be measured as total debt to total equity (Dawood et al. 2011), book value of long-term debt over total asset (De Jong et al. 2008) and ratio of total

³⁵ The geographical breakdown of firms is as follows: Botswana = 17; Ghana = 32; Ivory Coast= 32; Kenya = 27; Mauritius = 38; Nigeria = 70; South Africa = 127; Zambia = 16.

debt to total assets (Mateev, Poutziouris and Ivanov, 2013). For the purpose of this study, leverage is defined as the ratio of total debt to total assets. Previous empirical findings in the context of both developed and developing economies guided the choice of this definition. A summary of all the variables tested in this study and their measurements are provided in Table 5.3.

Table 5. 3: Variables and their Measurements

Dependent variable	Measurement	Literature
Leverage (LEV)³⁶	Ratio of total debt to total assets	Mateev, Poutziouris and Ivanov (2013); Delcoure (2007) Tang and Jang (2007); Onaolapo and Kajola (2012)
Profitability (PR)	Ratio of operating income to total assets	Abor (2008); Huang, and Song (2006); Gungoraydinoglu and Oztekin (2011); Kayo and Kimura, (2011); Deesomsak et al. (2004); Cheng and Shiu (2007); Dawood et al. (2011).
Volatility (VT)	Ratio of standard deviation of operating income to total assets	De Jong et al. (2008)
Tangibility (TA)	Ratio of fixed asset to total assets	Abor (2008); Huang and Song, (2006); Gungoraydinoglu and Oztekin (2011); Kayo and Kimura, (2011); Deesomsak et al. (2004); ChengandShiu (2007)
Size (SZ)	Log of total assets	Chen (2004); De Jong et al. (2008); Deesomsak et al. (2004); Dawood et al. (2011), Cassar and Holmes (2003); Ramlall (2009); Abor (2008)
Growth (GR)	Ratio of sales growth to total assets growth	Sharif, Naeem and Khan (2012) Sheikh and Wang (2011).
Tax (TX)	Ratio of tax paid to net profit before tax	Gungoraydinoglu and Oztekin, (2011)
Stock market Development (SM)	Ratio of stock market capitalization to GDP	Jong, A. et al., (2008); Kayo and Kimura (2011)
Corruption (CP)	Corruption perception Index	Transparency International (2012), Jeoveer (2013).
Inflation (IN)	Annual rate of inflation	Gungoraydinoglu and Oztekin (2011)
Rule of Law (RL)	The extent to which agents have confidence in and abide by rules of the society	World Bank (2013)
Economic development (ED)	GDP as a proxy for economic development	Cheng and Shiu (2007)

³⁶ Leverage is the dependent variable and all the other variables are independent/exogenous variables

5.6. Data Analysis

In any research, using an appropriate data analysis method is essential to get statistically reliable results. Thus, this study adopted appropriate data analysis techniques to analyse both primary and secondary data to achieve the research objectives set out in Chapter One. Following the purpose of the study and previous studies including Beattie et al. (2006), Graham and Harvey (2001) and Kayo and Kimura (2011), this study adopts various statistical procedures in order to achieve its aims and find answers to the research questions raised. In analysing the data, three different pieces of statistical software were used, depending on their relevance and appropriateness and these are: STATA, Origin and SPSS. Details of the various analyses, as well as the discussions of the results and their implications are provided in the relevant chapters. Because this study makes use of both primary and secondary data, the analysis of the data was grouped into two as discussed briefly below.

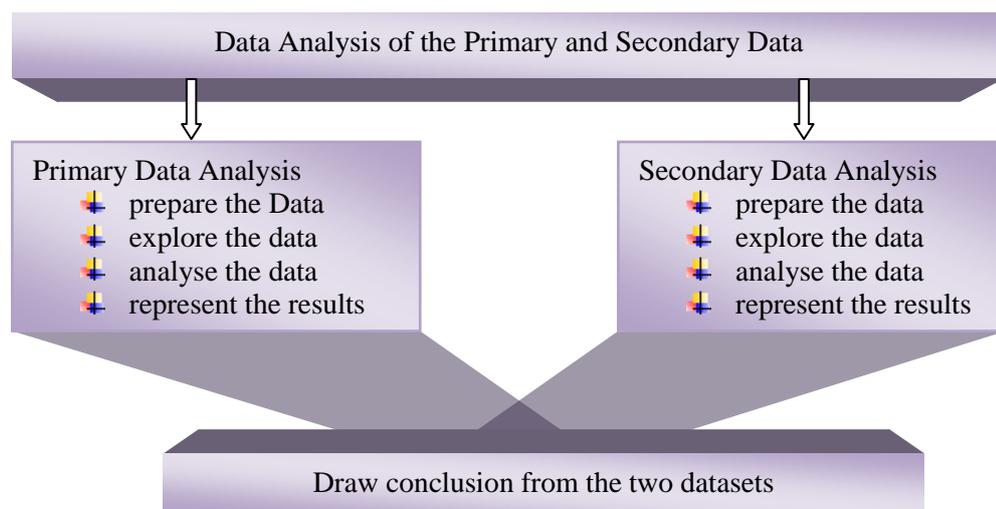


Figure 5. 3: Data Analysis Procedure

5.6.1. Analysis of Primary Data

In analysing the primary data, all the copies of the questionnaire were examined for accuracy and completeness after which the questionnaires were serially numbered, coded and fed into the SPSS and Origin software packages. A reliability test was then conducted to assess the reliability of the measurement scales used in the study. Details of this are provided in Chapter Six of this thesis. A non-response bias was

also assessed in determining whether non-response could be a major problem in interpreting the outcome of this survey. At the first stage of the analysis, descriptive analysis procedures were adopted to describe the characteristics of the data collected. Various statistical tests were then used in the analysis of the primary data. Details of the various statistical analyses of the primary data are provided in Chapter 6.

5.6.2. Analysis of Secondary Data

Apart from the primary data, secondary data were also collected in order to achieve the objectives of this study. A number of analytical tasks were adopted in dealing with the secondary data. As highlighted above, in the first stage, I converted the data from the various local currencies to US dollars. This was important so as to provide a common platform for comparing the data. The data were then transposed and fed into the STATA software. Various variables³⁷ were then generated. Several statistical methods and estimations were used in analysing the secondary data. In the first place, summary descriptive statistics were calculated in order to ascertain the distribution (normality or otherwise) of the variables-both dependent and independent variables. Further, to estimate the effects of the explanatory variable on leverage, panel estimation models were adopted. These regressions include the ordinary least square and tobit regression models. The adoption of the panel data approach was due to the panel characteristic of the data and also in line with previous scholarly works on capital structure (e.g. Fosu, 2013; Kayo and Kimura, 2011; Sheikh and Wang, 2011; Huang and Song, 2006; Chen, 2004). The advantage of the panel data methodology over other methods is that this method allows one to control for unobserved variables such as disparities in business practices across entities. The general form of the regression model used is indicated as;

$$Y_{i,t} = \alpha + \beta X_{i,t} + e_{i,t} \quad (1)$$

The double subscript attached to the variables differentiates the regression equation from ordinary time-series regressions or cross-sectional regressions. The subscript i represents the cross-sectional dimension and t time-series dimension. Further, Y in the equation represents the dependent variable, β denotes the coefficients, X denotes

³⁷ Details of the variables can be found in Table 4.3

the explanatory variables (which have already been explained in Table 4.4 above) in the estimation model, α is the constant and finally e is assumed to be randomly a distributed error term. For specification and distinctive purposes, the general regression model used is divided into two in order to have firm-specific and interaction model equations. The first regression model only looks at the effects of firm-level factors on leverage. The second regression model combines both conventional firm-level factors, as well as the interaction terms³⁸ in the regression analysis. Therefore, the model for the firm-level determinants of leverage is specified as

$$LEV_{i,t} = \beta_0 + \beta_1 PR_{i,t} + \beta_2 VT_{i,t} + \beta_3 TA_{i,t} + \beta_4 SZ_{i,t} + \beta_5 GR_{i,t} + \beta_6 TX_{i,t} + e_{i,t} \quad (2)$$

Where :

$LEV_{i,t}$ = total debt/ total asset for firm i in period t

$PR_{i,t}$ = ratio of operating income to total asset for firm i in period t

$VT_{i,t}$ = standard deviation of operating income/ total asset for firm i in period t

$TA_{i,t}$ = fixed asset/ total asset for firm i in period t

$SZ_{i,t}$ = log of total asset for firm i in period t

$GR_{i,t}$ = sales growth/ total asset growth for firm i in period t

$TX_{i,t}$ = tax paid/ net profit before tax for firm i in period t

e = the randomly distributed error term.

In addition, in testing the conceptual framework³⁹ 2, 3 and 4, the regression model specification was set as follows:

³⁸ More information about the interactive terms is provided below.

³⁹ Details of the various frameworks are provided in Chapter 4.

$$Y_{i,t} = \alpha + \Sigma\beta W_{i,t} + \Sigma\beta X_{i,t} + \Sigma\beta Z_{i,t} + e_{i,t} \quad (3)$$

Where :

Y_i = Leverage measure for firm i in period t

W_i = Conventional firm-level factors for firm i in period t (*i.e.* profitability, asset tangibility, firm size, growth, volatility and tax)

X_i = Non- conventional variables for country i in period t (*i.e.* stock market capitalization, Banking sector development, economic development and inflation) which are used as control variables

Z_i = Interaction terms for firm i in period t

5.6.3. Creation of interaction terms

In the moderating effects of firm size, asset tangibility and rule of law models, a number of multiplicative interaction variables were created based on the objectives of the study. Existing literature guided the procedures used in the creation of the interaction terms. The procedure used by Adomako and Danso (2014); Boso et al. (2013); Cadogan, Diamantopoulos and Siguaw (2002) and Ping, (1995) were adopted in generating the interaction variables. That is, in creating the interaction variables, the moderating variables were multiplied by other variables of interest and their products were residual-centred. For instance, a construct representing the interaction of firm size (SZ) and tax (TX) was created by multiplying the two variables (*i.e.* SZ x TX). The indicators SZ and TX are then regressed on to SZ x TX (*i.e.* the interaction variable). The residual is then saved and used in the regression.

Besides, as indicated in the model specification for conceptual frameworks or models 2, 3 and 4, a number of control non-hypothesised variables were included in the regression analysis. In line with the purpose of this research and with existing literature (*e.g.* Boso, et al. 2013; Krishman and Teo 2012), the control variables were used in models 2, 3 and 4 to account for factors other the theoretical constructs of interest that could explain variance in the independent variable (leverage).

5.6.4. Analytical Issues Addressed

In testing relationships using the secondary data, certain information were not available (e.g. information on short and long-term debt) and this serves as a limitation to examine leverage in relation to long term and short term debt. However, using the Datastream and the World Bank as sources of original secondary data to measure the key variables for this study, the reliability of the data was tested by comparing the data from the eight countries used in the study on the assumption that the data from the eight countries should provide reliable and consistent information. Indeed, evidence obtained (e.g. Appendix 4) showed consistent information across the countries examined.

In dealing with panel data, there are a number of analytical issues that could potentially affect the inferences drawn from the regression results. These include issues relating to multicollinearity, heteroskedasticity, autocorrelation and reverse causality. First, one of the major issues in multivariate statistical analysis is multicollinearity (Hair et al. 2006). According to Kline (1998), multicollinearity relates to a condition where there is a high correlation between independent variables in a regression model. This situation creates instability in the regression outcome. Thus, there is the need to control for this in the regression model. In testing for multicollinearity in the current analysis, a Pearson correlation matrix was examined. According to Hair et al (1998), the correlation between any two pair of independent variables should not be greater than 0.80. As indicated in Chapter 6, the bivariate correlations among the independent variables did not reveal any multicollinearity concern. Thus, multicollinearity was not an issue in interpreting the outcome of the regression analysis in conceptual model 1.

In testing the hypothesis in conceptual models 2, 3 and 4, a number of multiplicative interactions were created due to the moderator variables. Due to the inclusion of the interaction terms in the regression estimates, multicollinearity became an issue. In order to reduce the threat of multicollinearity, all the variables involved in the interaction terms were residually centred (Little, Bovaird and Widaman, 2006). These residually centred variables were then used in the regression analysis. In dealing with possible heteroskedasticity and autocorrelation within firms, all the regressions were made robust and used the cluster (firm) option. Following

Deesomsak et al. (2004), the explanatory variables were lagged one period in order to isolate the analysis from the potential reverse causality between independent and dependent variables and to provide a more robust test of the theory.

5.7. Chapter Summary

In this chapter, I have given an account of the research methodology adopted in this study. The choice of methodology, data collection procedures, and various methods of data analyses are all considered under this chapter. Based on the purpose of this study, a quantitative methodology was used. In order to achieve the objectives of the study, both primary and secondary data were used. The primary data were obtained from 119 firms in Ghana and the secondary data used were obtained from firms in eight countries in SSA. The choice of Ghana was based on the relatively developed industrial base of the country. Also, the personal connection I have in the country facilitated the data collection. Questionnaires were used for gathering the primary data. In using the questionnaires, a number of procedures were followed to enhance the quality of the questionnaire and increase the response rate. First, the questionnaires were pre-tested to check the suitability of the questions in answering the research objectives and to correct any anomaly in the questions. Also, each questionnaire was accompanied with a covering letter and a participant information sheet. The cover letter assured the respondents of the confidentiality of their response. Due to the unreliable postal system in Ghana, all the questionnaires were personally delivered to the respondents and collected within 5 weeks.

I encountered a few problems during the administration of the questionnaires and these problems are also highlighted in this chapter. The secondary data used in this study were also collected from Datastream and the World Bank databases. In selecting the firms for the secondary data, firms with less than 4 years of observation were excluded. A final sample of 359 firms from eight countries in SSA was used in the analysis. In addition to the above, this chapter has also highlighted various statistical tests adopted in the study. The definitions of various constructs of interest are also provided in this chapter. The objectives of the current study and existing literature guided the creation of the various interaction terms used. Since the study uses two different sets of data, I have classified the analysis into two main sections.

The first part of the analysis focuses on the primary data and the second part looks at the secondary data. Different statistical procedures were adopted the analysis of both the primary and the secondary data. In the next chapter, I look at the analysis of the primary data.

PART III: RESULTS AND DISCUSSION

Chapter 6

Sources of Finance, Barriers and Factors Influencing Capital Structure. The Case of Ghana.

6.1. Introduction

A question of much interest in finance literature (e.g. Sheikh and Wang, 2011; Chen, 2004; Beattie et al. 2006; Graham and Harvey, 2001) concerns the underlying factors that influence firms' financing decisions. Since the ground breaking work of M and M in 1958, significant progress has been made in understanding the financing behaviour of firms. However, the diversity of firms' financing behaviour cannot be easily explained by simply relying on secondary data or existing financial statements (Beattie et al. 2006). Previous scholarly studies on capital structure of firms have mainly been based on secondary data, which are limited in their ability to fully explain the reality on the ground (Beattie et al. 2006). This chapter of the thesis therefore focuses on the various issues that affect financing decisions of firms by using responses obtained from 119 firms in Ghana. Research questions that are answered in this chapter are highlighted in Table 6.1. Two main theories of capital structure are highlighted in the discussion under this chapter. These are the pecking order theory and the trade-off model. I begin this chapter by first looking at the response rate and CEOs' characteristics of firms investigated. This is then followed by a discussion of key areas including the main sources of capital for firms in Ghana, factors affecting debt-equity choice, the pecking order theory, target debt setting, spare borrowing, and how the 2007/08 financial crisis has affected debt-equity choice among firms in Ghana.

Table 6. 1: Research Questions

Subject	Research Question
Sources of finance	<i>Q1. What are Ghanaian firms' sources of capital?</i>
Problems of financing	<i>Q2. What problems do Ghanaian firms face in securing funds from banks or financial lenders?</i>
	<i>Q3. How do Ghanaian firms raise capital?</i>
Pecking Order Theory	<i>Q4. What factors influence a company's choice of equity finance?</i>
The Trade-off Theory	<i>Q5. What factors influence a company's choice of debt finance?</i>
Short and Long term Debt	<i>Q6. What are the reasons for choosing short-term debt?</i>
Spare Borrowing Capacity	<i>Q7. Is there any significant difference in the choice of bank loan, overdrafts, and other sources of funds as spare borrowing capacity?</i>

6.2. Response Rate and Reliability

Table 6. 2: Breakdown of Firms

Sector	Number of Distributed Questionnaires	Total Number of Returned Questionnaires
Primary	77	33
Secondary	77	36
Tertiary	77	50
Total	231	119

The primary sector (i.e. basic production) includes agriculture, forestry, fishing, mining and extraction of gas and oil. The secondary sector (i.e. production of goods) also includes industries, construction and craft. The tertiary (i.e. services) include trade, transport, information and communication, education, health, banks and culture.

One hundred and nineteen completed questionnaires were received for this study. This represents a response rate of 51.5 percent. The breakdown of the response rate is shown in Table 6.3

Table 6. 3: The breakdown of response rate

Sector	Response Rate (%)
Primary	43
Secondary	47
Tertiary	65

The breakdown of the response rate indicates that majority of the firms investigated are concentrated in the tertiary sector of the Ghanaian economy. A reliability

analysis of the questionnaire revealed a Cronbach's Alpha value⁴⁰ of 0.936. This means that the instrument used was highly reliable as argued by Huck (2000).

Out of the 112 firms that did not respond to the questionnaire, 65 of them (representing 58.04 percent) indicated that they could not take part in the survey due to their company's policy. No reason was received from the remaining 47 companies (i.e. 41.96 percent) for not taking part in the survey. Despite the small sample size, the received questionnaires came from across the country with at least 10 from each of the seven regions in the country. Drawing the data across seven regions in the country strengthen the generalizability of the findings. The current response rate is satisfactory as compared to prior survey research on capital structure determinants.

For instance, Graham and Harvey (2001) conducted financial studies and received a response from 392 firms out of 4587 distributed. This represents a rate of 9%. Similarly, Norton (1989) who evaluated the financial practices of Fortune 500 firms in the US received responses from 98 firms, representing 21% of the entire questionnaire distributed. Also, Bancel and Mitto (2004) studied a similar theme and received a response rate of 12 % (i.e. 87 firms across 26 European countries). Thus, considering the absolute number of the questionnaires and the response rate in previous studies, a response rate of 51.5 % and absolute number of 119 questionnaires is satisfactory and also provides a reasonable approximation of the characteristics of firms in Ghana. Despite the satisfactory response rate, it was still deemed appropriate to explore whether non-response could be an issue in interpreting the outcome of these results. On the basis that late respondents are similar in characteristics to non-respondents (Oppenheim, 1966), I compared the responses from the early respondents to the late respondents on a number of key variables by using the Wilcoxon-Mann-Whitney test to see whether any significant difference exists between these two groups of respondents. The test revealed no significant difference between the responses from early and late respondents. Thus, non-response was not a major concern in interpreting the outcome of the current study.

⁴⁰ The Cronbach's Alpha value is used as an estimate of a reliability of a set of items and this value was obtained by running a Cronbach's alpha test in SPSS. As a commonly accepted rule of thumb, a Cronbach's alpha value of 0.7 and above shows high reliability of test scores.

6.3. Background Characteristics

6.3.1. Job Titles of Respondents

To ascertain the job titles of the respondents, the first question in the questionnaire was used in soliciting this information. Figure 6.1 provides a summary of the job titles of the respondents.

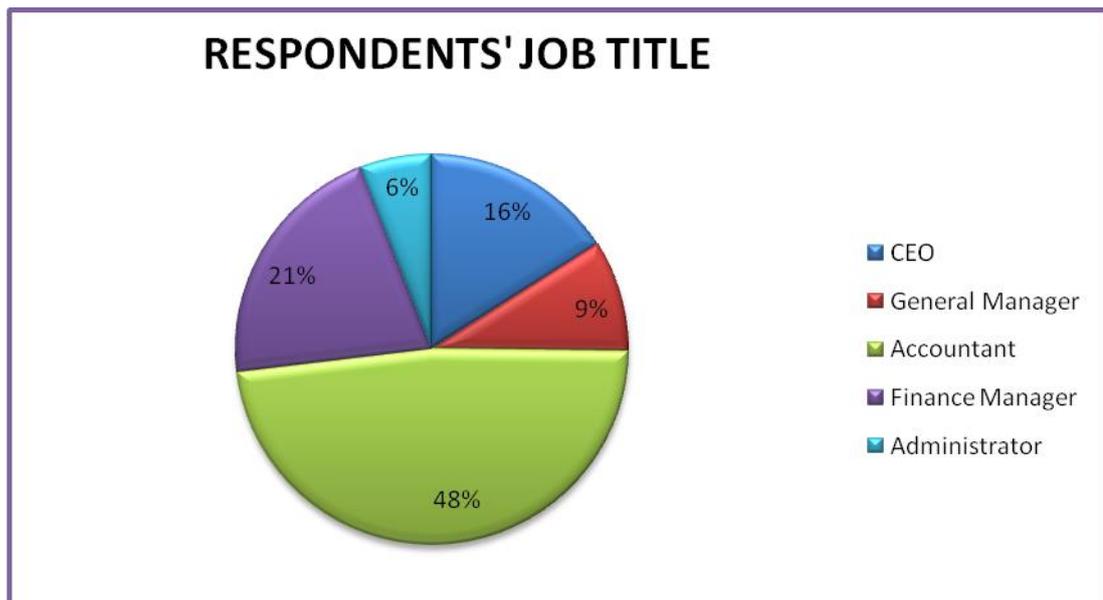


Figure 6. 1: Job Titles of respondents

The suitability of the individual respondents affects the validity of the responses obtained. Individual respondents were required to be knowledgeable in the issues under investigation to enable them provide valid responses. As this study is on the financing decision of firms, it was required that respondents had considerable experience and knowledge of their firms' financing decisions. The analysis of the data obtained, as is evident from Figure 6.1, shows that the majority of those who responded to the questionnaire were people knowledgeable in the financing decisions of their firms, thus ensuring the validity of the responses obtained. This increased the confidence in the data obtained.

6.3.2. Gender of CEOs of Investigated Firms

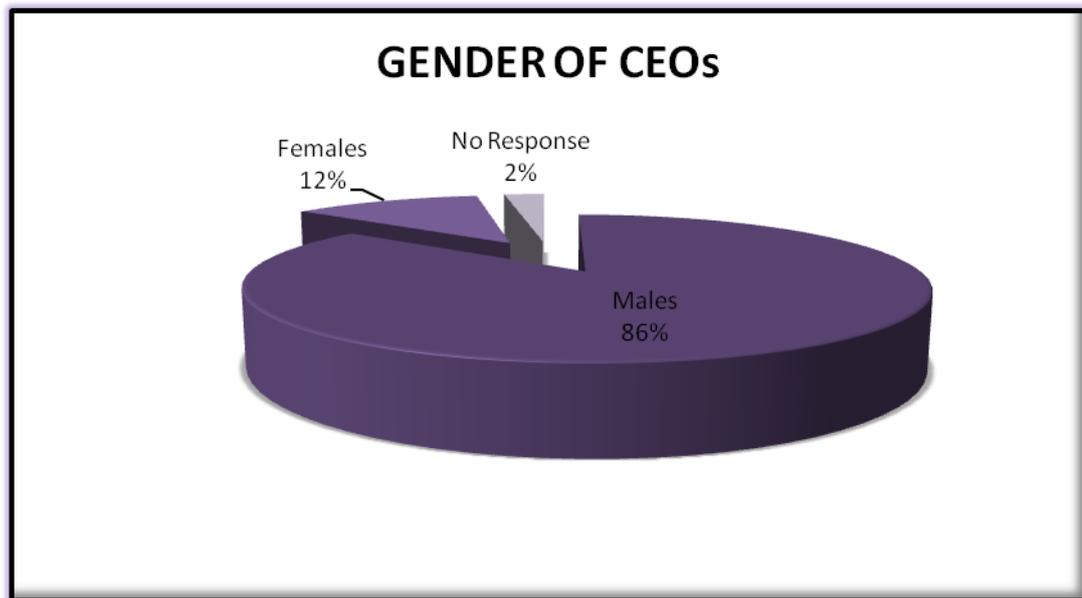


Figure 6. 2: Gender of CEOs of investigated firms

Figure 6.2 provides the breakdown of gender of CEOs of firms investigated. The figure indicates males dominated CEO positions among sample firms.

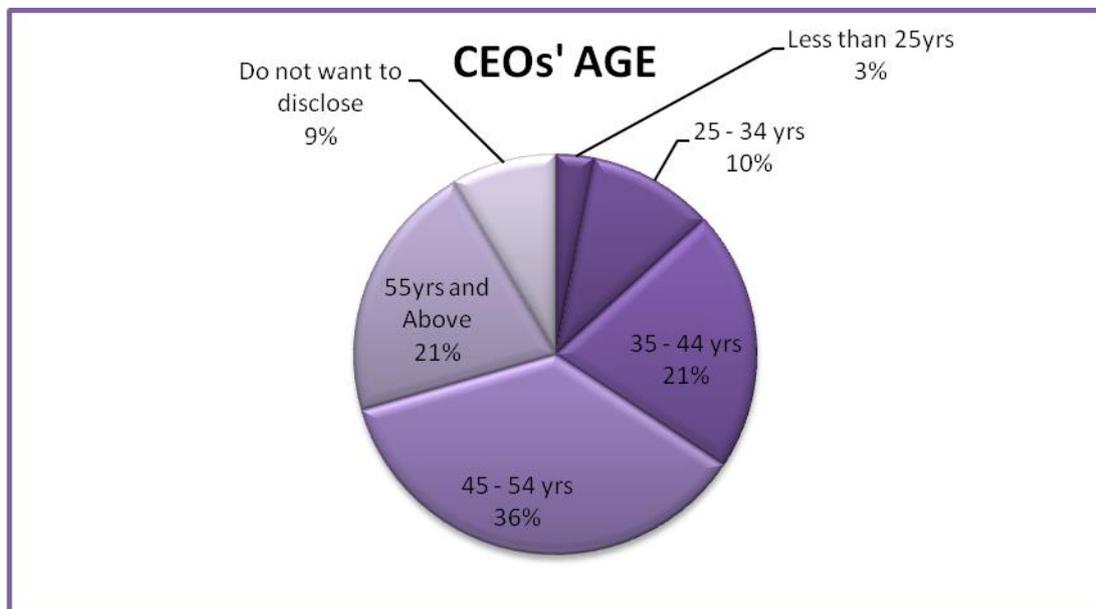


Figure 6. 3: Age of CEOs

The age of a CEO of a firm is likely to predict the corporate financing decisions of firms they manage. Older CEOs could have previous records of accomplishment that

could influence them in making certain financing decisions compared to younger CEOs (Bertrand and Schoar, 2003). Therefore, in order to ascertain the relationship between CEOs age and their firms' financing decisions, firms were asked to provide the age of their CEOs. This survey revealed that majority (i.e. 70.6 percent) of the CEOs of firms investigated were below 55 years.

6.3.4. Educational Background CEOs

Educational backgrounds of CEOs are likely to influence debt-equity choice of firms they manage (Bertrand and Schoar, 2003; Malmendier and Tate, 2005). As such, respondents were asked to provide information about the educational background of their CEOs, and Figure 6.4 provides a summary of the educational backgrounds of these CEOs.



Figure 6. 4: Educational Background of CEOs

Figure 6.4 indicates that majority of the surveyed firms had CEOs with postgraduate academic qualifications.

6.4. Results and Analysis

6.4.1. Alternative Financing Sources

Research Question 1: What are Ghanaian firms' sources of capital?

In order to ascertain the main sources of capital for firms in Ghana, all the respondents were asked to rate the extent to which different sources of capital was important to their firms by ranking the set of factors below. The result of this is shown in Table 6. 4.

Table 6. 4: Sources of Finance

Sources of finance	Mean	SD	Std Error Mean	T-values	Sig. (2 tail)
Retained earnings	4.61	.665	.061	26.458	.000
Banks and other lenders	3.56	1.369	.126	4.485	.000
New equity issue	2.29	1.502	.138	-5.187	.000
Informal sources	2.21	1.413	.130	-6.096	.000
Affiliated companies	1.89	1.370	.126	-8.830	.000
Insurance companies	1.87	1.171	.107	-10.567	.000
Leasing companies	1.86	1.188	.109	-10.493	.000
Hire purchase	1.79	1.149	.105	-12.10	.000
Bonds	1.63	1.134	.104	-13.177	.000
Venture capitalists	1.59	1.069	.098	-14.408	.000

Note: The above sources of capital were ranked using a 5-point Likert scale (1- the least important source and 5 – most important source). The table is ordered by mean rank and the t-values are versus a Ho value of 3.

Findings as reported in Table 6.4 indicate that retained earnings and loans from banks and other lenders are the two most important sources of funds for firms studied. Firms in Ghana have limited access to other forms of finance. The role of leasing companies, venture capitalist, and the bond market in Ghana in terms of providing funds for firms remains narrow, underdeveloped and are considered as the least important sources of funds for firms in Ghana. Consequently, firms in Ghana have limited access to long-term finance needed for meaningful investments. As highlighted by Mu et al. (2013), the average market capitalization (as a percentage of GDP) of bond market in SSA from 2001 to 2010 stood at 1.12 per cent. This suggests that firms in SSA have limited access to different forms of finance. In line with the above findings, Bloom, Mahajan, Mckenzie and Reborts (2010) noted that firms in less developed countries are more likely to report access to finance as a major constraint. According to the World Bank Enterprise Survey (2011), firms in SSA finance roughly 80% of their investment activities from retained earnings. This indeed highlights the importance of retained earnings, as a source of funds for firms in SSA. This demonstrates that developing alternative sources of funds is vital for firms in SSA. This is particularly crucial for firms that do not have enough retained earnings but have a huge investment opportunities to embark upon. The current finding is in line with empirical evidence reported in other developing economies (e.g. Fan and So, 2004).

6.4.2. Problems of Acquiring funds from lenders

Research Question 2: What problems do Ghanaian firms face in securing funds from banks and other lenders?

Problems that affect firms in securing funds from lenders were also explored in this research. Respondents were asked to rate a number of problems that their firms face in securing debt. The result of this is shown in Table 6.5.

Table 6. 5: Barriers of Securing Funds

Barriers	Mean	SD	Std.Error Mean	T=Values	Sig.(2 tailed)
Interest rate	4.29	.997	.090	14.445	.000
Length of time for processing the loan	3.81	1.174	.108	7.498	.000
Collateral issue	3.40	1.492	.137	2.949	.004
High transaction cost	3.03	1.314	.120	.279	.781
Company's size	2.63	1.567	.144	-2.574	.011
Track records	2.31	1.345	.123	-5.588	.000

Note: The above factors were scored using a 5-point Likert scale (1- not at all a problem and 5 – a serious problem). The table is ordered by mean rank and the t-values are versus a Ho value of 3.

Table 6.5 suggests that the high interest rate remains the main barrier of firms in securing loans from financial lenders. In SSA, many countries including Ghana suffer from a high rate of inflation. Although Ghana has made substantial progress in reducing its inflation, this situation still persists. For instance, as of December 2011, the inflation rate in Ghana was 12.50%⁴¹ (World Bank, 2013) and that of June 2014 was 15.00% (Bank of Ghana, 2014). High inflation leads to a high lending rate.⁴² With the high interest rate, the ability of firms to contract a substantial loan could be limited, as firms could eventually find it difficult to repay these loans. For instance, according to the Bank of Ghana (2012), the cost of borrowing for firms in Ghana ranges from 25% to 40 %. With this high lending rate, the capacity for the private sector to borrow and expand are limited. Consequently, the ability of the sector to promote the creation of employment is hindered.

Another prevailing constraint regarding securing funds by firms in Ghana is the issue of collateral. Lenders usually impose high collateral requirements in their contractual

⁴¹ The comparable figures for the UK and US were 2.3% and 2.7% respectively.

⁴² The relationship between the lending interest rate and inflation has already been explained in chapter 2 using the Fisher equation.

agreements. Where borrowers are unable to meet the collateral requirements of lenders, there is the tendency to go for short-term credit, which do not usually attract a high collateral requirement. In such a situation, firms tend to find it difficult in getting medium to long-term credit that is usually required for fixed asset purchase. The current outcome is in line with the scholarly work by Cheng and Shiu (2007), who claimed that collateral in the form of an asset base is crucial in the acquisition of long-term debt, especially in countries where there is an absence of good creditor protection. The presence of collateral provides an assurance of repayment to lenders. It is therefore not surprising that collateral is one of the demands of lenders when firms are acquiring finance from lenders in Ghana. Indeed, previous empirical studies in the context of SSA (e.g. Ramlall, 2009; Abor, 2008) have noted the importance of asset tangibility in debt acquisition and that firms that do not have adequate assets are less likely to be granted financial assistance by lenders. This is particularly a challenge for firms with growth opportunities but do not have the assets based to be used as a collateral in debt acquisition. This current result is in line with other empirical works. For instance, Wiwattanakantang (1999) observed that firms that are unable to provide collateral when borrowing could be subjected to more onerous conditions than firms that provide collateral.

The size of the company was not a major barrier for acquiring funds from lenders in Ghana. Previous empirical studies (e.g. Diamond, 1989) have observed that newly established firms usually do not have an extensive credit history (records of accomplishment) which facilitates debt acquisition. Consequently, firms that have not been in business for long find it difficult to acquire debt financing. In the current study however, inadequate record of accomplishment was not found to be a major problem. Established reputation was not an issue for firms in Ghana. One explanation for this is the strategic measures of the Ghanaian government that encourage financial institutions to lend to businesses of all sizes with growth potential so that such firms will be enriched with resources to grow and create jobs. A typical example is the Stanbic/AGRA loan guarantee programme that was initiated in 2010. This is particularly good news for newly established firms in Ghana, which may not have acquired any records of accomplishment but could still have access to loans from lenders.

6.4.3. Raising of Capital

Research Question 3: How do Ghanaian firms raise capital?

To evaluate finance preferences, respondents were asked to score three financing choices. Table 6.6 therefore shows the ranking of different financing alternatives.

Table 6. 6: Raising of Capital

Type of Finance	Mean	SD	Std. Error Mean	T-Values
Retained*** earnings	4.48	.999	.092	16.155
Debt/loans***	3.34	1.361	.125	2.694
Equity finance	3.11	1.413	.130	.843

Note: The above financing choices were scored on a Likert scale from 1 (least preferred) to 5 (most preferred) The table is ordered by mean rank and the t-values are versus a Ho value of 3. The significance level denotes whether the mean response is significantly different from the test value (i.e. 3) in a 2-tail test. *** (significant at 1%) and ** (significant at 5%).

The central argument in Myers' (1984) pecking order theory is that in raising capital for investment, firms initially rely on internally generated funds (retained earnings), followed by debt and equity being the last resort. In other words, there is a hierarchy of financing preference and that there is no well defined target of debt and equity finance. The relative cost of each financing source is determined by the degree of asymmetry information. Table 6.6 suggests that retained earnings was the most preferred financing alternative, followed by debt/loans. Equity was the least preferred form of finance. Indeed, as an equity market becomes developed, equity finance becomes an important source of capital for firms (Bloom, et al. 2010). Given the fact that the equity market in Ghana is less developed, it is not a surprise that equity finance was the least preferred form of finance. Prior empirical evidence suggests that retained earnings remains the most important source of funds for firms in SSA. For instance, according to World Bank Enterprise Survey (2011), firms in SSA finance about 80 percent of their investment activities from retained earnings. Given the limited sources of different forms of finance in SSA (e.g. Mu et al. 2013), it is therefore not surprising that retained earnings remains the most important sources of funds for firms in Ghana.

This priority of financing alternatives reported above suggests that the pecking order principle is used by firms in Ghana. The significant difference in mean rank between retained earnings (i.e. mean = 4.48) and debt/loans (mean = 3.38) is not surprising in that given the 2007/08 financial crisis, firms' access to external finance could have been constrained. Overall, the current results confirm the results of a study in the UK by Beattie et al. (2006) that also observed that firms raise their capital by relying on retained earnings, followed by debt capital and finally equity finance.

In addition to the above, respondents were provided with another question related to the pecking order theory. Here, respondents were asked to rank a number of factors that might influence them in using retained earnings other than any other type of finance for financing a new investment opportunity. The results of this is presented in Table 6.7.

Table 6. 7: Factors influencing choice of retained earnings

Reason	Mean	SD	Std. Error Mean	T-values	Sig. (2 tail)
Retained earnings cheaper than outside debt	4.49	.964	.088	16.826	.000
Retained earnings cheaper than new equity issue	4.26	1.101	.101	12.494	.000
To avoid dilution of control by issuing new shares	3.69	1.436	.132	5.233	.000
Difficulty of convincing lenders of profitability of new investment	3.19	1.257	.115	1.677	.096
To avoid scrutiny from lenders	2.96	1.423	.130	-.322	.748
To reduce the amount paid in dividends	2.59	1.464	.134	-3.069	.003

Note: The above reasons were scored using a 5-point Likert scale (1- least important reason and 5 – most important reason). The table is ordered by mean rank and the t-values are versus a Ho value of 3.

From Table 6.7, almost all the respondents agree that the major factor that influences firms in choosing retained earnings as against outside debt was the cost involved. Retained earnings is considered to be cheaper than other sources of funds and therefore firms have the tendency to use their internal funds to finance investment activities before resorting to funds from external sources. Available evidence from Ghana shows that cost of borrowing remains very high. For instance, according to the Bank of Ghana (2012), the cost of borrowing for firms in Ghana ranges from 25% to 40 %. Thus, it is not surprising that retained earnings is preferred by firms in Ghana due to low level of cost associated with its usage.

The current findings also suggest that the use of retained earnings as against external funds is driven by firms' desire to prevent dilution of ownership control. This outcome is consistent with conclusion drawn by Kjellman and Hansen (1995) regarding retained earnings' preference among Finnish firms.

The sampled firms do not consider scrutiny from lenders (t-value = -.322) and dividend payments (t-value = -3.069) as issues influencing choice of retained earnings over debt financing for new investment opportunity.

6.4.4. Factors Moderating Choice of Equity Finance

Research Question 4: What factors influence firms' choice of equity finance?

To further test the pecking order theory, respondents were asked to score nine factors that moderate a firm's equity choice. Table 6.8 provides a summary of the mean responses in order of importance.

Table 6. 8: Relative Importance of Factors in Choosing Equity Finance

Factor	Mean	SD	Std. Error Mean	T-values	Sig. (2 tailed)
Sufficiency of retained earnings	4.09	1.164	.107	10.235	.000
How easy it is to access loans	3.57	1.344	.123	4.638	.000
Loss of control through share dilution	3.56	1.566	.144	3.923	.000
Equity being the least risky source of finance	3.12	1.360	.125	.943	.347
Effects on the total cost of capital	2.82	1.315	.121	-1.534	.128
Cost of issuing new equity	2.69	1.460	.134	-2.323	.022
Maintaining target debt/equity ratio	2.63	1.227	.113	-3.287	.001
To get a better impression about our company than using debt	2.39	1.427	.131	-4.690	.000
Maintaining the same level of equity as other firms in the same industry	2.15	1.226	.112	-7.554	.000

Note: The above factors were scored using a 5- point Likert scale with 1 (not at all strong) to 5 (very strong)
The table is ordered by mean rank and the t-values are versus a Ho value of 3.

From Table 6.8, the results show that the important factor in determining equity level is the sufficiency of retained earnings. Loss of control through share dilution was also found among the three top factors in making equity decision. The correlation between ‘managerial shareholding’ and ‘loss of control through shareholding’ is quite high (0.7). This outcome supports other empirical studies from the context of SSA. For instance, Abor, (2008) and Boateng (2004) noted that managements’ desire to maintain control of their firms will ensure that in making capital structure decisions, debt is favoured against equity, even if the cost does not favour the use of

debt, to avoid any influence from the equity investors. Similarly, the current study is in line with Wiwattanakantang (1999), who maintained that the owner-managers of family businesses would not be willing to issue equity and therefore depend on debt for all business operations in order to prevent the dilution of the families' controlling power. This result also highlights that firms in Ghana consider the following factors as unimportant in choosing the amount of equity to use. These factors are

- a. maintaining target debt/equity ratio,
- b. firms receiving better impression for using equity rather than debt
- c. maintaining the same level of equity as firms in the same industry.

6.4.5. Factors Moderating Choice of Debt Finance

Research Question 5: What factors influence firms' choice of debt finance?

I test the trade-off theory by inquiring about the importance of certain factors. Here, respondents were asked to score a set of ten factors considered by them in choosing debt finance. Table 6.9 provides a summary of these factors.

Table 6. 9: Relative importance of factors in choosing Debt Finance

Factor	Mean	SD	Std. Error Mean	T- values	Sig (2- tailed)
Risk of becoming insolvent (Bankruptcy)	4.33	1.328	.122	10.903	.000
Long term survival of the company	4.32	1.402	.129	10.267	.000
Sufficiency of retained Earnings	4.23	1.487	.136	9.001	.000
Low interest rate (Cost of Capital)	3.95	1.460	.134	7.093	.000
Company's relationship with Banks/Lenders	3.87	1.449	.133	6.515	.000
Tax savings on interest expense	3.66	1.348	.124	5.371	.000
Cost of securing debt finance (Transaction cost)	3.58	1.538	.141	4.114	.000
Effects on total cost of capital	3.33	1.568	.144	2.280	.024
Maintaining level of debt as firms in the same industry	2.92	1.639	.150	-.559	.577
To discourage possible takeover	2.66	1.852	.170	-1.980	.050

Note: The above factors were scored using a 5- point Likert scale with 1 (not at all strong) to 5 (very strong). The table is ordered by mean rank and the t-values are versus a Ho value of 3

Table 6.9 demonstrates that the top three factors in determining the appropriate level of debt were risk of becoming insolvent (bankruptcy), long term survival of the firm and sufficiency of retained earnings. The most important factor among these factors was risk of becoming insolvent (bankruptcy). Excess use of debt threatens the survivability of firms (see Titman, 1984). One explanation of this is that creditors will have a firm declared bankrupt if it is not able to meet its debt obligations. In view of this, firms are mindful of it in making debt decisions. The findings of this study support Beattie et al. (2006) who indicated that ensuring the long-term

survivability of firms was the most important factor influencing the choice of appropriate amount of debt for firms in the UK.

Under the trade-off hypothesis, tax savings on interest expenses feature highly in debt level decisions of firms (Frank and Goyal, 2003; Ross et al. 2001). In the current study however, this factor was not extremely important in debt level decisions among firms in Ghana. The most plausible explanation is that weak institutional structures (e.g. Ghana Revenue Authority) create an avenue for firms to evade or marginalise their tax liabilities. Thus, tax becomes less concern to firms in their financing decision. This observation is entirely consistent with the observation reported in chapter of this thesis. In addition, empirical studied from the context of SSA noted a similar relationship between tax and capital structure. For instance using secondary data, Abor (2008) noted a negative relationship between tax and leverage.

The least crucial factor in determining the appropriate level of debt (as noted in Table 6.9) was to discourage takeovers. One important implication of this is that takeovers were not perceived as a threat for firms in Ghana. In other words, firms were less likely to be taken over and consequently, they do not give much attention to the takeover threat in determining the level of debt to employ. The current results also suggest that maintaining comparability with other firms in the same industry was not considered an important factor by firms in Ghana. Other scholarly works have noted similar result. For instance, Fan and So (2004) observed a similar result among firms in Hong Kong.

Closely related to the above factors is the issue of target capital structure. The trade-off hypothesis advocates a target capital structure at which the cost and benefits associated with the use of debt financing are balanced (Jensen, 1986). In the current study therefore, respondents were asked to indicate whether their firms seek to maintain a target capital structure by using approximately a constant proportion of equity and debt finance. 46% of the firms indicated that they maintain a target capital structure, with the rest (i.e. 54%) maintaining no target capital structure. Figure 6.5 below provides a breakdown of the target amount of debt employed by firms investigated.

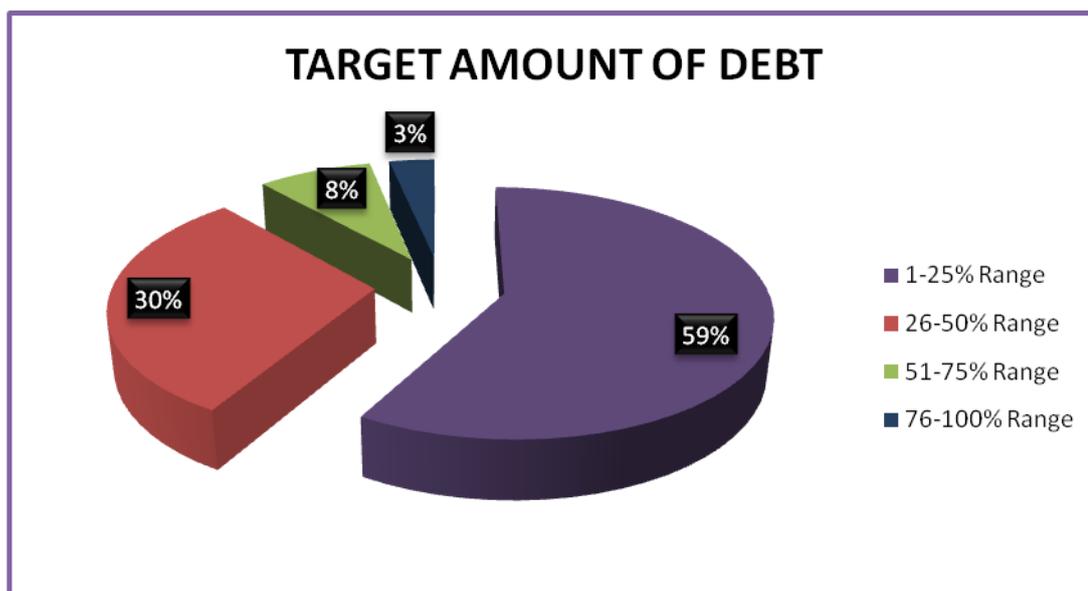


Figure 6. 5: Target Amount of Debt

For companies that maintain a target capital structure, 59% indicated a target debt range of 1-25 %, 30% indicated a target debt range of 26- 50%, and 8% indicated a target debt range of 51 – 75 %. Only 3% of firms indicated a target debt range of 76 – 100%. From the current study, the proportion having a target capital structure in Ghana is lower than what is reported in the UK by Beattie et al. (2006) and in Malaysia by Nor et al. (2012).

The natural progression at this stage is to investigate those responsible for setting the target debt ratios. A well-known area in capital structure examines whether debt-equity levels are internally or externally determined. Whilst many studies (e.g. Abor, 2008, Delcoure, 2007; Cheng and Shiu, 2007, Deesomsak, et al. 2004; Cheng and Shiu, 2007; Sheikh and Wang, 2011) agree that both internal and external factors are important in deciding the capital structure of firms, there is disagreement as to which of these factors is most important in setting debt levels. Consequently using a 5-point Likert scale, respondents were asked to indicate those influential factors in setting the target debt ratios of their firms. Table 6.10 provides a summary of the factors influential in setting the target debt ratio.

Table 6. 10: Target Debt Setting

Factors	Mean	SD	Std Error Mean	T-Values	Sig. (2 tailed)
Company's Senior Management	4.45	1.171	.151	9.595	.000
Shareholders	2.82	1.621	.209	-.876	.384
Financial Lenders	2.68	1.372	.177	-1.788	.079
Major Creditors	2.62	1.316	.170	-2.256	.028
Debt Ratios of other firms in the same industry	1.95	1.268	.164	-6.415	.000
Ghana Government	1.45	1.016	.131	-11.822	.000

Note: Respondents scored the above factors using a 5-point Likert scale with 1- being the least important factor to 5-being the most important factor. The table is ordered by mean rank and the t-values are versus a Ho value of 3

Table 6.10 suggests that out of the six factors, only companys' senior management was important in setting the target capital structure. This indicates that capital structures are more internally driven than externally driven. Debt ratios of firms in similar industries and the Ghanaian government were unimportant in influencing the setting of capital structure targets. The current outcome is in line with other empirical studies. For instance, Beattie et al. (2008) noted that in UK senior management in firms was the most important factor in setting the target capital structure.

6.4.6. Choice of Short-term Debt

Research Question 6: *What are the reasons for choosing short-term debt?*

In a separate question, respondents were asked to rank some factors that influence their choice of short-term debt. The result is presented in Table 6.11.

Table 6. 11: Choice between short and long-term debt

Factor	Mean	SD	Std. Error Mean	T- Values	Sig. (2 tailed)
We borrow short term when short term interest is low	4.04	1.458	.134	7.797	.000
We borrow short term when waiting for long term interest to decline	3.85	1.505	.138	6.152	.000
Matching the maturity with the life of the asset	3.66	1.510	.138	4.737	.000
We borrow short term when we expect our credit rating to improve	3.26	1.649	.151	1.723	.087

Note: The above reasons were scored using a 5-point Likert scale (1- not at all strong and 5 – very strong). The table is ordered by mean rank and the t-values are versus a Ho value of 3.

Of the four different factors offered, the results show that the most favoured reason for borrowing short-term is when short-term interest rate is low ($\bar{x} = 4.04$). This means that firms will issue long-term debt if the short-term interest rate is higher than that of the long-term. Looking at the high cost of borrowing in Ghana (Bank of Ghana, 2012), it is therefore not a surprise that interest rate is the key element considered in short-term borrowing. Another important factor that derives the choice of short-term debt was the timing of the interest rate. The results show that firms borrow short-term when they expect long-term interest rates to reduce. This shows the importance of timing in issuing short-term debt. The issue of credit rating is a less important consideration in issuing debt ($\bar{x} = 3.26$).

6.4.7. Spare Borrowing Capacity

Research question 7: Is there any significant difference in the choice of bank loan, overdrafts and other sources of funds as spare borrowing capacity?

The pecking order logic of Myers and Majluf (1984) suggests that firms are likely to maintain spare borrowing capacity to avoid the need to external funds. The existence of spare borrowing capacity ensures that special projects and unexpected opportunities are seized (Myers and Majluf 1984; Allen, 2000). In this study therefore, respondents were asked to answer a number of questions relating to spare borrowing capacity. Out of the 119 firms surveyed, 43.7% acknowledged a policy for maintaining a spare borrowing capacity. The majority of the firms investigated (i.e 56.3%) do not maintain any spare borrowing capacity (financial slack). In the absence of spare borrowing capacity and inadequate retained earnings, such firms could find it difficult to meet any unplanned cost or opportunity. The observation here is that the figure of 43.7% of firms maintaining spare borrowing capacity is lower than what is reported in the UK by Beattie et al. (2006)⁴³.

The next question relating spare borrowing capacity seeks to find out the sources of spare borrowing capacity. Table 6.12 provides a summary of the t-tests of the various spare borrowing capacities of firms investigated.

⁴³ In Beattie et al. (2006), 59% of the UK firms investigated acknowledged a policy for maintaining a spare borrowing capacity.

Table 6. 12: Sources of Spare Borrowing Capacity

Sources	Mean	SD	T-Values	Std. Error Mean	Sig.(2 tailed)
Bank loan	3.81	1.049	5.554	.145	.000
Overdraft	3.29	1.177	1.767	.163	.083
Leasing companies	2.15	1.161	-5.255	.161	.000
Venture capitalists	1.87	1.299	-6.299	.180	.000
Insurance firms	1.87	1.067	-7.668	.148	.000
Hire purchase	1.83	1.184	-7.147	.164	.000
Informal sources	1.79	1.226	-7.125	.170	.000
Affiliated firms	1.71	1.210	-7.678	.168	.000
Bonds	1.69	1.197	-7.878	.166	.000

Note: The above factors were scored using a 5- point Likert scale with 1 (not at all important) to 5 (very important). The table is ordered by mean rank and the t-values are versus a Ho value of 3.

From Table 6.12, the study indicates that bank loan and overdraft remains the only source of financial slack for firms in Ghana. As indicated by Figure 6.6, a further statistical test (i.e. *Mann-Whitney U test*, $P=0.0007$) shows that there is a statistical difference between bank loan and overdraft and that firms in Ghana are more likely to use bank loans as a spare borrowing capacity than bank overdrafts. The current result however contradicts Beattie et al. (2006) who noted that firms in the UK are more likely to use overdraft facility as the most important source of slack than other sources. Unlike in the developed economies such as the UK where firms have diverse sources of financial slack including unsecured loans, hire purchase and leasing (Beattie, 2006), the overall evidence obtained from this study indicates that access to spare borrowing for firms in Ghana remains very limited. This is not surprising, giving the fact that the financial system in Ghana is not substantially developed and for that matter, access to different forms of financial facilities is limited (World Bank, 2013).

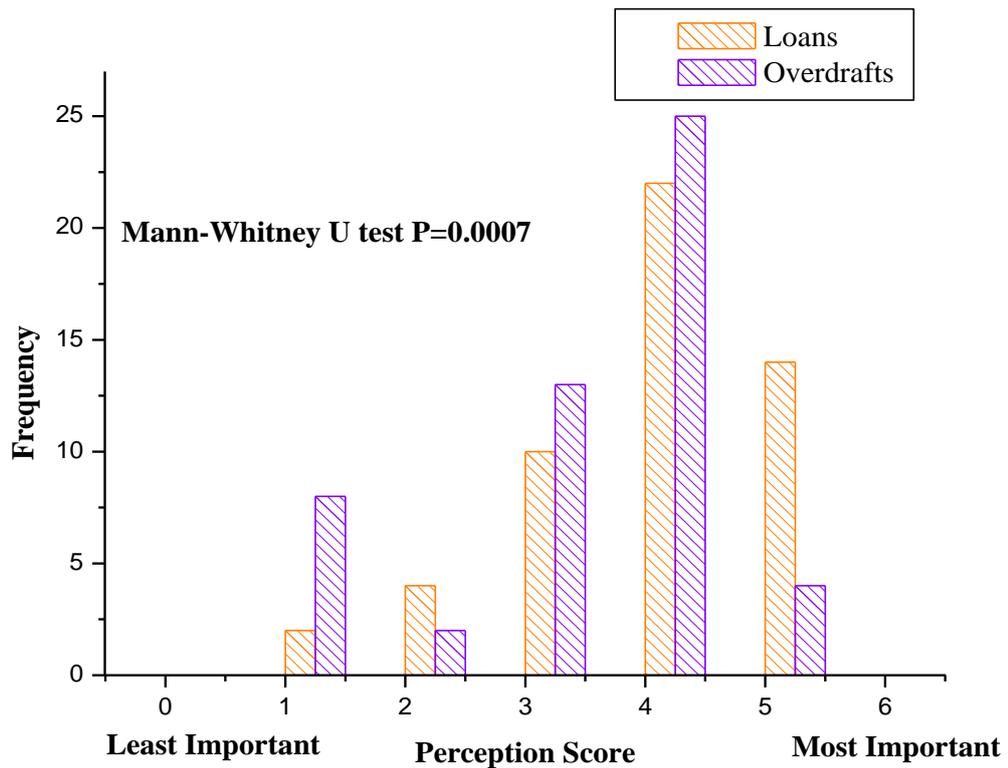


Figure 6.6: Spare borrowing for loans and overdraft

To gain further insight into the spare borrowing capacity, respondents were asked to score four reasons for maintaining spare borrowing capacity using a 5 point Likert scale. The results of this is presented in Table 6.13.

Table 6. 13: Reasons for Spare Borrowing Capacity

Reason for spare borrowing capacity	Mean	SD	Std. Error Mean	T-Value	Sig. (2 tailed)
Unexpected opportunity	3.92	1.281	.178	5.196	.000
Reserved for crisis	3.87	1.268	.176	4.920	.000
Special projects	3.40	1.225	.170	2.377	.021
To take over other firms	1.83	1.167	.162	-7.249	.000

Note: The above factors were scored using a 5- point Likert scale with 1 (least important reason) to 5 (most important reason). The table is ordered by mean rank and the t-values are versus a Ho value of 3.

The results of this study indicates that the most important reasons for maintaining spare borrowing capacity are for unexpected opportunity, reserved for crisis and for special projects with mean ratings of 3.92, 3.87 and 3.40 respectively. In constrast to this however, this study finds no support for maintaining a spare borrowing capacity as a result of possible takeover opportunities. Limited takeover opportunities in Ghana could account for this.

6.4.8. Effects of 2007/08 Financial Crisis on Financing Choices

The global economic downturn, which originated in the advanced economies, had its impacts on developing countries as well. However, these impacts varied widely across different economies on different aspects including the financing decisions of firms. It therefore seems important to understand how this crisis affected the financing decisions of firms in detail for policy reasons. Thus, the next area of analysis relates to the effects of the 2007/08 financial crisis. Here, respondents were asked to indicate how the financial crisis has constrained the availability of both equity and debt finance by ranking five set of questions using a 5-point Likert scale. The results of this are presented in table 6.14

Table 6. 14: Financial Crisis and Capital Structure Decisions

Effects	Mean	SD	Std. Error Mean	T- Values	Sig. (2 tailed)
Made it difficult to secure loans from lenders	3.97	1.298	.119	8.190	.000
Constrained availability of equity capital	3.17	1.469	.135	1.248	.214
Affected the preference of equity over debt	3.16	1.461	.134	1.192	.236
Decreased the dependency on debt finance	3.01	1.435	.132	.064	.949
Constrained funds from informal source	2.82	1.587	.146	-1.213	.228

Note: The above factors were scored using a 5- point Likert scale with 1 (strong disagree) to 5 (very strong agree) The table is ordered by mean rank and the t-values are versus a Ho value of 3.

Table 6.14 shows that the only major problem faced by firms as a result of the 2007/08 financial crisis⁴⁴ was the difficulty in securing funds from lenders⁴⁵. This result reflects the fact that as many firms around the world suffered badly during the financial crisis, lenders therefore considered the prevailing economic conditions and were careful in granting financial assistance to firms due to the high bankruptcy risk. Interestingly, no evidence was found that the 2007/08 financial crisis restricted firms' access to funds from informal sources. With a t-value of -1.213, a significant majority (66.4 %) do not believe that the financial crisis constrained the availability of funds from the informal sources.

To test whether firms in different sectors have different perceptions of the difficulty in securing funds from financial lenders, a mean test of the equality of their responses was performed. The results as shown in Table 6.15 indicate that firms in the secondary sector of the Ghanaian economy had the greatest difficulty in securing funds from lenders. Surprisingly, firms in the service sector experienced the least difficulty in securing funds.

Table 6. 15: Test of Differences Across Sectors

Sector	Mean	Std. Deviation
Primary	3.88	1.244
Secondary	4.28	1.386
Tertiary	3.82	1.257
Total	3.97	1.298

Note: In terms of the difficulty in securing funds due to the financial crisis, a further test was conducted to see which firms in the three main sectors of the Ghanaian economy was affected most. The mean differences are presented in the Table above. The table is ordered by mean values

⁴⁴The financial crisis did not hit Ghana as hard as it did to major economies such as the UK and the US. Still, lenders in Ghana might have been careful in issuing loans to firms since they were not quite sure of the consequences of the crisis on firms in the country.

⁴⁵The financial system in SSA was indirectly affected by the financial crisis through international trade linkages and this detrimentally affected borrowers and led to an increase in the level of non-performing loans (EIB, 2013).

The difficulty of the primary and the secondary sectors in securing debt finance could be as a result of the fact that these two sectors were more likely to use more debt in their capital structure and for that matter were much more likely to face difficulty in acquiring debt finance than firms that make less use of debt. A further test (as shown in Table 6.16) reveals that domestic firms were more likely to face difficulty in acquiring funds from lenders during the financial crisis than multinational firms. This could be attributed to the fact that multinational firms are much more likely to have large asset bases that could be used as collateral for debt than domestic firms. Therefore, in times of crisis, lenders are more likely to look more favourably at multinational firms than domestic firms.

Table 6. 16: Test of Differences between Domestic and Multinational Firms

Type of firm	Mean	Std. Deviation
Domestic company	4.09	1.212
Multinational company	3.50	1.532

Note: The table above shows the differences in perception between domestic and multinational companies in terms of the effects of the financial crisis on the acquisition of loans from lenders.

The next step of this analysis seeks to find out whether listed and unlisted firms were affected differently in terms of the difficulty in securing loans from lenders due to the financial crisis. The results show that unlisted firms ($\bar{x} = 4.02$, $\sigma = 1.275$) were more likely to face difficulties in acquiring funds as a results of the crisis than listed companies ($\bar{x} = 3.17$, $\sigma = 1.602$). This result reflects the fact that listed firms were more likely to be considered favourably for debt acquisition during a period of credit constraint than unlisted firms.

In general, the results indicate that the 2007/08 financial crisis unequally affected firms across industries as observed by Campello, Graham and Harvey (2010).

6.4.9. Ownership and leverage

In the final part of the analysis, I examine whether firms with government shareholdings have higher leverage ratio than firms without government shareholdings. The mean value of leverage across these two groups indicate that firms with government shareholdings have leverage ratios slightly higher ($\bar{x} = 0.30$) than their counterparts without government shareholdings ($\bar{x} = 0.21$). One major characteristics of less developed economies (e.g. Ghana) is that politicians and governments have considerable control over allocation of resources, including financial resources (Acquaah and Eshun, 2010). Thus, firms with government shareholdings are more likely to have access to more financial resources than privately owned firms. Also, firms with government shareholdings are seen as guaranteed to stay solvent (Huang and Song, 2002) by financial lenders and are therefore willing to lend more debt to such firms than privately owned firms. This could account for the higher leverage ratio among firms with government shareholdings.

6.5. Summary and conclusion

The primary objective of this chapter is to provide an account of a comprehensive survey that describes the current practice of corporate finance among firms in Ghana. Prior empirical studies from Ghana have mainly relied on secondary data, which are limited in their ability to fully explain the diversity found in practice. To the best of my knowledge, this study is the first comprehensive that examines the financing behaviour of firms in Ghana by relying on a survey. The use of this survey method was to provide the opportunity to understand the diversity of financial practices of firms rather than relying on conclusions drawn from secondary data.

A summary of the results are as follows;

- Retained earnings and loans from banks and other lenders remain the two most important sources of funds for firms in Ghana. The role of hire purchasing, bond market and venture capitalists in the provision of funds for firms in Ghana remains very narrow and undeveloped.

- High interest rate, length of time and collateral issues are some of the fundamental problems confronting firms in acquiring funds from lenders in Ghana.
- There is strong evidence that there is a hierarchy of financing sources and that retained earnings remain the most important source of funds for firms in Ghana. Equity remains less attractive to firms in Ghana given that it involves a higher issuance cost than the other funding sources.
- The study finds evidence that sufficiency of retained earnings, how easy it is to access loans and loss of control through share dilution are the three most important criteria moderating the debt/equity decision. Bankruptcy risk and the survival of firm were rated as the two most important factors that influence the level of debt employed by firms in Ghana. The study suggests that maintaining the same level of debt as firms in the same industry and discouraging possible takeover are less important moderating factors in deciding the amount debt to be used by firms. This raises the possibility there is low inter-firm collaboration and a low level of takeover possibility in Ghana. The absence of inter-firm collaboration means that firms do not share information among one another. Thus, firms could find it difficult setting their debt levels based on other firms in the same industry.
- In addition, the study finds support for maintaining target debt levels and that target debt levels are more internally driven than externally driven. However, firms in Ghana that do maintain target debt levels have lower targets than what is reported in the developed countries (e.g UK).
- There is some evidence that firms in Ghana maintain spare borrowing capacity. Bank loans and overdrafts remain the main sources of spare borrowing capacity. However, the number of firms that maintain spare borrowing capacity in the current study is less than what is reported in the international literature (Beattie et al. 2006).
- The current study also provides an early attempt to explain the effects of the 2007/08 financial crisis on the financing decisions of firms. Evidence obtained shows that the crisis restricted loans from lenders. There is little evidence that the financial crisis restricted funds from informal sources. There is also strong evidence that domestic firms were more likely to find it

difficult to acquire funds than multinational firms during the crisis period, possibly because multinational firms have less risk of bankruptcy than domestic firms.

Overall, in spite of the institutional differences between the developed economies and the developing ones such as Ghana, this study shows that there are strong resemblances between developed and developing economies when examining financing decisions among firms. There were however a few notable differences, especially regarding the different sources of funds and maintaining target debt levels. Indeed, the views expressed in the present survey are broadly similar to those reported in most regression-based studies of capital structure of firms. In addition to this, neither the trade-off nor the pecking order hypothesis dominate the diversity of financing decision-making observed among firms in Ghana. This indicates the complexity of the capital structure decision and that a single theory is not enough to explain it. While I have chosen to focus this survey on Ghana, an analysis of financing decisions across different countries within the SSA could also be useful in providing more detailed information about factors that explain the diversity of financing decisions across countries and also serve as a test of the robustness of the above findings.

Chapter 7

Results of Estimation of Firm-level Factors

7.1. Introduction

This chapter discusses the estimation results obtained from the secondary data by examining the effects of firm-level factors on leverage. The chapter begins by looking at the hypotheses tested (five hypotheses are tested in this chapter). This is followed by descriptive statistics of both the independent and the dependent variables from all the eight countries involved in this study. This is then followed by various regression analyses and discussions. The final section of this chapter presents a summary of the results and the conclusion of the chapter.

7.2. Hypotheses Tested

Conceptually, the relationship between the various firm-level factors and leverage is reproduced in Figure 7.1 and it corresponds to H1 to H6 (as shown in chapter 4).

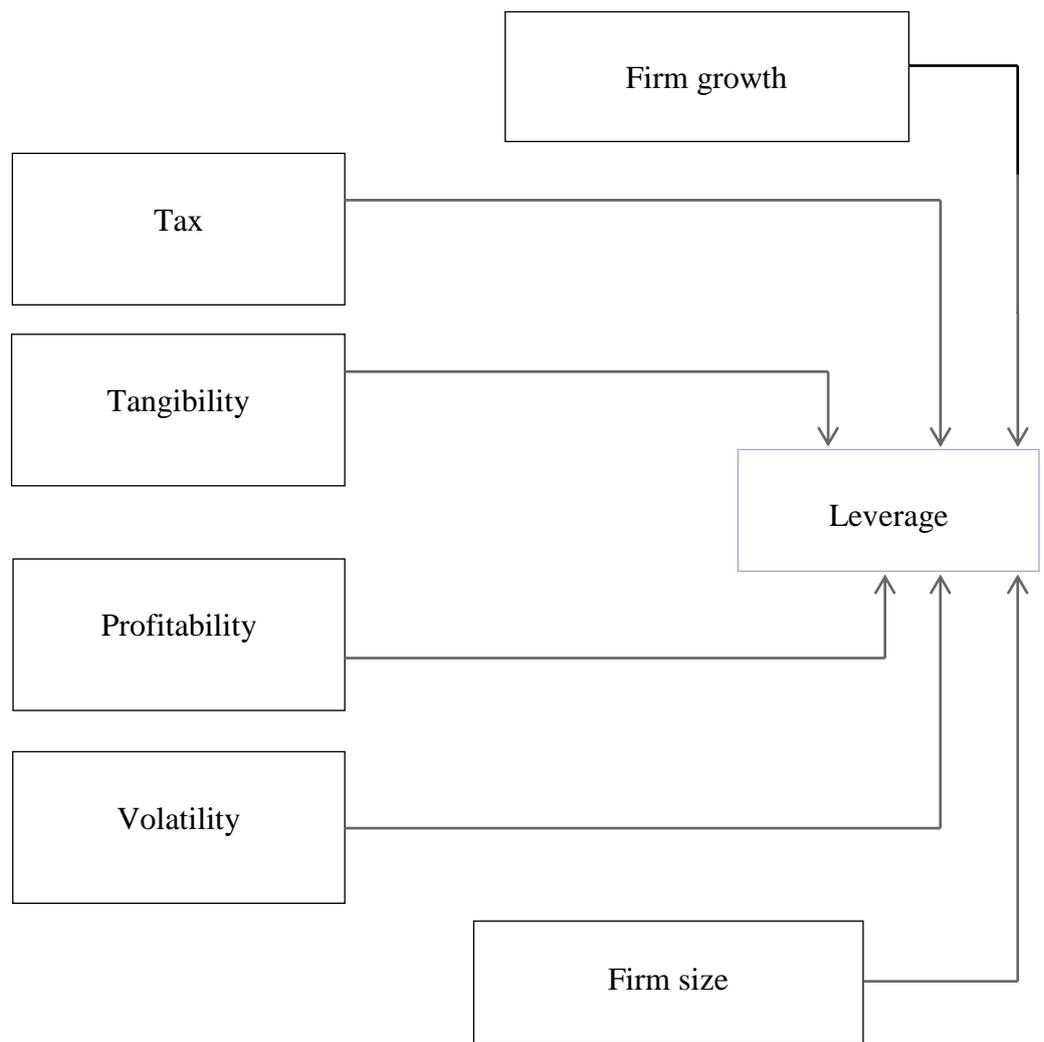


Figure 7. 1: Conceptual model 1

Table 7.1 provides a summary of the hypotheses tested under this chapter.

Table 7. 1: Summary of Hypothesis

Subject	Hypothesis
Profitability (PR)	<i>H1. There will be a negative relationship between profitability and leverage</i>
Volatility(VT)	<i>H2. There will be a negative relationship between earnings volatility and leverage</i>
Asset tangibility (TA)	<i>H3: There will be a positive relationship between asset tangibility and leverage</i>
Firm size (SZ)	<i>H4. The relationship between firm size and leverage will be positive</i>
Growth (GR)	<i>H5. The relationship between growth opportunity and leverage will be positive</i>
Tax rate (TX)	<i>H6. The relationship between tax rate and leverage will be negative</i>

7.3. Summary Statistics of Firm-level Variables

Details of cross-country statistics of leverage and other firm specific variables can be found in Appendix 4 of this thesis.

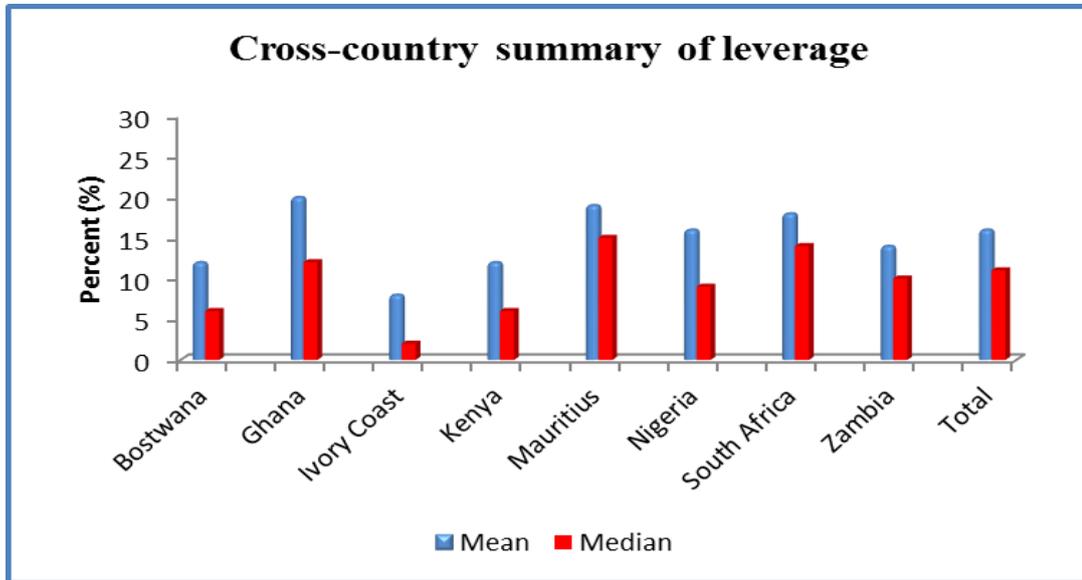


Figure 7. 2: Cross-country summary of leverage

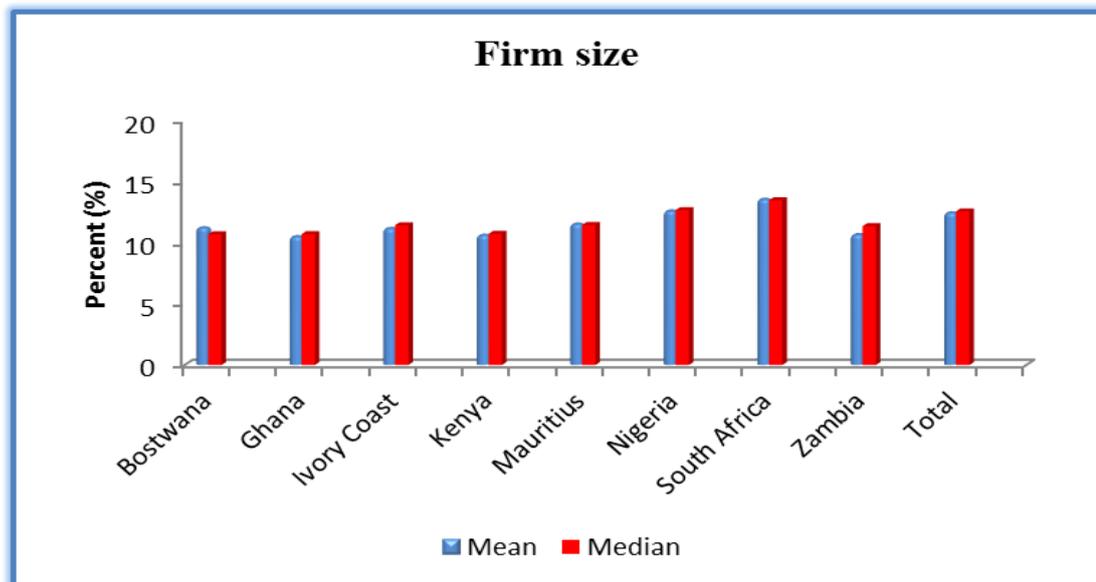


Figure 7. 3: Cross-country summary of firm size

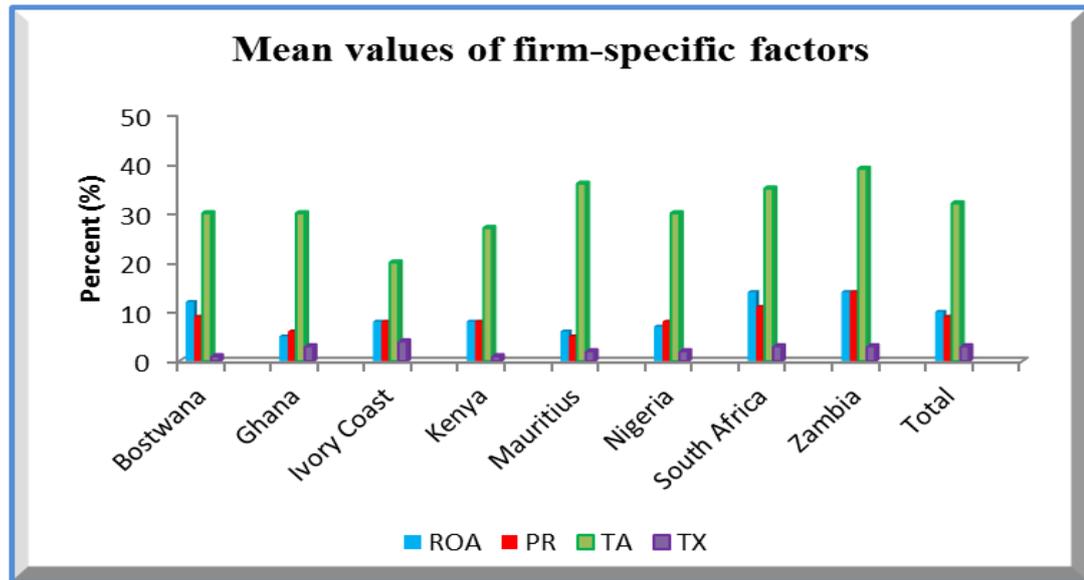


Figure 7. 4: Mean Values of ROA, PR, TA and TX

Figures 7.2, 7.3 and 7.4 present the descriptive statistics for both the dependent and the independent variables for all the countries under consideration. The information is confined to 359 companies from SSA. The variables presented above are as follow:

- i. LEV: Leverage defined as ratio of total debt to total asset.
- ii. ROA: return on assets defined as the ratio of earnings before interest and tax to total assets.
- iii. PR: Profitability defined as ratio of operating income to total assets.
- iv. VT: Volatility defined as ratio of standard deviation of operating income to total assets.
- v. TA: Asset tangibility defined as ratio of fixed asset to total asset.
- vi. SZ: Size is the log of total assets.
- vii. GR: Growth defined as ratio of sales growth to total assets growth and finally,
- viii. TX: Tax rate defined as the ratio of tax paid to the net profit before interest and tax.

From the above figures, (i.e. Figures 7.2, 7.3 and 7.4) a few findings are worth noting. For the sample of 8 countries examined in this thesis, the mean (median) for the leverage is 16 (11) percent. Ivory Coast tends to have the lowest leverage ratio of 8 (2) percent while Ghana has the highest ratio of 20 (12) percent. Generally, there is

an indication that total debt constitutes roughly one-fifth of the capital structure of the selected countries. Companies in these countries are mainly equity financed. The absence of bond markets in most of the countries under investigation may have contributed to their low usage of debt in their capital structure. Previous studies analyse leverage across a number of developing economies and tend to observe a lower leverage ratio which is in line with the current result. For instance, Jong et al. (2008) reported a mean value of 17 percent and 19 percent for Pakistan and Indonesia respectively.

In relation to firm performance (ROA), South Africa and Zambia have the highest mean value of 14 percent. Firms in Ghana have the lowest ROA ratio of 5 percent. The mean of profitability is 9 percent. This suggests that firms in the SSA have relatively poor profitability during the test period (i.e 2002 - 2011). In terms of the level of economic development, South Africa and Nigeria are relatively more developed than the other countries in the SSA. However, a preliminary insight extracted from Figure 7.2 is that it is difficult to observe any clear relationship between these two countries' level of development and their leverage levels. Both the relatively developed economies and those less developed have almost the same amount of leverage. This is however not to say that the country-level factors are insignificant. A further analysis is conducted below to examine the impact of certain country-level factors on leverage. It is also interesting to note that firms in Nigeria and South Africa had negative (contracting) growth opportunities during the test period.

In addition to the above, there is also no clear relationship between the asset level and leverage. Firms with relatively large assets are expected to have a high leverage level. For instance, with the highest leverage ratio of 20 percent, Ghana would be expected to have the highest percent of assets. This is however not the case as indicated in Figure 7.4. On average, South African firms are the largest.

A further analysis of leverage ratios across various years (as indicated by Figure 7.5) reveals that 2006 had the lowest leverage ratio. There is no evidence that there was a drop in the leverage ratio between 2007/08 when many western economies were experiencing economic decline. This could have been as a result of the low level of interaction between most African economies and the western world.

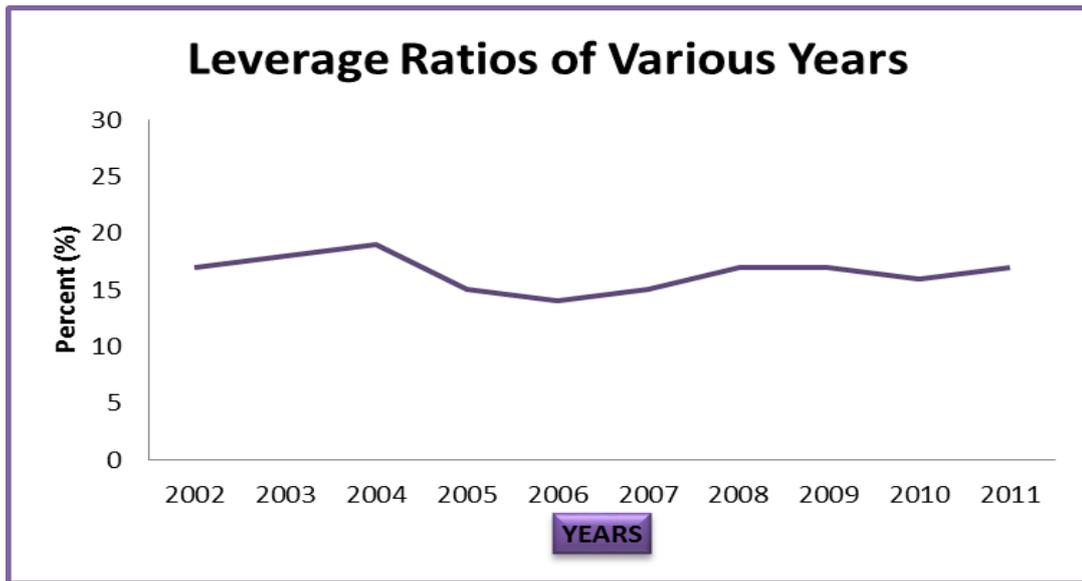


Figure 7. 5: Leverage Ratios

7.4. Testing for Multicollinearity

The issue of multicollinearity arises when two or more of the predictors in a regression model are moderately or highly correlated. The correlation matrix is presented in Table 7.2.

Table 7. 2: Correlation coefficient matrix

	LEV	PR	VT	TA	SZ	GR	TX
LEV	1.0000						
PR	-0.1115	1.0000					
VT	-0.0191	-0.0141	1.0000				
TA	0.3017	0.0942	-0.0212	1.0000			
SZ	0.0334	-0.0432	-0.1019	-0.0900	1.0000		
GR	-0.0085	-0.0165	-0.0002	-0.0154	-0.0238	1.0000	
TX	-0.1438	0.1768	-0.0104	0.3192	-0.1298	-0.0128	1.0000

The correlation matrix indicates that none of the variables are highly correlated. This gives no cause for concern as far as the issue of multicollinearity among the

explanatory variables is concerned. Generally, the correlation between leverage and the firm-level characteristics are also in line with the various regression results reported below. For instance, the negative correlation between leverage and profitability indicates that profitable firms are likely to depend more on internal earnings.

7.5. Regression Results for Firm-Level Factors

Based on the assumption that there are no group or individual effects among the sampled firms (Sheikh and Wang, 2011), the OLS model is estimated and the results are presented in Table 7.3⁴⁶. All regressions are made robust and use the cluster (firm) option⁴⁷ to control for possible heteroskedasticity and autocorrelation within firms. In addition to this and following previous scholarly works (e.g. Deesomsak et al. 2004; Acquaah, 2007), the explanatory variables are lagged one period in order to isolate the analysis from the potential reverse causality between independent and dependent variables and to provide a more robust test of the theory.

Table 7. 3: Effects of the explanatory variables on LEV

	PR	VT	TA	SZ	GR	TX
Coef	-.2184***	-.1349**	.1812***	.0046**	-.1146	-.5197***
Robt Std. Err.	.0484	.571	.0140	.0018	.2689	.1981
t	-4.52	-2.36	12.92	2.52	-0.43	-2.62
P>t	0.000	0.018	0.000	0.012	0.670	0.009
Number of obs =2268	<i>Prob > F</i> = 0.0000		<i>R-squared</i> = 0.1230		<i>Root MSE</i> = .1619	

Note: Leverage (LEV) defined as ratio of total debt to total assets; Profitability (PR) - ratio of operating income to total assets; Volatility (VT) - ratio of standard deviation of operating income to total assets; Asset

⁴⁶ On the basis that there are no differences (in terms of the level of economic development) across the selected countries, all the data gathered are put together in the regression analysis. Country by country analysis was not done due to the limited number of firm-level observations obtained from some of the countries under consideration. Breakdown of the firm-level observations are already presented in Figure 5.2

⁴⁷ Using only the robust option would produce standard errors that are asymptotically robust to heteroskedasticity, but not autocorrelation.

tangibility(TA) as ratio of fixed asset to total assets; Size (SZ) is the log of total assets; Growth (GR) - is ratio of sales growth to total asset growth and finally, Tax rate (TX) - ratio of tax paid to net profit before tax
 *significant at 10% level, ** significant at 5% level and ***significant at 1% level.

The regression estimates presented in Table 7.3 show that all the explanatory variables with the exception of growth are significant in explaining a firm's usage of leverage. Therefore, as a sensitivity check, the regression result is re-estimated by dropping the growth variable (GR). The results as presented in Table 7.4. indicates the elimination of the growth variable did not materially affect the previous findings reported in Table 7.3.

Table 7. 4: Regression Analysis without Growth Variable

	PR	VT	TA	SZ	TX
Coef	-.2253***	-.1416**	.1786***	.0045**	-.5414***
Robt Std Err	.0490	.0571	.0141	.0018	.1977
t	-4.60	-248	12.71	2.43	-2.74
P>t	0.000	0.013	0.000	0.015	0.006
Number of obs = 2268	<i>Prob > F</i> = 0.0000		<i>R-squared</i> = 0.1230		<i>Root MSE</i> = .1626

*significant at 10% level, ** significant at 5% level and ***significant at 1% level

A summary of the expected and the actual effects of the explanatory variables are provided in Table 7.5.

Table 7. 5: Expected and Actual Effects of the Explanatory Variables

Explanatory Variable	Profitability (PR)	Volatility (VT)	Tangibility (TA)	Size (SZ)	Growth (GR)	Tax (TX)
Expected Effect	—	—	+	+	+	-
Actual Effects	—	—	+	+	—	-

7.6. Discussion of Results

7.6.1. Profitability (PR) and Leverage (LEV)

Empirical findings obtained indicate that profitability (PR) has a negative and a statistically significant relationship on leverage ($\beta = -.2184$; $t = -4.52$). This indicates that profitable firms decrease their leverage levels. This relationship is in line with previous scholarly works (e.g. Chakraborty, 2010; Abor, 2008; Cheng and Shiu, 2007; Fama and French, 2002; Booth et al. 2001; Wiwattanakantang, 1999; Shyam-Sunder and Myers, 1999). Clearly, the result is consistent with the predictions of the pecking order model, which indicates that firms prefer internal sources of funding when profits are high to avoid new projects being mispriced or underinvestment problems.

Other scholarly works (e.g. Schobben and Hulle, 2004) also interpret the negative relationship between profitability and leverage as a sign of quality, as profitability firms prefer to take on less debt than unprofitable firms, to distinguish themselves from lower quality firms.

In addition to the above explanation, both the banking sector and the bond markets are very much underdeveloped in SSA. In such a situation, retained earnings become the preferred source of finance. Indeed, World Bank Enterprise Survey (2011) reports that about 80 percent of firms in SSA finance their investment activities with

internal/retained earnings. This condition also seems to explain the negative relationship between profitability and leverage reported above.

This result contradicts the prediction of the static trade-off theory, which expects profitable firms to use more leverage so as to reduce their tax liabilities.

7.6.2. Earnings Volatility (VT) and Leverage (LEV)

The results of this study also indicate a negative and statistically significant relationship between earnings volatility and leverage ($\beta = -.1349$; $t = -2.36$). This outcome is in line with the trade-off hypothesis that argues that volatility of earnings is a sign of an inability of a firm to meet its debt commitments. Consequently, firms with high earnings volatility are less likely to be granted financial assistance by lenders due to the high risk of default (Bradley et al. 1984). A negative relationship is therefore expected between earnings volatility and leverage. Along similar lines, Abor (2008) noted that in Ghana, firms with high level of risk (volatility in earnings) may avoid accumulating more financial risk by using less long-term debt. Indeed, where firms with high earnings volatility are granted financial assistance, they could be subjected to onerous lending conditions (De Angelo, 1980). Various empirical studies have shown a negative relationship between earnings volatility and leverage (e.g. Sheikh and Wang, 2011; Abor, 2008; De Jong et al. 2008; Zou and Xiao, 2006; Bradley et al. 1984). Indeed, these findings have been confirmed in the current study. This finding supports the theoretical argument put forward in Chapter 4.

7.6.3. Asset Tangibility (TA) and Leverage (LEV).

As regards the effects of tangibility on leverage, this study reveals a positive and a statistically significant relationship between leverage and asset tangibility (TA) among firms in SSA ($\beta = .1812$; $t = 12.92$). Asset tangibility is by far the most significant factor with a t-value of 12.92. This positive significant relationship can be explained by the fact that the tangibility of assets is an important element in raising debt capital in SSA. In other words, asset tangibility is an important element of credit policies among financial lenders. This may be as a result of the absence of

credit reference agencies⁴⁸ in most of these SSA countries to provide information about the creditworthiness of firms and also the presence of weak creditors' rights among many African countries. Consequently, financial lenders in SSA depend on the level of assets as an added security in granting financial assistance to firms. In other words, tangibility becomes a substitute for weak creditor rights (Fosu, 2013). Available evidence suggests that an average of 80 percent of loans that are granted to firms in SSA require the provision of collateral (World Bank Enterprise Survey, 2011). Therefore, firms in SSA with viable growth opportunities but with less tangible assets may find it difficult to secure debt to finance their growth opportunities.

Empirical studies in other less developed market economies have also noted a similar relationship between asset tangibility and leverage (e.g. Fosu, 2013, Sheikh and Wang 2011; Abor, 2008; Supanvanij, 2006; Boot et al. 2001 and Wiwattanakantang, 1999). This outcome is in line with the trade-off theory in relation to financial distress and bankruptcy cost. For instance, Psillaki and Daskalakis (2009) noted that due to weak creditor rights in developing economies, creditors feel better protected with firms with tangible asset as such firms have smaller costs of financial distress than firms that depend on intangible assets. These findings support my theoretical argument.

7.6.4. Firm Size (SZ) and Leverage (LEV).

Next, it was hypothesised that firm size-leverage relationship should be positive. This relationship is supported as size-leverage relationship is positive and significant (at the 5% level). This result is in line with my prediction and the trade-off model that argues that larger firms should be able to take on more debt due to their ability to diversify risk as observed by Titman and Wessels (1988). Abor, (2008) also noted a similar result in Ghana. The current finding is also consistent with other findings from other less developed market economies (e.g. Booth et al. 2001 and Wiwattanakantang, 1999).

⁴⁸ A company called Credit Reference Bureau Africa Group (which currently operates in 8 countries in Africa-Ghana, Botswana, Zambia, Tanzania, Uganda, Egypt, Mauritius and Mozambique) has started providing some credit referencing/information about companies in these countries. However, this reference agency does not contain information about every single firm in the countries in which it operates.

7.6.5. Tax (TX) and Leverage (LEV)

Based on the logic of the institutional difference hypothesis of Julian and Ofori-Dankwa (2013), it was further hypothesised that tax is negatively related to leverage. This hypothesis is supported in that the relationship between tax and leverage is negative and significant ($\beta = -.5197$; $t = -2.62$). Indeed, a major characteristic of economies in SSA is the weak enforcement capacity of formal institutional structures (e.g. legal institutions). This encourages corruption and creates an avenue to evade compliance with the law. Thus, I find support for the notion that in less developed market economies (e.g. SSA) where there is bribery and corruption as a result of inefficient, weak and unpredictable regulatory institutional structures (Julian and Ofori-Dankwa 2013, Robertson 2009, and Tanzi 1998), such institutional conditions are likely to encourage firms to marginalise their tax liabilities. The above result lends support to my key theoretical argument that for firms operating in SSA tax is negatively related to leverage. The negative tax rate-leverage relationship obtained is in contrast with the many scholarly works from the context of developed economies that observed a positive relationship between tax rate and leverage.

In short, the results of this empirical study suggest that firms in SSA show similar financing behaviour as observed for firms in other less developed market economies. Some of the insights from the capital structure theories derived from western settings are also applicable to firms in SSA.

7.7. Robustness Tests

The following tests were conducted to check the sensitivity of the above results. Following Cheng and Shiu, (2007), a tobit analysis is performed and the result is presented below.

Table 7. 6: Results of Tobit Regression

	PR	VT	TA	SZ	TX
Coef	-.2614***	- 1.0762 ***	.1997***	.0092**	.6740**
Robt Std. Err.	.0735	.3756	.0309	.0036	.3002
T	-3.56	-2.86	6.45	2.55	2.24
P>t	0.000	0.004	0.000	0.011	0.025
Number of obs	F(5, 2263)		Prob > F		Pseudo R
= 2268	= 17.29		=0.0000		= -0.8223

*significant at 10% level, ** significant at 5% level and ***significant at 1% level.

It revealed that the signs of the coefficients for all the independent variables and their level of significance do not change much. All the five variables (i.e PR, VT, TA SZ and TX) reported as significant using the OLS are also significant under the tobit model. In addition, I verified the robustness of the results to an alternative definition of size (i.e. log of total sales). Overall, the significance of the variables changes very little. This indicates that the findings regarding the determinants of capital structure are robust for different models.

7.8. Summary and Conclusion on Firm-Level Determinants

Theories of capital structure have been tested in a single-country context (e.g. Sheikh and Wang; Chen, 2004; Bhaduri, 2002). In this chapter of this thesis, I also examine determinants of capital structure of firms in eight countries within SSA. In all, data from 359 firms in eight countries in SSA are employed in this study. The results of this study provide insight into the capital structure practices of firms in SSA. First and foremost, the empirical evidence obtained indicates that firms in SSA tend to

keep to a lower leverage ratio⁴⁹ than their counterparts in other less developed market economies.

Furthermore, firm-specific factors such as profitability and tangibility have significant impacts on leverage and are also consistent with the predictions of conventional capital structure models (especially the pecking order and the trade-off models). In spite of the institutional differences that exist between the western world and SSA, the results of this study clearly indicate that some of the firm-level factors that are relevant in explaining capital structure in the western context are also relevant in SSA. Both the pecking-order and the trade-off models provide explanations for financing decisions among firms in SSA. Nevertheless, the current results indicate that neither of these two theories dominates the financing behaviour among firms in this region. The similarity in the firm-level determinants of capital structure observed could be attributed to some of the commonalities of institutional structures existing in both developed and less developed economies.

A key finding for the current section is the effect of tax on leverage. Here, the result obtained broadly rejects earlier works suggesting that high tax has positive effects on leverage (e.g. Barakat and Roa, 2004; Ross et al, 2001). Indeed, the institutional settings in almost all African countries are characterised by less developed structures. This encourages corruption, and paves ways for firms to marginalise their tax obligations. Thus, the current result confirms the notion that differences in institutional conditions are likely to affect the direction of the relationship between tax and leverage (Julian and Ofori-Dankwa, 2013).

By pooling together both firm and country-level variables, the next chapter examines the moderating role of firm size, asset tangibility and rule of law.

⁴⁹ Due to unavailability of sufficient information, I was not able to decompose leverage into long-term and short-term. This may be of particular interest in future analysis so as to provide a fuller understanding of capital structure of firms in SSA.

Chapter 8

Country- Level Factors and Moderating Effects models

8.1. Introduction

The preceding chapter of this thesis looks at the effects of the conventional independent variables (i.e firm-level variables) on the debt-equity choice of firms in SSA. Empirical studies of the determinants of capital structure observed the importance of firm and country-level variables in determining firms' capital structure (e.g. Joeveer, 2013; Kayo and Kimura, 2011; Gungoraydinoglu and Oztekin, 2011; De Jong et al. 2008; Deesomsak, 2004). However, a more detailed empirical analysis going beyond the traditional firm-country factor capital structure relationship should be of great importance to both academics and policy makers. This underlines the importance of this section of the thesis. Indeed, the possibilities of moderating effects on the relationship by some firm and country-specific factors remain under-researched. Thus, the purpose of this chapter is to examine the moderating effects of certain firm and country level factors.

The first part of this chapter examines the moderating role of firm size on the relationship between firm-level factors and leverage. The second part examines the moderating effects of asset tangibility on the relationship between earnings volatility and leverage. The third section of the chapter examines the moderating role of the rule of law. Finally, a summary and conclusion of this chapter are presented.

8.2. Moderating Effect of firm size on the relationship between firm-level Factors and Leverage

By controlling for four country-level factors (i.e. institutional factors), all the firm-level factors are then pooled together. The country-level factors are:

- i. Stock market development (SM): defined as ratio of stock market capitalization to GDP.

- ii. Inflation (IN): the annual rate of inflation;
- iii. economic development (ED).
- iv. GDP as a proxy for economic development and finally
- v. Level of corruption (CP): measured by the corruption perception index, which measures severity of information asymmetry.

I control for these institutional factors because firms are embedded within broader social structures as argued by institutional theory (Ioannou and Serafeim, 2012). Previous scholarly works (notably Joeveer, 2013; Kayo and Kimura, 2011; Gungoraydinoglu and Oztekin, 2011) suggest an association between these variables and leverage, especially when examining leverage levels across countries. For instance, corruption and economic development have been shown to be positively related to leverage (Joeveer, 2013). In addition, studies show stock market development to be negatively related to leverage (Kayo and Kimura, 2011). All the control variables used were taken from the World Bank database.

8.3. Model Specification for the Moderating Effect of Firm size

Figure 8.1 reproduces the conceptual framework that hypothesises the moderating effects of firm size. These moderating relationships correspond to H7 to H10 in chapter 4.

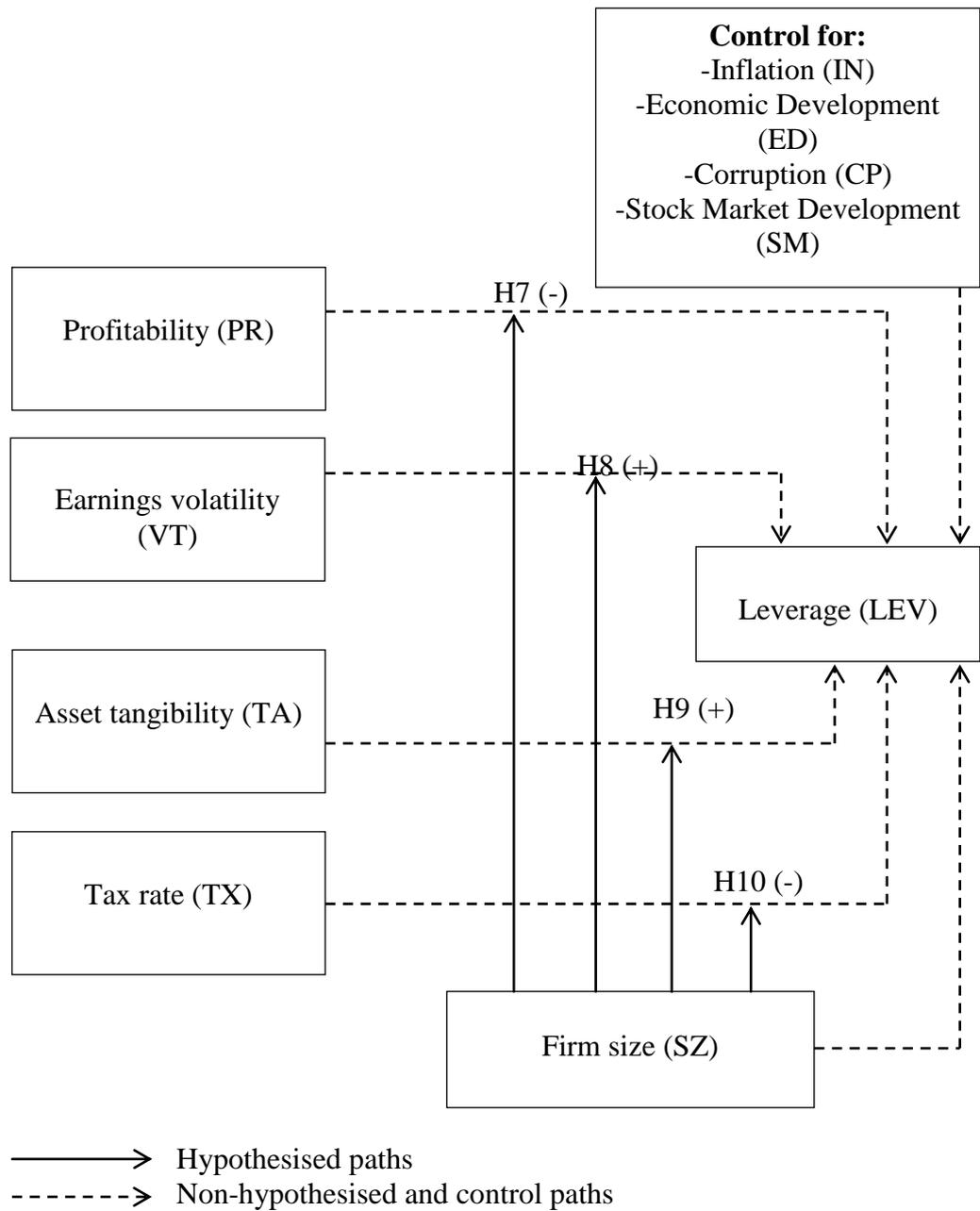


Figure 8. 1: Conceptual Model of Moderating Effects of Firm-Size

8.4. Size Moderating Effects Hypotheses to be tested

As can be seen from Figure 8.1, thirteen independent variables are estimated. Out this number, four represent the hypothesised interaction terms. Table 8.1 therefore provides a summary of the hypotheses tested under this section.

Table 8. 1: Size Moderating Effects

Hypotheses	Size Moderator Relationship
H7	Size (SZ) x Profitability (PR) \longrightarrow (-) Leverage (Lev)
H8	Size (SZ) x Volatility (VT) \longrightarrow (+) Leverage (Lev)
H9	Size (SZ) x Tangibility (TA) \longrightarrow (+) Leverage (Lev)
H10	Size (SZ) x Tax (TX) \longrightarrow (-) Leverage (Lev)

Note: SZxPR is expected to be negatively related to LEV; SZxVT is expected to be positively related to LEV; SZxTA is expected to be positively related to LEV; SZxTX should be negatively related to LEV.

8.5. Collinearity Diagnostic Test

Existing literature (e.g. Boso, Story and Cadogan, 2013; Cadogan, Cui, Morgan and Story, 2006; Little, Bovaird and Widaman, 2006) suggests that the use of interaction terms in regression analysis usually creates collinearity problems. Therefore, using the variance inflation factor (VIF), I investigate whether the independent variables are likely to be subject to collinearity problems. The collinearity diagnostic test reveals a very high collinearity⁵⁰ among the explanatory variables. Thus, following Little, Bovaird and Widaman (2006), a residual centering approach is used to reduce the impact of any potential multicollinearity problem on the results. Findings from the collinearity test following the residual centering approach are presented in Table 8.2. As can be seen, all variables involved in interactions exhibit a low variance inflation factor (VIF), well below the recommended cut off of 10.00 (Baum, 2006). Thus, all the variables can be used to interpret the regression results.

⁵⁰ Due to the interaction effect, some of the VIF were far above the recommended cut off of 10.

Table 8. 2: Collinearity Diagnostic Test

Dependent Variable = Leverage	Collinearity Statistics	
	VIF	Tolerance
Inflation (IN)	1.076	.929
Stock Market Development (SM)	5.435	.184
Economic Development (ED)	3.809	.263
Corruption Level (CP)	2.155	.464
Profitability (PR)	1.123	.890
Earnings Volatility (VT)	1.033	.968
Asset Tangibility (TA)	1.293	.774
Tax (TX)	1.324	.755
Firm Size (SZ)	1.547	.646
PR x SZ	1.096	.913
VT x SZ	1.002	.998
TA x SZ	1.551	.645
TX x SZ	1.570	.637

Note: The table present the results of a collinearity test. The results indicate that there is no issue of multicollinearity among the variables.

Table 8. 3: Regression Results.⁵¹

Dependent variable = Leverage				
	Model 1		Model 2	
	Standardized Coefficients	t-values	Standardized Coefficients	t-values
Constant		3.604		3.478
Inflation (IN)	.011	.545	.016	.789
Stock Market Development (SM)	-.110	-2.353	-.107	-2.283
Economic Development (ED)	.106	2.698	.098	2.496
Corruption Level (CP)	.109	3.700	.105	3.571
Profitability (PR)	-.015	-.752	-.015	-.729
Earnings Volatility (VT)	-.187	-9.036	-.185	-8.715
Asset Tangibility (TA)	.284	12.891	.310	13.626
Tax (TX)	-.075	-3.314	-.053	-2.297
Firm Size (SZ)	.036	1.460	.031	1.264
PR x SZ			.006	.266
VT x SZ			.025	1.256
TA x SZ			.107	4.285
TX x SZ			-.113	-4.504
Model fits				
R ²		.131		.142
Adj. R ²		.127		.137
ΔR ²		-		.011
Prob > F		0.000		0.000

Critical t-values for hypothesised paths = 1.282 (10%); 1.645 (5%) and 2.325 (1%); one-tailed test

Note: Leverage (LEV) defined as ratio of total debt to total assets; Profitability (PR) defined as ratio of operating income to total assets; Volatility (VT) defined as ratio of standard deviation of operating income to total assets; Asset tangibility(TA) is the ratio of fixed assets to total assets; Size (SZ) is the log of total assets; Tax rate (TX) is ratio of tax paid to net profit before tax; Inflation (IN) is the annual rate of inflation; Gross domestic product as a proxy for Economic Development (ED); Corruption (CP) defined as the corruption perception index and finally Stock Market Development (SM) which is measured as the ratio of stock market capitalisation to GDP.

⁵¹ In a reduced model, I re-run the above results by keeping only those variables that are significant. I find similar results.

8.6. Results of Structural Relationship

Two-step procedures were adopted in the evaluation of the structural models with interaction terms as indicated in Figure 8.1. The first step of this process involves the estimation of firm and country-level factors as predictors of leverage (i.e. model 1). The second stage involves the estimation of the interaction terms nested in the main effects model. Table 8.3 presents the results of panel estimates with both firm-level and county-specific effects. Overall, the results presented in Table 8.3 reveals similar relationships of leverage to the firm-level variables presented in Tables 7.3 and 7.4 (i.e. in Chapter 7). The next section looks at the relationship between leverage and the country-level factors controlled for in Figure 8.1.

8.6.1. Economic Development and Leverage

The level of economic development (ED), as measured by the level GDP, has a positive relationship and significant effect on leverage ($\beta = .098$; $t = 2.496$). The suggested explanation is that as the wealth increases, the country develops measures that foster better investors protection and this encourages more capital to be made available to firms by investors. In other words, the growth of an economy causes the availability of debt capital to increase. This leads to a positive relationship between level of economic development and leverage. Currently, most firms in SSA finance greater part their activities with internal earnings (World Bank Enterprise Survey, 2011). This is as a result of the limited access to other forms of finance (e.g. bank loans and equity finance). Thus, enhancing economic development across countries in SSA will undoubtedly widen firms' access to different forms of finance.

This result is in line with other empirical studies that have also found a positive relationship between GDP growth rate and leverage. (e.g. Booth et al. 2001; Jong et al. 2007).

8.6.2. Level of Corruption and Leverage

The level of corruption (as a measure of severity of asymmetric information arising from lack of corporate transparency) has a positive effect on leverage ($\beta = .105$; $t = 3.571$). This indicates that firms in countries with less corruption (i.e higher on the corruption perception index) would be expected to use more debt than firms in

countries with high corruption (i.e. lower on the corruption perception index). This indicates the existence of an asymmetric information problem among Sub-Saharan African countries (i.e. poor corporate transparency) that lowers the leverage level of firms in this region. The presence of the asymmetric information problem hinders investors' evaluation of the companies and therefore reduces the credit level available to firms. Indeed, previous scholar works (e.g. Lawal, 2007) suggest that corruption continues to be a major barrier to firms in SSA. According to TI (2012) report on corruption (as indicated in Figure 2.7), most countries in SSA surveyed scored below 50 on a scale of 0 (highly corrupt) to 100 (very clean). The current result therefore suggests that reducing the level of corruption among countries in SSA will enhance the inflow of capital needed by the corporate sector. This finding is consistent with a study of nine Eastern European countries by Joeveer (2013) who observed a statistically positive effect of corruption on leverage.

8.6.3. Stock Market Development And Leverage

The level of stock market development (SM) has a negative effect on leverage ($\beta = -.107$; $t = -2.283$). The finding explains that firms in countries with well developed stock markets would be expected to use less debt than firms in countries that have less developed stock markets. In other words, when a country's stock market is well developed, firms have better access to equity capital and will therefore be expected to make use of more equity capital than debt capital, hence the negative relationship between stock market development and leverage. Indeed, stock markets in SSA remain underdeveloped with low liquidity levels by global standards (Irving, 2005). This condition discourages both foreign capital inflow and mobilisation of domestic funds for corporate investment and growth. Thus, developing the stock markets in SSA will help to diversify the financial markets within this region so that firms will not only have to rely on the traditional banking sector and their limited retained earnings as their major sources of finance, but also on the stock market as a way generating funds for corporate investment.

Existing literature suggests a negative relationship between stock market development and leverage, which corroborates the current finding. For instance, Kayo and Kimura (2011) analysing the influence of macroeconomic variables on leverage found a negative relation between stock market development and leverage.

This is consistent with Demircug-Kunt and Maksimovic (2006) who in their analysis of data from 30 countries found a negative linear relationship between stock market development and leverage.

8.6.4. Moderating Effects of Firm Size on other Firm-level Factors

The preceding section has established some country-level factors in the determination of debt-equity choice. I now go a step further by considering in more detail the indirect effects of firm size (SZ) on leverage. Although prior studies (Frank and Goyal, 2009; Abor, 2008; Salawu, 2007; Wald, 1999) have taken an important step to show that firm size has influence on the capital structure decisions of firms. However, these studies have failed to explicitly show how firm level factors and leverage relationships could be explained by the size of the firm. Here, I propose that firm size could have a moderating effect on other firm-level determinants of capital structure. A summary of the results of the size moderator effects is presented in Table 8.4.

Table 8. 4: A Summary of Size Moderating Predicted and Actual Effects

Hypotheses	Expected Relationships	Standardised Parameters	T-values ^a	Comments
H7	(PR)x(SZ) → (-) Lev	.006	.266	Not Supported
H8	(VT)x(SZ) → (+) Lev	.025	1.256	Not Supported
H9	(TA)x(SZ) → (+) Lev	.107	4.285***	Supported (Strong)
H10	(TX)x(SZ) → (-) Lev	-.113	-4.504***	Supported (Strong)

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. a= Critical t-values are 1.282, 1.645 and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$ and $\alpha = 0.01$ respectively (one-tailed test as all hypotheses are one-directional). PR = profitability; VT = earnings volatility; TA = Asset tangibility; TX = Tax and SZ= firm size.

My findings regarding the moderating effects of firm size are mixed. From Table 8.2, hypothesis 7 postulates that for large firms, the influence of profitability on leverage will be negative. Results of the hypothesis analysis reveals a very weak relationship between profitability-size interaction variable and leverage ($\beta=.006$; $t = .266$). Thus, hypothesis 7 is not supported. As such, it is concluded that firm size (SZ) did not moderate the association between profitability (PR) and leverage (LEV). This means that firm size does not impact on the relationship between profitability and leverage. The plausible explanation of this is that profitability-leverage relationship is not dependent on the specific size of the firm. Indeed, a myriad of theoretical and empirical evidence (e.g. Abor, 2008; Daskalakis and Psillaki, 2008) exist to show that profitability-leverage relationship for both small and large firms is negative. Thus, the profitability-leverage relationship is not conditioned by the size of the firm.

Hypothesis 8 expects the volatility-size interaction variable to have positive effects on leverage. However, this hypothesis was weakly supported as the standardised parameter estimate for volatility-size interaction variable and leverage was positive and non-significant ($\beta=.025$; $t = 1.256$). Thus, firm size does not impact on the earnings volatility – leverage relationship.

Hypothesis 9 posits a positive relationship between asset tangibility-size interaction variable and leverage. This hypothesis was supported as the results show a significant positive relationship between asset tangibility-size interaction variable and leverage ($\beta=.107$; $t = 4.285$). Thus, bigger firms should have a large asset base that should enable them to have access to more debt since the asset can be relied upon by financial lenders as collateral.

It was postulated in hypothesis 10 that the relationship between tax-size interaction term and leverage should be negative. The results of the analysis reveals that this hypothesis was strongly supported as the tax-size interaction term has a significant negative effect on leverage ($\beta= -.113$; $t = -4.504$). This does not support the prediction of the trade-off hypothesis that postulates a positive relationship between tax and leverage. A possible explanation of this is that the quality of the regulatory institutions in SSA is responsible for the direction of the relationship between tax and leverage, when moderated by firm size. In other words, as a result of the weak institutional structures existing in SSA (Julian and Ofori-Dankwa, 2013), leverage is not used as a tool to decrease tax commitment, as bribery and corruption allow firms

(especially, large firms) to evade tax compliance or reduce the amount of taxes paid. The weak regulatory environment facilitates the evasion of tax by large firms. In other words, the benefits of the weak regulatory environment accrue primarily to large firms. Small firms that are unable to pay bribes or do not have access to top officials to bribe them are usually subjected to heavy tax burdens, thus the negative and significant relationship between tax-size interaction term and leverage.

8.7. Moderating effect of asset tangibility on earnings volatility-leverage relationship.

In the previous section, I examined how firm size explains the relationship between profitability, earnings volatility, asset tangibility, tax and leverage. In this section, I propose how asset tangibility matters in the earnings volatility-leverage relationship. The conceptual framework that examines this relationship is reproduced in Figure 8.2. This framework corresponds to H11 (as indicated in chapter 4).

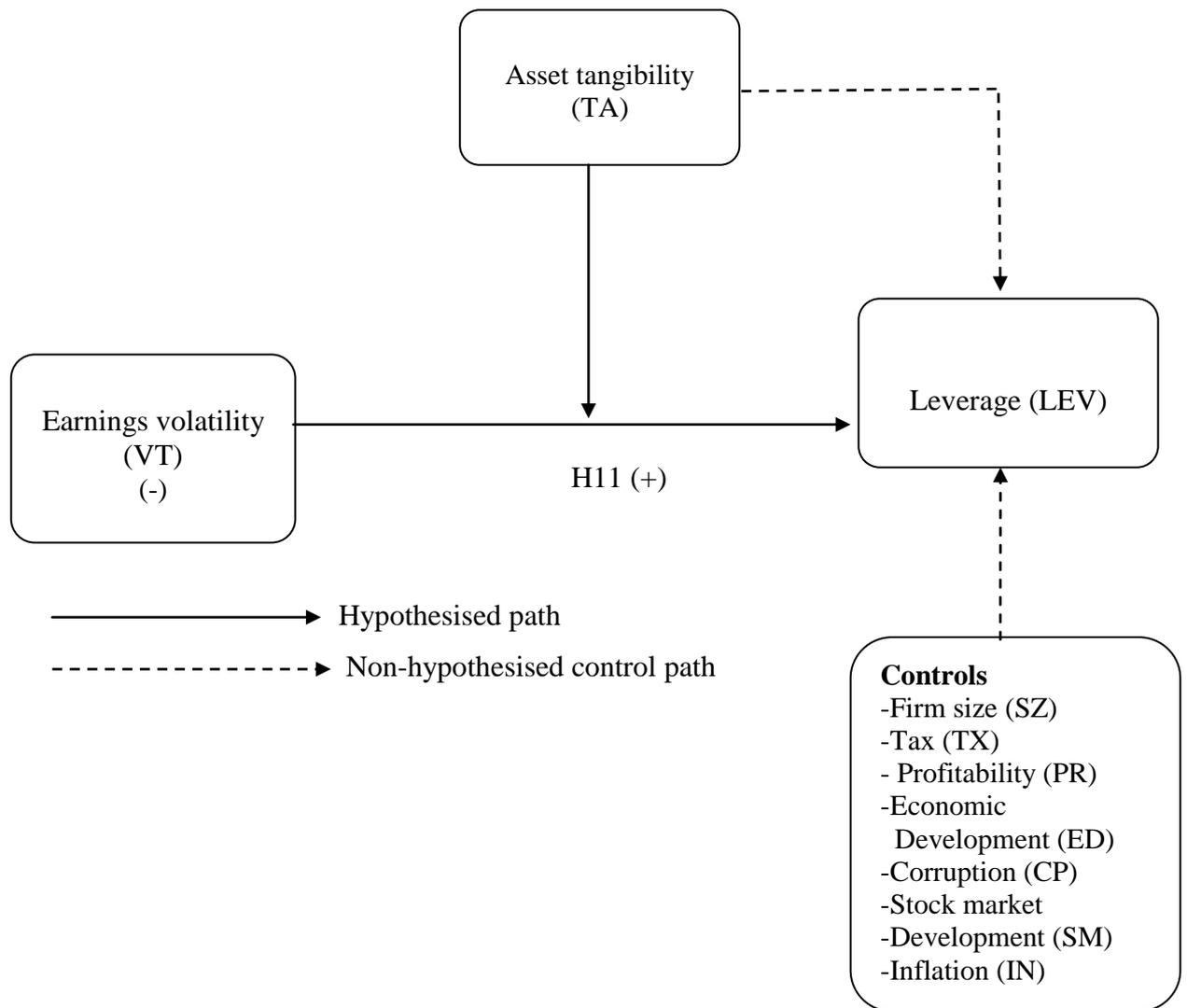


Figure 8. 2: Conceptual model of Moderating Effect of Tangibility

Table 8. 5: Regression results for asset tangibility moderating effect

Dependent variable = Leverage				
	Model 1		Model 2	
	Standardized Coefficients	t-values	Standardized Coefficients	t-values
<i>Control variables</i>				
<i>(country-level)</i>				
Inflation (IN)	.011	.545	-.002	-.226
Stock market Development (SM)	-.110	-2.353	-.003	-2.701
Economic Development (ED)	.106	2.698	.101	2.440
Corruption (CP)	.109	3.700	.065	2.001
<i>Control variables (firm- level)</i>				
Profitability (PR)	-.015	-.752	-.101	-1.281
Earnings Volatility (VT)	-.187	-9.036	-.160	-4.237
Asset Tangibility (TA)	.284	12.891	.280	9.113
Tax (TX)	-.075	-3.314	-.082	-3.732
Firm Size (SZ)	.036	1.460	.004	.226
<i>Hypothesised interaction path</i>				
VT x TA			.104	2.511
R- squared		0.131		0.139

Critical t-values are 1.282, 1.645 and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$ and $\alpha = 0.01$ respectively (one-tailed test as the hypothesis (i.e earnings volatility-asset tangibility interaction effect) is one-directional)

One of the propositions of the trade-off theory is that earnings volatility is negatively related to leverage. Firms with inconsistent earnings (a proxy for firm risk) are thought to use less debt. This argument is confirmed in prior research (e.g. Abor, 2008; Wiwattanakantang, 1999; De Angelo 1980). However, I believe that a key limitation of the above argument is that past studies (e.g. Abor, 2008; Wiwattanakantang, 1999; De Angelo 1980) have failed to consider the degree to which asset tangibility moderates the earnings volatility-leverage relationship. Such omission is significant given that asset tangibility is likely to have a huge impact on the capital structure decisions of firms, especially those in developing economies.

The key premise of my argument is that even if a firm has volatility in earnings, an important element which financial lenders need to consider in making a decision regarding lending to such a firm is the level of tangible assets of the firm. Thus, the novel argument in this part of the thesis is that the earnings volatility–leverage relationship is conditioned by the level of asset tangibility. The regression for this specification (following the residual centering approach⁵²) yields a statistically significant positive coefficient (at 5%), as predicted ($\beta=.104$; $t = 2.511$). The overall result indicates that asset tangibility tends to mitigate the negative earnings volatility-leverage relationship. This finding shows that firms with earnings volatility could still have better access to debt under condition of tangible assets availability. In this respect, I draw an attention to the fact that earnings volatility alone should not be used as a basis for assessing the repayment capabilities of a firm, but an equally important element is the asset base of the firm.

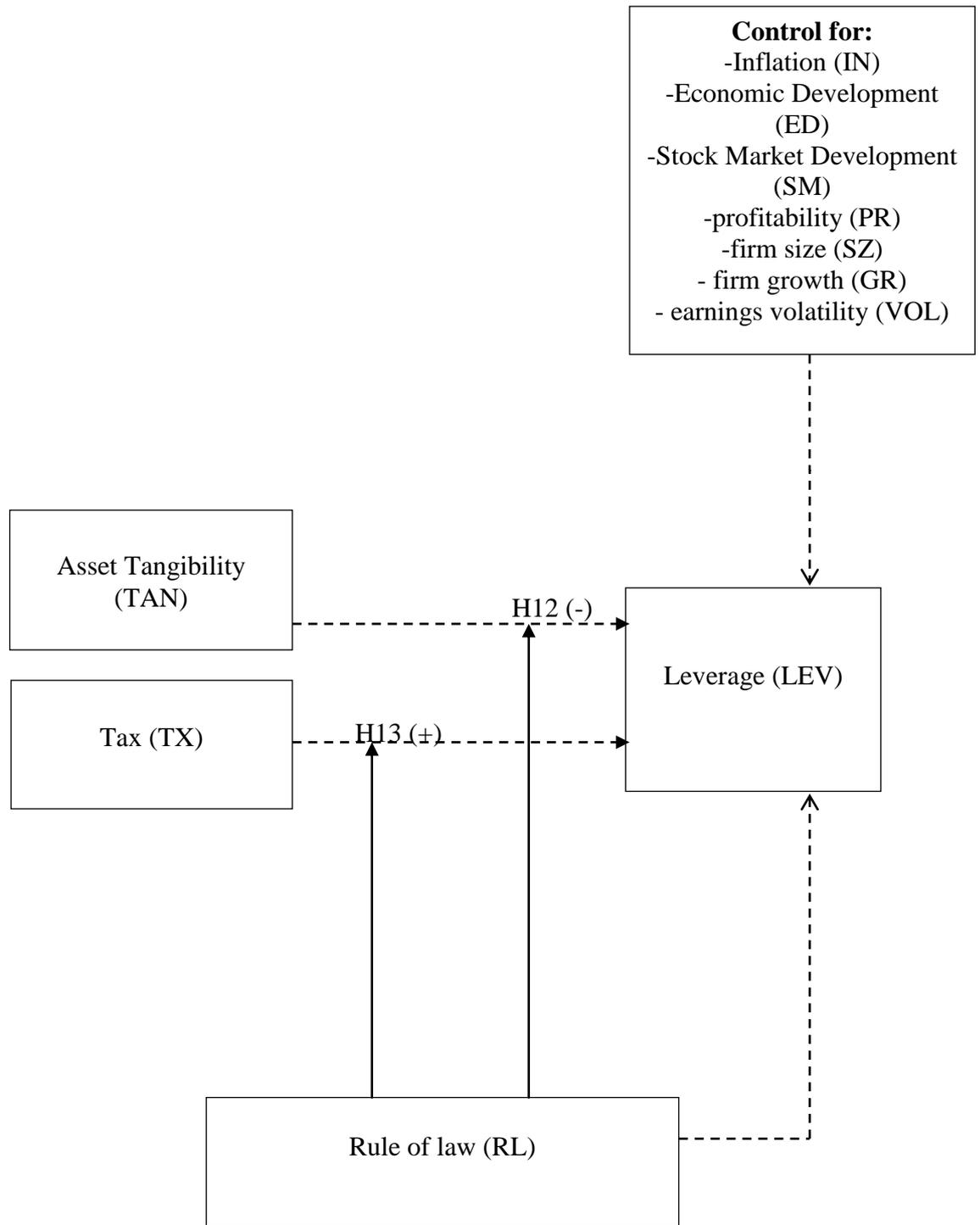
8.8. Moderating Effect of Rule of Law on the relationship between firm-level factors and Leverage.

In the previous section, I laid out how asset tangibility matters in the relationship between earnings volatility and leverage. In this section, drawing upon the logic of institutional theory (North, 1995), I propose how rule of law matters too in capital structure of firms. Therefore, this section of the thesis examines the moderating effects of rule of law on the relationship between firm-specific factors and leverage. The next section examines the model specification for the moderating effects of rule of law.

8.8.1. Model Specification for the Moderating Effect of Rule of Law

The model for this analysis is presented in Figure 8.3. As indicated in chapter 4, this framework corresponds to H12 and H13.

⁵² Following the residual centering approach, I tested for multicollinearity. The results obtained indicated that there was no problem with multicollinearity as none of the variance inflation factors obtained was greater than 10.



—————> Hypothesised paths
 - - - - -> Non-hypothesised and control paths

Figure 8. 3: Rule of Law moderating effects

The relationship representing rule of law (RL) moderating effects models are presented in Figure 8.3. Twelve independent variables were tested in this model. Out

the twelve variables, ten of them represent non-hypothesised control variables. These are rule of law (RL), Inflation (IN), Stock market development (SM), Level of economic development (ED), Profitability (PR), Earnings volatility (VOL), Asset tangibility (TAN), Tax (TX), Firm growth (GR) and Firm size (SZ). The two hypothesised paths are rule of law-asset tangibility interaction term (RL x TAN) and rule of law-tax interaction term (RL x TX). I follow Kayo and Kimura (2011) and Cadogan, Diamantopoulos and Siguaw (2002) in the creation of the interaction terms. Due to the inclusion of the interaction term in the regression estimate, multicollinearity becomes apparent. As argued by Little et al. (2006), a failure to orthogonalise the exogenous and endogenous variables can lead to structural coefficient bias. Following this argument, all the variables involved in the creation of the interaction terms are residually centred. A series of hierarchical models were adopted to test the two research hypotheses (i.e. H12 and H13).

Model 1 (as presented in Table 8.7) involved the estimation of the non-hypothesised variables. In models 2 and 3, the regression model was estimated with the interaction terms nested in the main effect model. (i.e. both the hypothesised and non-hypothesised control variables were put together in models 2 and 3). The extent to which the results were stable across different proxies was assessed by observing the variation in model fit and R^2 change. Therefore, in model 2, I defined firm size as the log of total assets. In model 3, I redefined firm size as a number of full time employees. As demonstrated in Table 8.7, model 3 provides a better model fit and R^2 change. Therefore, model 3 is used in the interpretation of the results. The growth variable appears insignificant in all the three models. Therefore, as a post hoc analysis, I re-run the regression analysis in model 4 by excluding the growth variable. Table 8.6 provides a summary of the hypotheses tested under this section.

Table 8. 6: Rule of Law Moderating Effects Hypotheses to be tested

Hypotheses	Rule of Law Moderator Relationship
H12	(RL) x (TAN) \longrightarrow (-) Leverage (Lev)
H15	(RL) x (TX) \longrightarrow (+) Leverage (Lev)

Note: RL =Rule of law; TA = Asset Tangibility; TX = Tax

Table 8. 7: Regression Results for Rule of Law Moderating Effects

	Dependent variable = leverage			
	Model 1	Model 2	Model 3	Model 4
<i>Control variables(country-level)</i>				
Inflation (IN)	0.054	0.023	0.085*	0.007
Economic development(ED)	0.196***	0.105*	0.155**	0.095*
Stock market development (SM)	-0.129**	-0.180***	-0.055	-0.056
Rule of law (RL)	0.133**	0.110*	0.142**	0.280***
<i>Control variables(firm-level)</i>				
Profitability (PR)	-0.161***	-0.033	-0.202***	-0.212***
Firm size (SZ)	0.102*	0.110**	0.092*	0.098*
Firm growth (GR)	0.002	0.013	0.033	
Earnings volatility (VOL)	-0.219***	-0.203***	0.229***	0.171***
Asset tangibility (TAN)	0.122**	0.134**	0.192***	0.151**
Tax rate (TX)	-0.205***	-0.191***	-0.193***	-0.199***
<i>Hypothesised interaction variables</i>				
H12: Rule of Law (RL) x Tangibility (TAN)		-0.169***	-0.182***	-0.195***
H13: Rule of Law (RL) x Tax (TX)		0.104*	0.141**	0.183***
Model fit				
R²	0.133	0.152	0.155	0.156
Prob > F		0.000	0.000	0.000

*significant at 10% level, ** significant at 5% level and ***significant at 1% level. Model 1 involved the estimation of the non-hypothesised variables. In models 2 and 3, the regression model was estimated with the interaction terms nested in the main effect model. In model 2, I defined firm size as the log of total asset. In model 3, I refined firm size as a number of full time employees. As a post hoc analysis, I re-run the regression analysis in model 4 by excluding the growth variable.

Table 8. 8: A Summary of Rule of Law Moderating Predicted and Actual Effects

Expected Relationships	Standardised Parameters	T-values^a	Comments
(RL)x(TAN) → (-) Lev	-.182	-6.443	Supported
(RL)x(TX) → (+) Lev	.141	2.204	Supported

Critical t-values are 1.282, 1.645 and 2.325 for $\alpha = 0.10$, $\alpha = 0.05$ and $\alpha = 0.01$ respectively (one-tailed test as all hypotheses are one-directional).

The analyses of determinants of corporate leverage have mainly focused on the firm-level factors. In this section of this thesis, my intuition is that corporate leverage is not only driven by a firm's own characteristics but also the environment in which it operates. In other words, institutional factors matter in firm financing decision (Joeveer, 2013; Gungoraydinoglu and Oztekin, 2011).

Thus, motivated by the fact that no study has so far examined the impact of rule of law on asset tangibility-leverage and tax-leverage relationships, this section of the thesis investigates the interrelationship among asset tangibility, tax rule of law and leverage. The main argument is that rule of law moderates the association between asset tangibility-leverage and tax-leverage relationships. Thus, a set of hypotheses were formulated to test this argument. Table 8.8 displays a summary of the model analysis.

From Table 8.6, it was hypothesised that (i.e. H12) a strong rule of law should moderate the association between asset tangibility and leverage in such a way that such relationship is negative and significant. This relationship is also supported ($\beta = -.182$; $t = -6.443$). Prior studies including Fosu, (2013), Gungoraydinoglu and Oztekin, (2011), Deesomsak et al. (2004) Huang and Song, (2006) suggest that in less developed markets, asset tangibility is positively related to leverage. From the existing studies, the importance of asset tangibility in less developed economies is premised on the idea that because of weak creditor rights (due to weak regulatory environment including the rule of law), creditors feel better protected with firms that have tangible assets that serve as collateral in debt contracts. This is because such firms have a smaller cost of financial distress than firms that depend on intangible

assets (Psillaki and Daskalakis, 2009). Thus, with a strong rule of law, creditors will feel better protected and this reduces the guarantee that materialises in the form of collateral. Thus, a strong rule of law tends to weaken the highly positive influence of asset tangibility on leverage.

Finally, it was argued in H13 that a positive relationship exist between the tax-rule of law interaction variable (TX x RL) and leverage (LEV). This hypothesis is supported in that the parameter for this estimate is positive and significant ($\beta=.141$; $t = 2.204$). This supports my theoretical argument that with a strong rule of law, there is less incidence of bribery and corruption as there is less room for firms to evade tax. Thus, firms with a large tax burden are encouraged to employ more debt in their capital structure due to the advantage in the deductibility of interest payments. Therefore, a high tax rate serves as an incentive for firms to borrow more (Ross, Westerfield, Jordan and Firer, 2001). In other words, I argue that at a high level of rule of law, firms ability to engage in bribery and corrupt practices are hampered and therefore firms that face high tax burdens are more likely to take on more debt to gain advantage in the deductibility of interest payments. In this way, I have applied institution-based theory to achieve a better understanding of how external factors are likely to contribute to the capital structure decisions of firms.

In all, the above findings constitute new evidence on the importance of institutional factors in the capital structure decisions of firms.

8.9. Summary and Conclusion

Prior studies (e.g. Duku et al. 2011; Ramlall, 2009; Salawu, 2006; Yarkey, 2006) from SSA tend to only concentrate on firm-specific factors as the main determinants of capital structure of firms. In this chapter, I have demonstrated that firstly, country-level factors can have direct effects on corporate leverage and secondly, firm-level factors can also influence corporate leverage indirectly through their impact on the effects of other firm-specific factors. Indeed, previous studies have not systematically investigated these indirect effects of firm-level factors on leverage.

This chapter has demonstrated the importance of institutional arrangements (i.e. country-level factors) in capital structure decisions. It is evident that some of the country-level factors have a strong relationship with leverage. Notably, the level of economic development (ED) and the level of corruption (CP) significantly affect leverage. For instance, as the wealth of a country increases, better protections are developed for debt holders, hence the positive relationship between economic developed (ED) and leverage. In addition, the positive and statistically significant relationship between corruption (CP) and leverage (LEV) indicates the existence of information asymmetry and therefore, debt holders are less likely to make more debts available to firms in countries with high level of corruption.

The findings of this study emphasise the importance of country-level variables in the determination of capital structure of firms. The conclusion is that country-level factors matter in capital structure decisions of firms, especially when examining corporate financing decisions across countries. Also, utilising appropriate estimations, the study has demonstrated the indirect effects of firm-size (SZ) on leverage through its influence on other firm-level factors. The data provided mixed support to the four hypotheses tested in this chapter. Specifically, the results showed that firm size (SZ) moderates the relationship linking asset tangibility (TA) and leverage as well as tax (TX) and Leverage (LEV).

Additionally, this chapter has a new evidence on rule of law-capital structure link by using data from SSA, an under-researched but economically emerging region. This chapter also makes another empirical contribution by demonstrating the impact of asset tangibility on earnings volatility-leverage relationship. Particularly, it shows that where a firm has an adequate amount of tangible assets as collateral, then earnings volatility should be of less concern to lenders. In addition to its significant direct impact on leverage, I have demonstrated the moderating role of rule of law. From Table 8.7 one of the key findings is that the rule of law decreases the effects of tangibility on leverage. In other words, in the absence of an effectively enforced rule of law, the insider has much less of a reason to repay loans and therefore the assets base becomes an assurance of repayment (Fosu, 2013). If the rule of law is strong, debt holders are likely to be better protected and therefore firms are likely to be

granted financial assistance without the need to provide asset as collateral (Wiwattanakantang, 1999, Fosu, 2013).

The chapter has also demonstrated the importance of rule of law in the tax-leverage relationship. In the absence of the rule of law, firms manipulate the tax system in their favour. Thus, the presence of rule of law lowers the possibility of firms manipulating the tax system in their favour. Indeed, the current findings add an important perspective to the capital structure by incorporating the indirect role of firm size, asset tangibility and rule of law, an area that is largely unexplored.

**PART IV: CONCLUSION AND FURTHER
RESEARCH**

Chapter 9

Conclusions and Implications

9.1. Introduction

This chapter concludes this thesis by giving a summary of the research findings presented in Chapters Six to Eight and discusses how the study answers the research objectives posed in chapter 1. In addition to this, this chapter provides a summary of how the study contributes to knowledge in relation to the existing literature. This chapter is organised into six sub-sections. In the first sub-section, I re-visit the background and objectives of the study. The second sub-section provides a summary of the research methodology and the main findings of the study. The third sub-section looks at how this study contributes to existing literature. The fourth section highlights the limitations of this study. The fifth section also focuses on implications of the research findings and highlights areas for further research. In the sixth and final section, I present a summary of this chapter itself.

9.2. Revisiting the purposes of the study

Undeniably, the success of every firm depends on (among other things) a sound financing decisions of that firm. Thus, a wrong capital structure decision can endanger the survival of that firm. This explains why the issue of capital structure has captured the attention of many scholars. While the development of capital structure theory has proceeded rapidly and numerous studies have made a significant contribution to the field of corporate finance in the past decade (e.g Joeveer, 2013; Sheikh and Wang, 2011; Viviani, 2008; Chen and Strange, 2005; Boateng, 2004; Fama and French, 2002; Wiwattanakantang, 1999), rigorous empirical research from developing economies has lagged behind. Most of the studies on capital structure have relied on data from developed economies where data availability is not a major issue. In addition to this, earlier studies model the direct impact of firm and country-level factors (i.e institutional factors) on the debt-equity choice and the moderating

roles of firm-specific factors are overlooked. Besides, empirical studies (e.g. Asongu, 2013; Julian and Ofori-Dankwa, 2013; Lawal, 2007; Blundo, 2006; Ahunwan, 2002; De Sardan, 1999; Harsch, 1993; Gould and Mukendi, 1989; Gould, 1989) observed that SSA is characterised by bribery and corruption because of weak institutional structures including the rule of law. The weak institutional structures facilitate tax evasion by firms and make asset tangibility an important component in debt acquisition due to the high risk of default on debt contracts (Fosu, 2013; Sheikh and Wang, 2011). SSA is, therefore, a significant case to examine the impact of firm-specific factors on leverage and the interrelationship between tax, asset tangibility, rule of law and leverage.

Thus, drawing upon the arguments developed in capital structure theories (e.g. Myers, 1984; Myers and Majluf 1984; Taggart, 1977), institutional economics (e.g. Julian and Ofori-Darkwa, 2013; North, 1990) and using a unique dataset from firms in SSA, this study adds to the capital structure literature by combining both secondary data regression results and a survey instrument with a view to providing a comparison between practice and the existing theories of capital structure. This study therefore sets out to find answers to the following research objectives:

- 2 To examine sources of finance, barriers and factors influencing capital structure of firms in Ghana.
- 3 To examine both the firm-level and country-level determinants of capital structure.
3. To examine the moderating effect of firm size on the relationship between other firm-level factors and leverage.
4. To examine the moderating effect of assets tangibility on the relationship between earnings volatility and leverage.
5. To examine the moderating role of rule of law on the relationship between firm-specific factors and leverage.

9.3. Summary of the findings

Empirical studies of the firm financing decision have made significant contributions to the literature on capital structure, except for the fact that most of the existing evidence is grounded in data from the developed economies. In the current study, I

examine various dimensions of capital structure of firms by relying on data from firms in SSA. SSA represents a new setting for extending the knowledge of corporate financing decisions beyond the western economic context giving the fact that limited studies have so far concentrated on this aspect from this context. This limited amount of studies therefore permits a detail analysis of the issue. Premised on the insight of capital structure and institutional theories, the summary of the results obtained from the current study is provided below.

First, with reference to the survey data (obtained from Ghana), the current study shows that retained earnings remains the major source of funds. The role of venture capitalists, bond markets, insurance firms and leasing firms as sources of funds for firms is completely underdeveloped. This gives a clear indication that firms' access to different forms of finance is very limited.

This study further suggests that high interest rates, length of the time in obtaining loans from lenders and collateral are the major issues that affect the acquisition of debt finance among firms in Ghana. Besides, the risk of becoming insolvent (bankruptcy) was found to be the most important factor moderating the choice of debt among firms. Consistent with the trade-off hypothesis, this study also shows that some of the firms in Ghana maintain a target debt-equity choice and that internal factors are the most influential in setting the target debt ratios. This finding signals that internal factors play important roles in shaping the capital structure decisions of firms (Beattie et al., 2006).

Apart from the trade-off hypothesis indicated above, there is also an evidence of the pecking order hypothesis as the results indicate that firms in Ghana raise capital by first relying on internal earnings, which is then followed by the use of debt finance and finally equity capital. I also found that firms with government stake (shares) have leverage ratios higher than other firms. In terms of maintaining a target debt ratio, it was revealed that majority of the firms surveyed did not maintain any target debt ratio. This was not consistent with what is reported in the literature (e.g. Beattie et al. 2006). Other striking observations are that, due to the shallowness of the financial market in Ghana, bank loans and bank overdrafts remain the only spare borrowing facility used by firms in Ghana.

The study also highlights the impact of the financial crisis on financing decisions of firms. Indeed, the current study is one of the first attempts to provide evidence of the crisis from the context of Ghana. Evidence drawn from the survey indicates that the financial crisis made it difficult for firms to acquire debt capital and that unlisted firms were more likely to find it difficult in acquiring debt finance during the crisis period than listed firms.

In addition to the survey evidence, this study shows that debt capital constitute roughly one-fifth of the total capital structure of firms in SSA and that firms in this region are mainly equity financed. This figure is considerably less than what is reported in the literature on firms in developed economies. Despite the slight differences in terms of the level of development among countries in SSA, this study did not find any significant difference in the levels of debt employed by firms across different countries within SSA.

The role of firm-level factors (i.e. profitability, firm size, growth, asset tangibility, tax and earnings volatility) in determining the capital structure of firms is also highlighted in this study. In spite of the institutional differences that exist between the Western world and SSA, the results of this study indicate that some of the firm-level factors that are relevant in explaining capital structure in the western context (e.g. profitability, firm size, earnings volatility) are also relevant in SSA.

By far, assets tangibility remains the most important firm-level determinant of capital structure among the firms examined. No evidence was obtained that firm growth is an important determinant of the capital structure of firms in SSA. Both the pecking order and the trade-off models provide explanations for financing decisions among firms in SSA. Nevertheless, neither of these two theories dominates the financing behaviour among firms in this region.

Furthermore, I have highlighted the role of institutional factors (i.e. country-level factors) in capital structure decisions. These factors include inflation, level of economic development, stock market development and the rule of law. The results obtained are line with the conceptualizations that country-level factors are also important in capital structure decisions of firms.

Theoretical and empirical studies on capital structure have predominantly focused on the linear relationship between various firm and country factors and leverage. Given the limited research on the moderating effects of firm and country level factors, in this thesis, I have examined the moderating role of firm size, asset tangibility and rule of law. Evidence obtained enriches the notion that these factors moderate other firm-level factors.

9.4. Summary of the main contributions of the research

Previous scholarly works, especially from the context of SSA (e.g. Doku et al., 2011; Ramlall, 2009; Yartey, 2006; Salawu, 2006) have typically analysed how various firm-level factors affect financing decisions of firms by relying on single country studies based on secondary data. However, we still have relatively little knowledge as to whether the reality on the ground is adequately explained by secondary data and the extent to which institutional factors affect financing decisions. This research thus addresses an important gap in the literature by simultaneously relying on both primary and secondary data to develop insights into the financing decisions of firms in SSA. A summary of the specific contributions from the study are provided below:

First, to the best of my knowledge, this study provides the most comprehensive analysis of capital structure decisions of firms, covering eight countries in SSA. To the best of my knowledge, this study is the first study that provides a unique perspective on the impact of the 2007/08 financial crisis on the capital decisions of firms with evidence from SSA. Even though the direct impact of the financial crisis on SSA economies were not pronounced as the case of developed economies such as the US and Europe (Allen and Giovannetti, 2011; Berman and Martin, 2011; IMF, 2009), available evidence derived from the primary survey indicates that the crisis restricted the acquisition of debt finance from lenders in Ghana. My interpretation of this was that the global economic downturn led to a high level of uncertainty and therefore lenders had to cut down lending to reduce their exposure to non-payment risk.

Second, my findings on the role of government ownership contributes a new dimension to the growing empirical literature on capital structure and opens a new

avenue for in-depth investigation into the importance of government ownership in debt acquisition, especially for firms operating in less developed economies, where governments and political leaders have great control over major resources including financial resources.

My third key finding relates to the tax-leverage relationship. Here, I find tax to be negatively related to leverage. Understood within the conceptual framework of this thesis, as noted above (i.e. in Chapter 4), I explain this by drawing on IDH and argue that the less developed institutional structure (e.g. weak regulatory structures) in SSA facilitates tax evasion. Thus, tax is less important in the capital structure decisions of firms in SSA than firms in countries with well-developed institutional structures. Indeed, within the domain of the capital structure literature, this is the first study to examine this.

Next, findings on the moderating effects of firm size and asset tangibility contribute a new dimension to the capital structure literature, which has not been tested by previous researchers. Here, I begin by arguing that scholarly works always assume direct firm size-leverage and asset tangibility-leverage relationships. Extant studies have overlooked the indirect effects of firm size and asset tangibility on leverage. In this case, I have conceptualised the effects of firm size and asset tangibility as moderators and not just direct effects.

Another novel contribution relates to the role of rule of law in capital structure. I find that a strong rule of law moderates the tax-leverage relationship in such a way that this relationship is positive and significant. I explain this by arguing that with a strong rule of law, there is less incidence of bribery and corruption, so less room for firms to evade tax. Thus, firms with a large tax burden are encouraged to employ more debt in their capital structure due to the advantage in the deductibility of interest payments. Therefore, a high tax rate serves as an incentive for firms to borrow more (Ross, Westerfield, Jordan and Firer, 2001).

My final contribution stems from the moderating role of rule of law on asset tangibility and tax leverage relationship. I began by developing a theoretical basis for the moderating role of tax-leverage and asset tangibility-leverage relationships. The

key finding from this supports the notion that with a strong rule of law, asset tangibility is less important in debt acquisition. In addition to this, evidence obtained indicates that tax is an important element in capital structure decisions of firms under a strong rule of law. These findings provide further evidence that the capital structure of firms is conditioned by institutional structures and that institutional elements must be given critical attention in the capital structure literature. Indeed, previous works from the SSA (e.g. Doku et al., 2011; Ramlall, 2009; Abor, 2007; Yartey, 2006; Salawu, 2006) have typically overlooked this.

9.5. Implications of the study

This study extends the literature on financing decisions of firms by examining the dimensions of capital structure of firms in SSA. By integrating relevant insights from capital structure and institutional theories, the study outlines new and important propositions that have not yet been considered by prior research and therefore offers a number of implications. These implications are highlighted in the sections below.

9.5.1. Level of debt of firms in SSA

First, debt capital (as reported in Figure 7.2) constitutes less than one-fifth of the capital structure of firms in SSA. This figure is less than that in the literature for most of the economies in the Western world. In almost all the countries under observation, one striking characteristic is that alternatives to bank credit are few (IMF, 2013). Banks remain the major or even the only source of external debt, as bond and equity markets are completely undeveloped. The absence of well-developed bond and equity markets in many of the countries under observation shows that access to long-term debt by firms is limited. This calls for the creation of more financing opportunities for firms in SSA. African governments and private organisations, as well as individuals, must show commitment towards establishing effective bond markets within the continent. This commitment should include measures that lead to a reduction in inflation and exchange rate risks to attract foreign investors.

Other measures that could enhance firms' access to funds include:

- The creation of an adequate and effective regulatory framework⁵³ aimed at ensuring a smooth running of the overall financial system in SSA. The legal framework in SSA should be swift in dealing with issues that can endanger the credibility of the financial system and ease of doing business⁵⁴ in general. This is particularly important in boosting the confidence of foreign investors in SSA.
- Adequate resources must be devoted to the enhancement of automation and the technological capacity⁵⁵ of the financial system in SSA. This is also important in improving the information flow to the public. Improving the information flow is particularly important in encouraging foreign investment in financial services. In this sense, more space could be given to western banks to help complement SSA governments' efforts to bring in the necessary innovation required in the financial sector.
- In addition, with the recent financial crisis restricting the availability of debt finance (as demonstrated in Chapter 6), efforts must be made by governments to encourage broader participation at all levels of the financial system by local firms. For instance, local firms that are listed on stock markets in SSA must be given attractive tax incentives. Similarly, bureaucratic procedures that firms go through as part of the listing processes must be eliminated. These are important in encouraging local resource mobilisation, particularly as external support of foreign inflows weakens due to the recent global financial crisis and other economic challenges.
- Consideration should be giving to integrating the stock markets within SSA. This is important in reducing the country-specific risks and will help in reaping economies of scale especially in technical areas of the financial system. This sort of regional integration may be particularly vital for small

⁵³ IMF (2013) reports that none of the banking sector regulatory framework in East African countries is fully compliant with best international standards.

⁵⁴ The World Bank 'Ease of Doing Business Report' indicates that most of the countries in SSA were ranked very low on the Doing Business Index. A low ranking on the 'Ease of Doing Business Index' means the regulatory environment is less conducive to the starting and operation of a local firm (World Bank, 2013)

⁵⁵ A typical example of diffusion of modern technology into the financial system in SSA is the use of mobile-based payment system in Kenya (i.e. M-PESA). This sort of technology could be extended across the whole of SSA. This is particularly useful for communities that do not have physical access to banks to conduct banking activities.

economies, whose commercial activities do not raise hopes for any meaningful local stock market, to also have access to stock markets. This kind of integration will however require closer cooperation among regulators across borders (obviously no easy task) in ensuring that appropriate human resources and policing facilities are put in place to monitor the system. Indeed, supervisory capacity among many SSA countries tends to be weak (IMF, 2013). The regional integration of stock markets within SSA will require that more resources be given to supervision activities across borders to ensure adequate protection of the system.

- Further, efforts must be made to provide small firms with high growth potential the opportunity to raise long-term capital through the floating of shares. For instance, the establishment of an Alternative Investment Market (AIM) in SSA could provide huge opportunities for fast growing firms that do not meet the requirements to be floated on the main stock markets to have access to long-term capital with a lower regulatory burden. Currently, lending to such firms in SSA tends to be mainly short term in nature, with a high percentage of loans with a maturity period of less than a year (EIB, 2013). This stifles long-term investment opportunities. Thus, providing opportunities for firms to raise long-term capital will free firms from the constraints experienced in undertaking long-term projects.
- Another suggestion is that policy makers in SSA must endeavour to promote financial inclusion, whereby financial products and services (e.g. loans) are delivered at affordable costs to all firms (especially firms in rural communities, since rural communities constitute the greater share of Africa's population)⁵⁶. Financial inclusion empowers marginalised sectors of society to participate in business and economic activity (Cyn-Young, 2011). Further, efforts must be made to enhance public access to banking services (e.g. promotion on internet banking); provide adequate credit to firms in SSA, promote financial literacy for firms; and diversify financial services in SSA.

⁵⁶ Available evidence suggest that access to financial services remain very limited for rural areas in SSA (IMF, 2013)

- Similarly, Islamic banking is another avenue for expanding financial facilities to firms in SSA. Indeed, Islamic banking has the potential to provide some of the financial resources that are required by firms in SSA. Whilst Islamic finance has gained ground in the financial landscape in some North African countries (notably Egypt), available evidence shows that in the case of SSA Islamic banking remains underdeveloped. For instance, empirical evidence obtained by Faye, Triki, Kangoye (2013) indicates that Islamic banking in SSA is still at its embryonic stages of development. To this end, institutional structures that are needed for the development and expansion of Islamic banking facilities must also be encouraged across all countries in SSA.

9.5.2. Relationships between regulatory environment, asset tangibility and leverage

Since tangibility is a substitute for weak creditor rights (Fosu, 2013; Psillaki and Daskalakis, 2009; Cheng and Shiu, 2007), the findings of this study indicates that firms in SSA with attractive investment opportunities but inadequate tangible assets may find it difficult to secure debt capital for executing such investments. According to EIB, (2013), banks in SSA often mention inadequate bankable projects as the main reasons for their high liquidity levels, whilst firms also complain of inadequate financial resources for investment projects. Thus, there is a kind of friction between the supply and demand of capital, which comes about because of collateral requirements in debt contracts. Consequently, policy has to address this issue by improving the regulatory environment among Sub-Saharan African countries. This will reduce the collateral requirements in negotiating debt contracts. This is important in increasing the flow of debt finance and reducing the cost of funds employed by firms in this region. Similarly, the banking regulatory framework in SSA must coerce commercial banks to lend a certain proportion of their portfolio to the corporate sector.

9.5.3. Profitability and leverage

The negative relationship between profitability and leverage could be attributed to the issue of information asymmetry, as described by Myer (1984). Information

asymmetry affects firms' ability to raise external funds for investment, as it could lead to the tendency for new shares to be mispriced by firms. Therefore, to avoid the underinvestment problem, firms will rely on their retained earnings, leading to a negative relationship between profitability and leverage (Myers 1984; Myers and Majluf, 1984; Ryen et al. 1997). Consequently, governments and other stakeholders within SSA must put in place measures (e.g. law) that will encourage firms' disclosure of information. Since information disclosure plays a role in determining the cost of capital, higher information disclosure is particularly important in reducing the overall cost of capital employed by firms (Lambert, Leuz, Verrecchia, 2007; Botosan, 1997; Diamond and Verrecchia, 1991).

9.5.4. Asset Tangibility as a moderator

The moderating role of asset tangibility on the earnings volatility-leverage relationship also offers an implication in capital structure decisions. While scholarly enquiry into the determinants of capital structure has received great attention in the corporate finance literature (Sharif et al. 2012; Huang and Song, 2006; Chen, 2004; Deesomsak et al. 2004), empirical studies that examine the moderating role of asset tangibility in earnings volatility-leverage relationship are yet to catch the attention of scholars. Existing evidence demonstrates that firms that shows volatility in their earnings face a huge challenge in acquiring funds from lenders due to the perceived level of risk (Wiwattanakantang, 1999 and Johnson, 1997). However, results from the current study shows that asset tangibility moderates the negative earnings volatility-leverage relationship to become positive. This is an important finding for firms that want to acquire debt finance but have volatility in their earnings. Thus, in debt acquisition, volatility in earnings should not be used as a prime factor in denying firms access to debt.

9.6. Delimitations and Direction for Further Research

By integrating both firm-level and and country-level factors into capital structure decisions and by relying on the logic of capital structure theories, institutional theories, as well as IDH, this study examines the capital structure of firms in SSA

and therefore develops new insights into an area that has not been considered by prior research. By so doing, this study opens a new avenue for further research. This section of the thesis therefore discusses the various limitations of the current study and offers some useful suggestions for future research. The section is divided into two main sections. These are methodological issues and substantive issues. Each of these is considered below:

9.6.1. Methodological Issues

A potential limitation of this study is the number of countries used. The current study examined the dimensions of corporate financing decisions of firms in eight countries within the Sub-Saharan region using secondary data obtained from the Datastream global database. Further, the study obtained primary data from firms in Ghana. The selection of these countries was purely based on availability of data on the Datastream database. Thus, countries that do not provide their data to the Datastream database could not be included in this study. It is important to emphasize that the primary data were gathered from a single country source. Ghana shares many characteristics with other developing countries including the level of banking sector development, inflation and other institutional arrangements. These characteristics offer a rich environment in which to test financing decisions of firms from the perspective of a developing economy. However, this also requires caution as generalisation beyond the Ghanaian context could be misleading. Of course, other developing countries may possess some unique institutional arrangements that could allow for additional insight into financing decisions of firms. Thus, future research could focus on gathering primary data across many countries to offer understanding of firms' financing decisions across different economic settings.

9.6.2. Substantive Issues

There are a number of substantive issues that could be considered as part of the future research agenda. First, this study examines the conventional firm and country specific factors that underline the financing decisions of firms. However, as argued by Acquah and Eshun (2010), in developing countries such as those in SSA, it is not *what* firm managers know alone that affects the activities of their firms, but also

whom these managers know. This suggests the importance of managerial network relationships, especially political network ties. In addition, network ties with community leaders and culture play a significant role. For instance, the cultures in SSA are highly collectivistic, with the extended family system, as well as the broader community performing a substantial role in the lives and activities of individuals and businesses (Acquaah, 2007). SSA is characterised by two parallel political systems and authorities. These are the formal political system of the modern nation state (democracy), and secondly, the traditional political systems that pre-date the modern nation state (traditional ruling).

Indeed, community leaders including local chiefs, kings, and religious leaders possess influential powers in sharing resources including access to financial resources⁵⁷. These community leaders also create, maintain, and enforce the social norms and values of their communities, including traditional religious rituals, thus developing a strong interpersonal bond among individuals in their communities (Acquaah, 2007). Thus, firms which develop network ties with community leaders are able to get access to resources and information as the community leaders endorse those firms and their activities and refer them to their communities. Thus, developing extensive network ties with community leaders such as opinion leaders, religious leaders and chiefs could be an influential factor in the acquisition of financial resources for the activities of firms. Consequently, future research could look at how political ties and community leadership ties could influence the financing decisions of firms.

Further, researchers looking at corporate financing decisions could look at how characteristics (e.g. age, gender, educational background, beliefs, ethnic background) of firm managers matters in firm financing decisions.

Another area that could be investigated in detail is comparing debt-equity decisions across various economic regions within the African continent. SSA was chosen as an appropriate testing ground for the current study due to the availability of adequate data to facilitate analysis. Therefore, it could be fruitful to see whether differences in regional economic factors could significantly influence the debt-equity choice of firms. This approach would broaden the understanding of firms' financing decisions across different regions within the African continent.

⁵⁷ In Ghana, rural banks are owned and managed by rural communities themselves. Therefore, firms in rural communities that align themselves with their community leaders are more likely to be looked at favourably in acquiring funds from the rural banks.

Another possible area of future research would be to compare the capitals structure decisions of English speaking countries in SSA with non-English speaking countries. Between these two groups of countries, there could be diversity along cultural and economic lines, which could influence the financing decisions of firms. Therefore, future research could help to establish what the similarities and differences, as well as what the useful lessons are.

Scholarly works (Daskalakis and Psillaki, 2008) also observe that SMEs form the majority of firms in both developed and developing countries. Financing decisions of SMEs are likely to be different from other firms (Daskalakis and Psillaki, 2008). In the same vain, the impacts of the 2007/08 financial crisis on SMEs are likely to be different from that of other firms. The analysis of the impact of the financial crisis on non-SMEs leaves an important question open: what are the impacts of the financial crisis on SMEs from the perspective of SSA? Accordingly, additional data could be gathered from SMEs and compared to the results obtained from the current study.

In addition to the above, the current study excludes data from financial and insurance institutions, as well as utility companies, which are usually heavily regulated by governments and therefore tend to have capital structures dissimilar from other firms in the corporate sector. As such, future studies could compares the differences in capital structure of firms by looking at the possible differences between these heavily regulated industries and other corporate bodies.

9.7. Final Note

In this chapter, I have provided a summary of the whole study conducted. The background and the objectives of the study have been highlighted. Issues considered include a summary of the research findings and the contribution of the study, as well as the delimitations. This chapter has also suggested avenues for further research.

In closing, this study has contributed to the field of corporate finance by looking at the financing decisions of firms, specifically those in the SSA. In addition to the use of secondary data from eight countries in SSA, the study has provided a comprehensive evidence of financing decisions of firms in Ghana, highlighting financing decisions of firms as well as some of the major challenges faced by firms in the acquisition of funds from lenders. Indeed, the current study is the first study to examine the financing decisions of firms from the perspective of SSA by relying on both primary data and secondary data, and incorporating the role of institutional elements in the financing decisions of firms in SSA.

The choice of the research topic was necessitated by limited research evidence within the context of SSA. Instead of just replicating past scholarly findings in SSA, I have relied on both capital structure and institutional theories' perspective to provide fresh empirical evidence on the financing decisions of firms. Overall, this study sheds light on capital structure decisions of firms and suggests a number of potentially fruitful lines of research, which should be of critical interest to scholars in different cultural settings.

APPENDICES

Appendix 1: Covering letter and research questionnaire

A SURVEY OF DIMENSIONS OF CAPITAL STRUCTURE OF COMPANIES IN GHANA

Albert Danso (PhD Student) <i>The York Management School</i> <i>University of York, York</i> <i>YO10 5GD</i> <i>Tel: +233241211831 (Gh)</i> <i>Email:ad853@york.ac.uk</i>	Dr. M. Moshfique and Dr. K. Anderson (Research Supervisors) <i>The York Management School</i> <i>University of York, York</i> <i>YO10 5GD</i> <i>Tel: +441904325047/+441904325001</i>
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Dear sir/madam,

I am a PhD student at the York Management School in the UK and I am conducting research into the dimensions of capital structure of companies in Ghana. To help in this research, I would be very grateful if you could complete the questionnaire below. Your response is very important to the accuracy of this research. The questionnaire is designed in a way that it must be completed by someone who has a good knowledge about your company's financial issues.

You can be sure that no one except the researchers will ever know how you responded to these questions, as your response will be kept completely confidential.

I deeply appreciate your co-operation, as without you I would not be able to conduct this research. If you are interested in receiving the report on the findings of this research, just write your name and address at the back of this questionnaire and I would be glad to send you the report when ready.

Thank you very much for your participation in this research.

Sincerely,

Albert Danso.

PART A: BACKGROUND INFORMATION.

Q1. Please indicate your job title (Please tick)		
i	CEO	<input type="checkbox"/>
ii	General Manager	<input type="checkbox"/>
iii	Accountant/Accounts Officer	<input type="checkbox"/>
iv	Finance Manager	<input type="checkbox"/>
v	Any other (Please state).....	

Q2. Please have you received the permission from the appropriate authority to fill out this questionnaire? (Please tick)		
i.	Yes	<input type="checkbox"/>
ii.	No	<input type="checkbox"/>

Q3. Please indicate the gender of the CEO of your company (Please tick)		
i.	Male	<input type="checkbox"/>
ii.	Female	<input type="checkbox"/>
ii.	Do not want to disclose	<input type="checkbox"/>

Q4. Please indicate the age of the CEO of your company (Please tick one)		
i.	Less than 25 years	<input type="checkbox"/>
ii.	From 25 to 34	<input type="checkbox"/>
iii.	From 35 to 44	<input type="checkbox"/>
iv.	From 45 to 54	<input type="checkbox"/>
v.	55 years and above	<input type="checkbox"/>
vi.	Do not want to disclose	<input type="checkbox"/>

Q5. Please indicate the highest educational qualification of the CEO of your company (Please tick one)	
i. Secondary school education	<input type="checkbox"/>
ii. First degree	<input type="checkbox"/>
iii. Masters degree	<input type="checkbox"/>
iv. Doctoral degree	<input type="checkbox"/>
v. Any other including professional qualification? (Please indicate).....	

Q6. Please indicate the number of years your CEO has been in office (Please tick one)	
i. Less than 5 years	<input type="checkbox"/>
ii. From 5 to 9 years	<input type="checkbox"/>
iii. 10 years and above	<input type="checkbox"/>

Q7. Which of the following sector(s) best describes the activities of your company? (Please tick)	
i. Agriculture, Forestry and Fishing	<input type="checkbox"/>
ii. Mining and Quarrying	<input type="checkbox"/>
iii. Electricity, Gas, Steam and Air Conditioning	<input type="checkbox"/>
iv. Building and Construction	<input type="checkbox"/>
v. Water Supply, Sewerage, Waste Management and Remediation activities	<input type="checkbox"/>
vi. Transport and Storage (including land and air transport and postal services)	<input type="checkbox"/>
vii. Accommodation and Food Services (including hotels, hostels and restaurants)	<input type="checkbox"/>
viii. Information and Communication	<input type="checkbox"/>
ix. Financial and Insurance Services	<input type="checkbox"/>
x. Real Estate Activities	<input type="checkbox"/>

xi. Professional, Scientific and Technical Activities (e.g. legal and accounting services, architecture, technical testing and analyses, market research and veterinary)	<input type="checkbox"/>
xii. Administrative and Support Services (e.g. rental and leasing activities, employment agency, travel agency, security and investigation activities, services to building and landscape activities, office support and business support activities)	<input type="checkbox"/>
xiii. Education	<input type="checkbox"/>
xiv. Human Health and Social Work Activities (e.g. hospitals and care homes)	<input type="checkbox"/>
xv. Arts, Entertainment and Creation (e.g. gambling, betting and sports activities)	<input type="checkbox"/>
xvi. Any other (Please specify).....	

Q8. Is your company listed on a stock exchange?

(Please tick)

i. Listed company	<input type="checkbox"/>
ii. Unlisted company	<input type="checkbox"/>

Q9. Please indicate if your company has any association/ partnership with any other company situated outside Ghana that involves sharing any of the following (You may tick more than one). If none, go to question 10.

i. Debt or equity capital	<input type="checkbox"/>
ii. Technology	<input type="checkbox"/>
iii. Raw materials	<input type="checkbox"/>
iv. Management decisions	<input type="checkbox"/>
v. Company's policies	<input type="checkbox"/>
vii. Brand name / patent/goodwill	<input type="checkbox"/>
viii. Any other form of association? (Please state).....	

Q10. Does the government of Ghana own shares in your company? (Please tick)

i. Yes	<input type="checkbox"/>
ii. No (If no, go to Q12)	<input type="checkbox"/>

Q11. What is the percentage of shares held by the government? (Please tick)

i. Up to 25 percent	<input type="checkbox"/>
ii. Between 25 and 50 percent	<input type="checkbox"/>
iii. 50 percent and above	<input type="checkbox"/>

Q12. Please indicate if any of the following have shares in your company (You may tick more than one)

If none, go to Q14.

i. Chairman of the company	<input type="checkbox"/>
ii. CEO	<input type="checkbox"/>
iii. General Manager	<input type="checkbox"/>
iv. Accounts Officer or Accountant	<input type="checkbox"/>
v. Finance Manager/ Finance Director	<input type="checkbox"/>
vii. Other (please state)	<input type="checkbox"/>

Q13. Please indicate the total percentage of shares held by all those indicated in question 12 (Please tick)

i. Up to 25 %	<input type="checkbox"/>
ii. Between 25 and 50 %	<input type="checkbox"/>
iii. 50 % and above	<input type="checkbox"/>

PART B: SOURCES OF CAPITAL AND FINANCING DECISION

Q14. Please indicate how important the following as your company's sources of finance (Please circle)	<i>1 = least important source</i>			<i>5 = most important source</i>	
i. Internal or retained earnings	1	2	3	4	5
ii. Loans from banks and other lenders	1	2	3	4	5
iii. Bonds	1	2	3	4	5
iv. Hire purchase	1	2	3	4	5
v. Venture capitalist	1	2	3	4	5
vi. New equity issue	1	2	3	4	5
vii. Insurance companies.	1	2	3	4	5
viii. Affiliated companies or joint partners	1	2	3	4	5
ix. Leasing companies	1	2	3	4	5
x. Informal sources (e.g. family and friends)	1	2	3	4	5

Q15. How many banks does your company have bank accounts with? (Please tick)	
i. One	<input type="checkbox"/>
ii. Two	<input type="checkbox"/>
iii. Three	<input type="checkbox"/>
iv. Four	<input type="checkbox"/>
v. Five or more	<input type="checkbox"/>

Q16. Please indicate the problem that you feel your company faces in securing funds from banks or financial lenders. (Please circle)		<i>1= not at all a problem</i>			<i>5 =a serious problem</i>	
i.	The length of time taken to obtain the loan	1	2	3	4	5
ii.	High interest rate charged by lenders	1	2	3	4	5
iii.	Collateral issues (e.g. inadequate asset)	1	2	3	4	5
iv.	Inadequate track records (e.g. credit history)	1	2	3	4	5
v.	High transaction cost	1	2	3	4	5
vi.	The size of the company (e.g. lenders may not be willing to offer loans to small companies)	1	2	3	4	5

Q17. Apart from the problems indicated in question 16, are there any other problems that your company faces in securing loans from banks and other financial lenders? (Please state)

.....

.....

.....

.....

Q18. In raising capital, please indicate your preference (Please circle)		<i>1= Least preferred</i>			<i>5 =Most preferred</i>	
i.	Retained earnings	1	2	3	4	5
ii.	Debt/loans	1	2	3	4	5
iii.	Equity finance	1	2	3	4	5

Q19. Please indicate how strongly the following factors influence your company in choosing equity finance. (Please circle)	<i>1 = not at all strong</i>					<i>5 = very strong</i>
i. The cost of issuing new equity	1	2	3	4	5	
ii. Loss of control through share dilution	1	2	3	4	5	
iii. Effects on the total cost of capital	1	2	3	4	5	
iv. To maintain the same level of equity as other firms in the same industry	1	2	3	4	5	
v. How easy it is to access loans	1	2	3	4	5	
vi. Sufficiency of retained earnings	1	2	3	4	5	
vii. Maintaining target debt/equity ratio	1	2	3	4	5	
viii. Equity being the least risky source of finance	1	2	3	4	5	
ix. To give a better impression about our company than using debt capital	1	2	3	4	5	

Q20. Please indicate how strongly the following factors influence your company in choosing debt finance (Please circle). Go to question 22 if your company does not use debt.	<i>1 = not at all strong</i>					<i>5 = very strong</i>
i. Tax savings on interest expense	1	2	3	4	5	
ii. Risk of becoming insolvent (bankruptcy)	1	2	3	4	5	
iii. Cost of securing debt finance (transaction cost)	1	2	3	4	5	
iv. Maintaining similar level of debt as firms in the same industry	1	2	3	4	5	
v. To discourage possible takeovers	1	2	3	4	5	
vi. Low interest rate (cost of capital)	1	2	3	4	5	
vii. Sufficiency of retained earnings	1	2	3	4	5	
viii. Effects on the total cost of capital	1	2	3	4	5	
ix. Company's relationship with banks/lenders	1	2	3	4	5	
x. Long term survival of the company	1	2	3	4	5	

Q21. Please indicate how the following factors affect your company's choice between short and long-term debt (Please circle).	<i>1 = not at all strong</i>					<i>5 = very strong</i>
i. Matching the maturity of debt with the life of the asset	1	2	3	4	5	
ii. We issue short-term debt when short-term interests are low as compared to long-term rates.	1	2	3	4	5	
iii. We issue short-term when we are waiting for long-term market interest rate to decline.	1	2	3	4	5	
iv. We borrow short-term when we expect our credit rating to improve.	1	2	3	4	5	

Q22. In financing a new investment opportunity, please indicate why you might prefer to use retained earnings compared to any other type of finance. (Please circle).	<i>1 = least important reason</i>					<i>5 = most important reason</i>
i. The cost of retained earnings is cheaper than the cost of outside debt	1	2	3	4	5	
ii. The cost of retained earnings is cheaper the cost of new equity	1	2	3	4	5	
iii. The company does not want to pay too much in dividends	1	2	3	4	5	
iv. It is difficult to convince outsiders (e.g. lenders) of the profitability of new investment.	1	2	3	4	5	
v. The company does not want to dilute control by selling shares to outsiders	1	2	3	4	5	
vi. The company wants to avoid increased scrutiny from lenders (e.g. banks)	1	2	3	4	5	

Q23. does your company seeks to maintain a target capital structure by using approximately constant proportion of equity and debt finance (Please tick).	
i. No target (if no, go to Q26)	<input type="checkbox"/>
ii. Target	<input type="checkbox"/>

Q24. What is your company's target amount of debt? (Please tick)	
I. 0 %	<input type="checkbox"/>
II. 1-25 %	<input type="checkbox"/>
III. 26 – 50%	<input type="checkbox"/>
IV. 51- 75 %	<input type="checkbox"/>
V. 76 – 100%	<input type="checkbox"/>

Q25. What/who is influential in setting the target debt ratios? (Please circle).	<i>1= least influential</i>					<i>5 = most influential</i>				
i. Ghana government	1	2	3	4	5					
ii. Company's senior management	1	2	3	4	5					
iii. Financial lenders	1	2	3	4	5					
iv. Major creditors	1	2	3	4	5					
v. Shareholders	1	2	3	4	5					
vi. Comparison with ratios of other firms in the same industry.	1	2	3	4	5					

Q26. does your company have a policy of maintaining a spare borrowing capacity (Please tick one)

- | | |
|---------------------------|--------------------------|
| i. Yes | <input type="checkbox"/> |
| ii. No (if no, go to Q29) | <input type="checkbox"/> |

Q27. How important are the following as sources of spare borrowing capacity? (Please circle)	<i>1= least important source</i>					<i>5 = most important source</i>				
i. Loans from banks and other lenders	1	2	3	4	5					
ii. Bonds	1	2	3	4	5					
iii. Hire purchase	1	2	3	4	5					
iv. Venture capitalist	1	2	3	4	5					
v. Insurance companies	1	2	3	4	5					
vi. Overdrafts	1	2	3	4	5					
vii. Affiliated companies or joint partners	1	2	3	4	5					
viii. Leasing companies	1	2	3	4	5					
ix. Informal sources (e.g. family and friends)	1	2	3	4	5					

Q28. Please indicate the reason for maintaining a spare borrowing (Please circle)	<i>1= least important reason</i>					<i>5 = most important reason</i>				
i. Special project	1	2	3	4	5					
ii. Unexpected opportunity	1	2	3	4	5					
iii. Reserved for crisis	1	2	3	4	5					
iv. To take over other companies	1	2	3	4	5					

PART C: THE FINANCIAL CRISIS AND OTHER INFORMATION

Q29. Indicate how the 2007/2008 financial crisis has affected the following (Please tick)		<i>1=strongly disagree</i>			<i>5=strongly agree</i>	
i.	Constrained the availability of equity capital	1	2	3	4	5
ii.	Made it difficult to secure loans from lenders	1	2	3	4	5
iii.	Affected the preference of equity over debt as a source of finance	1	2	3	4	5
iv.	Constrained the availability of funds from informal Sources (e.g. friends and family)	1	2	3	4	5
v.	Decreased the dependency on debt finance	1	2	3	4	5

Q30. Please state the number of employees of your company at the end of the following financial Years (Please write them in the spaces provided below)									
2002	2003	2004	2005	2006	2007	2008	2009	2010	2011

Q31. Please provide the following account information from 2002 to 2011. (You do not have to complete this question if you can provide me with your company's published financial statement from 2002 to 2011.)

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total Revenue/sales										
Operating income										
Pre-tax profit										
Total value of assets										
Total value of fixed assets										
Total debt										
Total short term debt										
Total bank loan										
Equity capital										
Retained earnings										
Total dividend paid										

Q32. Please, if you have any comment about the nature of this questionnaire, indicate it in the space provided below

End of the questionnaire. Thank you for your time.

Appendix 2: participant information sheet

This research is being carried out as part of my PhD degree in Finance and Accounting at the University of York in the UK.

The research is being supervised by Dr. Moshfique Uddin and Dr. Keith Anderson.

A brief aim of the research:

The research aims at examining the capital structure practices of firms in Ghana and to see whether capital structure theories that are applicable in the western world are also applicable in a developing country like Ghana.

Implications of the research:

This research is expected to make significant contribution to theory, practice and policy.

First and foremost, the study will contribute to theory by deepening our understanding of the concept of capital structure in general and specifically from the context of Ghana.

In terms of contribution to practice, the findings from this research will enable firms to appreciate the relationship between capital structure and the implications on the performance on their firms.

Also, the findings and recommendations from this research will serve as a learning base for finance practitioners and policy makers in the determination of acceptable debt-equity levels that firms must adopt. This may also influence the allocation of capital resource to this sector of the economy.

What will I be asked to do?

You will be asked to complete a short research questionnaire which should not take more than 30 minutes of your time.

Do I have to take part?

You are not obliged to take part in this survey. If you decide to take part and later you change your mind, you can withdraw at any time. You will not be required to provide any explanation if you decide to withdraw and the information you have provided will then be destroyed in front of you.

What will happen to the information I will provide if I decide to take part in the survey?

All the information that will be gathered from the companies taking part in the research will be put together as one and that no firm will be singled out in the analyses of the information. The data that will be collected will be kept in a safe which is password protected and will be destroyed in 2014 after the project by shredding.

Please be assured that the storage and the usage of the data will comply fully with the UK's Data Protection Act of 1998.

Is there any risk of the research to the participants?

There are no known risks to participants

Will I be given any incentive for taking part in this research?

Participants will not be provided with any monetary incentive for taken part in this survey. However, if you are interested in the findings, you may provide your contact details at the back of the questionnaire and a copy of the findings will be sent to you when ready.

How will the findings be disseminated?

The information from the survey will be used for my PhD thesis and also for publication of articles in journals.

What do if later I need any further information?

If you any further information, you may contact the researcher at the address below:

Albert Danso

University of York Managemnt School

York, English, YO10 5GD

Email: ad853@york.ac.uk

Tel: +233 20 8199205 (Ghana)

+44 07515806104 (UK)

Appendix 3: Ethics forms

THE UNIVERSITY *of York*

Ethic Submission form LITE

To be used for:

- Small scale evaluation and audit work
- Non-invasive research
- Not involving vulnerable groups e.g.
 - Children
 - Those with learning disabilities
 - People with mental impairment due to health or lifestyle
 - Those who are terminally ill
 - Recently bereaved
 - Those unable to consent to or understand the research
 - Where research concerns sensitive topics / illegal activities
 - Where deception is involved
 - Any research requiring a CRB check
- Following initial evaluation you may be required to submit a Full application to ELMPS where ethical issues need more detailed consideration
- It is up to the researcher to determine which form to complete at the outset.
- NB If you are collecting data from NHS patients or staff, or Social Service users or staff, you will need to apply for approval through the Integrated Research Application System (IRAS) at <https://www.myresearchproject.org.uk/Signin.aspx>
 - If you are a staff member please fill in the IRAS form NOT this one and send your completed IRAS form to ELMPS for health and social services research.
 - Student applications for approval through IRAS should normally be pre-reviewed by department ethics committees or ELMPS.

Completed forms should be sent to the Chair of the ELMPS as follows:

1. **one signed hard copy** (to Caroline Hunter, York Law School, University of York, Law and Management Building, Freboys Lane, York YO10 5GD), and
2. **one electronic copy** (email to: elmps-ethics-group@york.ac.uk).

Initial decisions will normally be made and communicated within two weeks of the Committee meeting.

FOR OFFICE USE ONLY		
Case Reference Number:		
1 st ELMPS Reviewer:	2 nd ELMPS Reviewer:	3 rd ELMPS Reviewer:
Date received:	Date considered:	Date approved:
Compliance form signed? Y/N		

SUBMISSION FORM LITE

1a. Please provide the following details about the principal investigator at YORK

Name of Applicant:	Albert Danso
e-mail address:	ad853@york.ac.uk
Telephone:	07515806104
Staff/Student Status:	Student
Dept/Centre or Unit:	Management
Head of Department:	Prof. Jill Schofield
HoD e-mail address:	Jill.schofield@york.ac.uk
Head of Research: (if applicable)	
HoR e-mail address: (if applicable)	

1b. Any other applicants (for collaborative research projects)

Name of Applicant:	N/A
e-mail address:	
Telephone:	
Staff/Student Status:	
Dept/Centre or Unit:	
Head of Department:	
HoD e-mail address:	
Head of Research: (if applicable)	
HoR e-mail address: (if applicable)	

Name of Applicant:	
e-mail address:	
Telephone:	
Staff/Student Status:	
Department/Centre or Unit:	
Head of Department:	
HoD e-mail address:	
Head of Research: (if applicable)	
HoR e-mail address: (if applicable)	

2. If you are a student please provide the following supervisory details for your project:

1 st Supervisor	Dr. Muhammad Moshfique Uddin
e-mail address:	<u>moshfique.uddin@york.ac.uk</u>
2 nd Supervisor	Dr. Keith Anderson
e-mail address:	<u>keith.anderson@york.ac.uk</u>

3. Please provide the following details about your project:

Title of Project:	Dimensions of capital structure of companies in Ghana
Date of Submission to ELMPS:	12/11/12
Project Start Date:	October, 2011
Duration:	3 years
Funded Yes/No:	No
Funding Source:	Personal
External Ethics Board Jurisdictions:	

4. Summary of research proposal

Aims and objectives of the research

Please outline the questions or hypotheses that will be examined in the research.

The study aims at investigating the capital structure practices of firms in Ghana. It aims to answer the following questions: what are the critical firm-level factors that affect debt-equity choice of companies in less developed markets? Beyond this, do country-level factors also affect capital structure practices of firms in developing economies? Do the theoretical models that explain the debt-equity choice in the advanced markets also applicable in the context of a developing economy like Ghana? Has the recent global financial crisis had any impact on the debt-equity choice of companies in developing economies?

Methods of data collection

Outline how the data will be collected from or about human subjects.

The data will be collected through questionnaire survey. Questionnaires will be delivered to selected companies either personally or using postal delivery system. The respondents will be requested to complete the questionnaire within two weeks after which they will be hand collected or returned through postal delivery using prepaid envelop to be provided by the researcher.

Recruitment of participants

How many participants will take part in the research? How will they be identified and invited to take part in the study? How will informed consent be obtained?

231 companies will be randomly from the Register general department in Ghana. Each of the company will be notified either by email or by telephone and will be requested to participate in the survey. If any of the company does not want to participate then it will be dropped from the sample frame. The initial contact will be followed by delivery of questionnaire which will also include a separate section explaining the data protection and anonymity issues.

Participant information sheets and consent forms

Please attach (1) the project information sheet to be given to all participants and (2) the informed consent form. **(n.b. failure to submit these documents may delay the approval process.)**

Please confirm you have included the project information sheet to be given to all participants with your submission to ELMPS. If this has not been attached, please explain why this is the case.

I have enclosed a copy of the research questionnaire

Please confirm you have included all the relevant informed consent forms. If these have not been attached, please explain why this is the case.

The nature the survey does not require any separate consent form to be filled by the respondents. Respondents will initially be contacted either through the email or the telephone to seek their consent in taking part of the survey.

Are the results to be given as feedback or disseminated to your participants (if yes please specify when, in what form, and by what means)

Results are not to be given as a feedback to firms that will take part in this survey. However, those firms which might be interested in the research findings will be asked to provide their contact details at the back of the research questionnaire for copies of the

results/findings to be sent out to them.

Anonymity

In most instances the Committee expects that anonymity will be offered to research subjects. Please set out how you intend to ensure anonymity. If anonymity is not being offered please explain why this is the case.

A cover letter attached to the questionnaire will give an assurance to the respondents that their responses would be kept strictly anonymous and in complete confidence and that in no circumstance will their individual identities be revealed to any third party and that any information gathered will be solely used for this research.

Data collection

All personal and sensitive data must be collected and stored in accordance with the Data Protection Act 1998. Please set out all the types of data you will be collecting (e.g. interviews, questionnaires, recordings)

Please detail type(s) of data.

The data that will be collected will be basically companies' financial information

Where is the data to be collected and where will it be stored electronically? Please describe what protection there will be in relation to electronic storage?

The information will be gathered from firms in Ghana and once I am back in the UK, the responses will be coded and stored on the University of York's secure server.

Where is the data to be stored in paper form? Please describe how this will be protected.

The paper form will be kept under lock in one of the cabinets at the PhD room in the York Management School

At what point are you proposing to destroy the data, in relation to the duration of this project? And how?
The data gathered will be destroyed after I have defended my thesis. All the information will be destroyed appropriately in consultation with my supervisors.
If you are sharing data with others outside your department, what steps are you taking to ensure that it is protected?
N/A
If the data is to be exported outside the European Union, what steps are you taking to ensure that it is protected? (Note: you must identify how you will comply with Data Protection Act 1998 requirements.)
N/A

Perceived risks or ethical problems Please outline any anticipated risks or ethical problems that may adversely affect any of the participants, the researchers and or the university, and the steps that will be taken to address them. (Note: all research involving human participants can have adverse effects.)
Risks to participants (e.g. emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information...)
There are no known risks to the participants. In fact, most of the information that is to be collected should under normal condition be available publicly in the form of companies' annual reports. That is why at certain a part of the questionnaire, the researcher has stated that firms that can provide their published annual reports are not required to fill that part. This questionnaire is however being used due to the fact that many companies in Ghana do not submit their annual reports to the Company House in the country.
Risks to researchers (e.g. personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest...)
There is no known risk.

University/institutional risks (e.g. adverse publicity, financial loss, data protection...)
Financial conflicts of interest (e.g. perceived or actual with respect to direct payments, research funding, indirect sponsorship, board or organisational memberships, past associations, future potential benefits, other...)
v. Please draw the committee's attention to any other specific ethical issues this study raises.

5. Ethics checklist

Please confirm that all of the steps indicated below have been taken, or will be taken, with regards to the above named project submitted for ethical approval. If there are any items that you cannot confirm, or are not relevant to your project, please use the space provided below to explain.

Please tick if true, otherwise leave blank:

- Informed consent will be sought from all research participants where appropriate
- All data will be treated anonymously and stored in a secure place
- All Relevant issues relating to Data Protection legislation have been considered (see <http://www.york.ac.uk/recordsmanagement/dpa/>)
- All quotes and other material obtained from participants will be anonymised in all reports/publications arising from the study where appropriate
- All reasonable steps have been taken to minimise risk of physical/ psychological harm to project participants.
- All reasonable steps have been taken to minimise risk of physical/mental harm to researchers

- Participants have been made aware of and consent to all potential futures uses of the research and data
- With respect to indemnity Sue Final (University IP Manager **e-mail: sue.final@york.ac.uk**) has been made aware of the research, where appropriate
- There are no known conflicts of interest with respect to finance/funding
- The research is approved by the Head of Department, Unit, Centre or School

Please explain in the space below, why any of the above items have not yet been confirmed:

All unmarked items are not relevant in the case of this research as there are no known risks to both the participants and also the researcher.

6. Other comments

Are there any issues that you wish to draw to the Committee's attention (it is your responsibility to draw any ethical issues to ELMPS that may be of perceived or actual interest)?

7. Submission Checklist for Applicants

Finally, please **sign** the form and ensure that **all of the indicated documents** below are sent both **electronically** to: elmeps-ethics-group@york.ac.uk, and in **hard copy** to the ELMPS Chair, Caroline Hunter, York Law School, University of York, Law and Management Building, Freboys Lane, York YO10 5GD.

- ELMPS Application form
- Consent form for participants (In my case is the cover letter)
- Information Sheet for participants
- ELMPS Compliance form

8. Signed undertaking

In submitting this application I hereby confirm that there are **no actual or perceived conflicts of interest** with respect to this application (and associated research) other than those already declared.

Furthermore, I hereby undertake to ensure that the above named research project will meet the commitments in the checklist above. In conducting the project, the research team will be guided by the Social Research Association's/AHRC's/ESRC's ethical guidelines for research.

Albert Danso

..... (Signed Lead Researcher/Principal Investigator)

08/01/13

..... (Date)

Dr. Moshfique Uddin

..... (Signed Supervisor (where relevant))

08/01/13

..... (Date)

Appendix 4. Summary statistics of leverage and firm-specific factors

COUNTRY	LEV	ROA	PR	VT	TA	SZ	GR	TX
BOTSWANA	103	103	103	102	103	103	100	103
Mean	0.12	0.12	0.09	.00	0.30	11.27	0.00	0.01
Median	(0.06)	(0.08)	(0.06)	(0.00)	(0.18)	(10.71)	(0.00)	(0.00)
GHANA	183	183	183	183	183	183	178	185
Mean	0.20	0.05	0.06	0.00	0.30	10.54	0.00	0.03
Median	(0.12)	(0.05)	(0.05)	(0.00)	(0.26)	(10.72)	(0.00)	(0.02)
IVORY COAST	202	202	202	202	202	202	202	202
Mean	0.08	0.08	0.08	0.00	0.20	11.21	0.00	0.40
Median	(0.02)	(0.05)	(0.04)	(0.00)	(0.14)	(11.45)	(0.00)	(0.03)
KENYA	153	153	153	153	153	153	152	153
Mean	0.12	0.08	0.08	0.00	0.27	10.65	0.00	0.01
Median	(0.06)	(0.07)	(0.07)	(0.00)	(0.22)	(10.75)	(0.00)	(0.01)
MAURITIUS	217	217	217	217	217	217	216	218
Mean	0.19	0.06	0.05	0.00	0.36	11.57	0.00	0.02
Median	(0.15)	(0.04)	(0.04)	(0.00)	(0.36)	(11.47)	(0.00)	(0.01)
NIGERIA	462	462	462	462	462	462	461	462
Mean	0.16	0.07	0.08	0.00	0.30	12.65	-0.00	0.24
Median	(0.09)	(0.05)	(0.06)	(0.00)	(0.28)	(12.69)	(0.00)	(0.12)
SOUTH AFRICA	1214	1214	1214	1214	1214	1214	1214	1214
Mean	0.18	0.14	0.11	0.00	0.35	13.60	-0.00	0.03
Median	(0.14)	(0.11)	(0.09)	(0.00)	(0.27)	(13.50)	(0.00)	(0.03)
ZAMBIA	104	104	104	104	104	104	104	104
Mean	0.14	0.14	0.14	0.00	0.39	10.71	0.00	0.03
Median	(0.10)	(0.06)	(0.06)	(0.00)	(0.37)	(11.38)	(0.00)	(0.03)
Total	2638	2638	2638	2637	2638	2638	2627	2643
Mean	0.16	0.10	0.09	0.00	0.32	12.49	0.00	0.03
Median	(0.11)	(0.08)	(0.07)	(0.00)	(0.26)	(12.59)	(0.00)	(0.02)

Appendix 5. Variance Inflation Factor Analysis (VIF)

Variable	VIF	1/VIF
PR	1.07	0.934614
VT	1.02	0.984233
TA	1.15	0.870981
SZ	1.56	0.639461
TX	1.18	0.845300
IN	1.25	0.801585
ED	6.34	0.157768
CP	2.48	0.403241
SM	8.86	0.112817

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