

**DYNAMIC ANALYSIS OF THE IMPACT
OF CAPITAL STRUCTURE ON FIRM
PERFORMANCE IN NIGERIA**

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DOCTOR OF PHILOSOPHY**

**DYNAMIC ANALYSIS OF THE IMPACT OF CAPITAL STRUCTURE ON FIRM
PERFORMANCE**

BY

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Abstract

The thesis examines the dynamic impact of capital structure on firm performance in Nigeria. The aims of this thesis are; first, to investigate the impact of capital structure of firms on their performance in a dynamic framework. This is unlike previous studies in the capital structure literature that have used static analysis. Second, to examine the dynamic feedback from performance to capital structure using the two-step system generalized method of moment estimator. Third, to explore the determinants or variables that influence capital structure choice of firms in Nigeria and the rate of adjustment to achieve optimal debt position. Fourth, to assess the possibility of non-monotonicity effect of capital structure on firm performance and non-monotonicity effect of performance on capital structure.

The second chapter discusses the theoretical framework and review the empirical literatures on capital structure and firm performance. Also, the chapter review empirical literature on firm performance and capital structure as well as on determinants of capital structure. The study find much evidence in support of the theoretical prediction of the agency cost theory of capital structure. The study observed that there are limited empirical studies on the franchise value and efficiency-risk hypotheses of reverse causality from performance to capital structure. The empirical literatures on determinants of capital structure suggests that both firm specific and country factors are important variables that drive capital structure choice of firms.

The third chapter examines the methodology of the study. The population, sampling and sampling size, estimation methods were discussed in this chapter. The fourth chapter analysis and described the data employed in the study. Specifically, the results of the dynamic relationship between capital structure and firm performance were presented in this chapter. The results indicate that capital structure has non-monotonic effect on firm performance thereby supports the agency cost theory of capital structure.

The fifth chapter provides results on the reverse causality between performance and capital structure. The findings indicate that there is reverse causality between performance and capital structure. This is evidence in the statistically significant negative finding between performance and capital structure. This finding support the franchise value hypothesis. The findings of this study also reveal that non-monotonic relationship exist between performance and capital structure.

The sixth chapter provides results on the determinants of capital structure of Nigerian firms. The findings indicate that both firm specific variables (return on equity, risk, profitability, age, size, tangibility, growth opportunities, dividend, ownership) and country variables (inflation, interest rates, credit to private sector as percentage of gross domestic product, institutional quality) jointly influence capital structure choice of firms in Nigeria. The findings equally indicate that firms in Nigeria adjust to their optimal debt target relatively faster with lower cost of adjustment because of better access to private debt than public debt.

Conclusions from the empirical chapters indicate that firm specific and country factors are major determinants of capital structure of firms in Nigeria and that capital structure choice of firms influence their performance. Equally, there is evidence that indicate that there is reverse causality from performance to capital structure of firms. The study therefore contend that the agency cost theory of capital structure and franchise value hypothesis are portable in the Nigerian context. Full portability of these theories in emerging market like Nigeria may require modifications to accommodate specific peculiarities of operating and business environment of Nigeria.

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CHAPTER ONE

GENERAL INTRODUCTION

1.0 Background to the study

A vibrant and a well developed private sector that can serve as engine of growth and development is very crucial in any nation (Gwatidzo, 2009). As developing countries strive to build their private sector, lack of adequate capital in terms of debt and equity often impede the growth and survival of business firms especially in Africa. Due to this constraint, firms strive to ensure they combine available debt and equity in an optimal manner that can guarantee the maximization of wealth of shareholders or minimizes the weighted average cost of capital. This suggests that capital structure can affect firm value (hence performance). This is a complete departure from the Modigliani and Miller (1958 & 1963) proposition that the different combination of debt and equity (capital structure) does not affect value of firm (hence performance) and their position that optimal capital structure that can affect the average cost of capital does not exist.

The seminal work by Modigliani and Miller (1958 & 1963) on the irrelevance of capital structure on firm Value and later supported by Miller (1977) laid the foundation for the capital structure puzzle. Modigliani and Miller (1958) postulated two propositions. Modigliani and Miller posited in their first proposition that leverage of the firm is independent of its value. This implies that any number of different mix of debt and equity would result in the same firm value. They stated in their second proposition that the expected return on equity move in the same direction with the debt-equity ratio i.e the return on equity is linearly related with the capital structure of firm. This implies that if firms increase their debt level and reduces their equity, the overall cost of capital would remain the same because as the firm borrows more their chances of not meeting up (default risk) with repayment increases therefore pushes up the borrowing cost.

This would make the expected return on equity to fall and keep the cost of capital to remain constant (Gwatidzo, 2009).

The propositions of Modigliani and Miller (MM) is based on the assumption of perfect capital market conditions. The perfect capital market critical properties assumed by Modigliani and Miller are: no taxes, no transaction or distress costs, perfect information is available to all and there is no room for asymmetric information thereby the existence of efficient capital market. The MM theorem laid the foundation for other theories of capital structure (Michalca, 2011).

After the path breaking work of Modigliani and Miller (1958), several criticisms were raised against the MM theory of irrelevance of capital structure to the value of firm. These criticisms largely asserted that the assumptions of the MM does not conform with practical reality. Kraus and Litzenberger (1973), Myers (1984) and Jensen and Mecking (1976) noted that the no taxes and no transaction or distress costs as underlying assumptions of the irrelevance of capital structure on firm value theory by MM (1958) is too idealistic rather than being realistic. These researchers opined that firms pay taxes at the corporate level and these taxes serve as shield against their profit i.e. as firms employ debt in their capital structure they are under obligations to pay fixed interest to debt holders. This provides a tax shield advantage of using debt thereby reduces the amount of tax payable by firms at the corporate level. This suggests that there is corporate tax benefit of using debt. Therefore the assumption of no taxes under the perfect capital market assumption of MM (1958) is not plausible. However, MM (1963) relaxed the assumption of no taxes by introducing corporate taxes in their model. They concluded that for firm to maximize its value, equity must be ignored in their capital structure while debt must be employed 100%. Similarly, other underlying properties of MM theory of no transaction costs, no distress costs, no agency cost were also refuted by Kraus & Litzenberger (1973) and Myers (1984). They argued that substantial transaction costs could emerge particularly if a firm failed

to meet up with its debt obligations. They stressed further that this could result in costs of financial distress. Relaxing the assumptions of the MM (1958) theory and a combination of these factors (Taxes, distress costs, agency costs, information asymmetries) led to the development of other theories of capital structure: Tradeoff theory, Pecking order theory and the market timing theory of capital structure. These theories assumed implicitly that the interests of managers are perfectly aligned with that of shareholders of firms despite the separation of ownership from control i.e. managers will act in the best interest of the shareholders and debt holders.

However, Jensen and Meckling (1976) observed that this may not be the case at all times because managers have tendencies to pursue their self-interest at the expense of shareholders (moral hazards). For example managers of the firms could employ the use of retained earnings to finance investment even when debt may appear to be cheaper for financing of investment. This may be because managers may want to prevent monitoring and control of their use of the free cash flow of firm. The managers may also employ internal fund (retained earnings) to finance projects that are low income yielding rather than pursue high income yielding investment. In the same vein, the fund may be used on perquisites and perks by managers of firms which reduces return on investment of corporate owners because the amount of profit to be distributed as dividend would reduce as they consume more perks. The managers can employ more debt financing as an anti-takeover device even when substantial equity could still be raised by the firm to finance the new investment. It is against the backdrop of some of these opportunistic behaviour by managers of firm that Jensen and Meckling (1976) developed the agency cost theoretical model from the trade-off theory to account specifically for the role of agency cost that arises because of the moral hazard behaviour of managers that brings about conflict of interest between shareholders and managers as well as adverse selection that occurs because of conflict of interest between debt holders and equity holders.

Modern firms especially in developed western setting are organised in such a way that ownership is separated from control. Those that manage the firm on a day to day basis are usually different from the shareholders. The managers are expected to ensure shareholders' wealth is maximized. When managers pursue their personal interest at the detriment of shareholders wealth maximization it creates agency problem. One of the measures often put in place by shareholders to mitigate the agency problem is to use debt as a mechanism to prevent opportunistic behaviours of managers. The use of debt has some costs such as bankruptcy cost and agency cost as postulated in the trade-off theory of capital structure. Jensen and Meckling (1976) pioneer research effort in the area of agency cost theoretical model of capital structure by building on the work of Fama and Miller (1972). They related that agency cost often create two kinds of conflict in the firm. On one hand is the conflict between the shareholders and managers. On the other hand is the conflict between the shareholders and debt holders.

The above implies that what drives firms to employ debt apart from equity in their capital structure is simply to mitigate the agency cost that arises from separation of ownership from control to achieve better performance rather than the tax advantage of using debt in the capital structure as posit by the trade- off theory or the use of debt to signal to the investors about the quality of the firm in terms of capacity to use debt and make repayment as suggest by the pecking order theory. It is against this backdrop that this current study examines the portability of the western setting agency cost theoretical model embedded in the trade-off theory of capital structure in the context of firms operating in Nigeria. Specifically, the study investigates the determinants of capital structure of firms and the impact of capital structure on firm performance. This is done with a view to establish whether the postulations of the agency cost theoretical models developed based on experiences of western setting firms are fully portable in the Nigerian context that is pervaded with several market imperfections such as macroeconomic imbalances, poor institutional quality, weak minority investors protection,

underdeveloped capital market and poor contract enforcement. Globally, Nigeria stands at 62 in the ranking of 189 economies on the strength of minority investor protection and rank 140 in the ranking of 189 economies on the ease of enforcing contracts (World Bank, 2014). All these are pointers to the fact that agency problem at the firm level in Nigeria may be persistent and may have different dimensions and patterns when compare to the developed economies.

1.1 Statement of the problem

Several prior empirical studies in the literature have provided mixed and inconclusive findings on the test of different capital structure theories. Majority of the studies employ samples of firms in the United States and Western European economies (Marsh, 1982; Jalilvand and Harris 1984; Titman and Wessel, 1988; Rajan and Zingales, 1995; Gaud et al., 2000). Limited and scanty empirical studies have also tested the capital structure theories in developing countries (Wiwattanakantang, 1999; Booth et al., 2001; Pandey, 2001; Chen, 2004; Chakraborty, 2010).

Available empirical studies that have tested the capital structure theories in the developing countries context can be basically categorised into two strands. One strand supports the full portability of the capital structure theories to the developing countries context without modification. They established that western style capital structure theories provide full explanation for the financing choice of firms in developing countries (Al-Najjar and Taylor, 2008; Salawu and Agboola, 2008; Chakraborty, 2010; Sheik and Wang, 2011; Akinlo, 2011). The other strand supports partial portability of the western style capital structure theories in the developing countries context. They make case for the modification of western style capital structure theories to accommodate the peculiarities of developing countries particularly their weak institutional quality, unbalance macroeconomic environment, underdeveloped capital market, weak protection of minority shareholders, high transaction costs etc. that differentiate them from the developed economies (Al-Sakran, 2001; Keister, 2004; Chen, 2004; Haung and Song, 2006; Zou and Xiao, 2006; Li, et al., 2007).

Furthermore, majority of past theoretical and empirical studies often ignored country factors as variables that account for the financing choice of firms. They focused largely on firm specific factors as determinants of capital structure. But Frank and Goyal (2003) argues that the internal firm specific factors can only account for 30 percent of the factors that determine the capital structure choice of firms. This view is also supported by Bokpin (2009) that suggests that Frank and Goyal's (2003) submission implies that other factors used in explaining leverage of firm can be attributed to country specific factors. These factors are capable to interact with firm-specific factors to influence capital structure decisions of companies. Moreover, prior studies that have considered firm specific and country-specific factors as key determinants of capital structure have documented mixed findings (Rajan and Zingales, 1995; Demircuc-Kunt and Maksimovic, 1996; Caprio and Demircuc-Kunt, 1997; Jorgensen and Terra, 2003; Fan et al., 2006; Hackbarth et al., 2006; Gonzalez et al., 2007; Bokpin, 2009; Oztekin and Flannery, 2012). However, these studies have been able to establish that institutional, macroeconomic and firm specific factors are very crucial in any comprehensive analysis of firms' capital structure. The empirical irregularities and lack of consensus in the capital structure literature necessitates further investigation into the drivers of leverage of firms particularly in an emerging market context that is different from the western economies where the capital structure theories were developed based on experiences of firms operating in the western economies. Specifically, this study seeks to examine the portability of the agency cost theoretical model in the Nigerian context.

Apart from investigating the determinants of capital structure of firms. The study also seeks to analyse the causal relationship between capital structure and firm performance within the agency cost theoretical model. Numerous empirical studies in the literature have documented mixed and inconclusive empirical evidences on the relationship between leverage and firm performance since the pioneer studies of Modigliani and Miller (1958) on the irrelevance of capital structure on firm performance. There are two basic strands of findings in the empirical

literature. Some studies such as Berger et al. (1997), John and Senbet (1998), Safieddine and Titman (1999), Harvey et al. (2004), Abor (2005), Zeitun and Tian (2007), Majumdar and Sen (2010), Sen and Heng (2011), Salim and Yadav (2012) documented positive relationship between leverage and firm performance. These findings supports the facts that disciplinary measures embodied in debt contracts can be used to mitigate agency problem which in turn reduce moral hazards of managers thereby make them strive to achieve better firm performance. However, negative relationship reported between leverage and firm performance by other studies such as Armen et al. (2004), Zeitun and Tian (2007), King and Santor (2008), Ebaid (2009), Asimakopoulos et al. (2009), Liew (2010), Majumdar and Sen (2010), Salim and Yadav (2012) found support for the risk shifting behaviour of firms and conflict of interest between debt holders and shareholders and the excessive use of debt impinging firm performance. This study therefore provides fresh empirical evidence from the perspective of an emerging market on the causal relationship between capital structure and firm performance.

It is against this backdrop that this current study raises the following questions: What are the factors that drive capital structure choice of firms? What is the impact of capital structure on firm performance? Does the agency cost theoretical model embedded in the trade-off theory developed based on experiences of firms in the developed countries fully portable to firms in Nigeria that operate under different institutional and macroeconomic environment? Apart from unidirectional relationship posits in the agency cost theoretical model between capital structure and firm performance. This current study also investigated further whether firms tend to employ more equity financing when they have better past performance (franchise-value) or whether better past performance of firms provide opportunities for them have access to more debt financing (efficiency-risk hypothesis) i.e examines the possibility of reverse causality from performance to capital structure thereby raise the research question: Does franchise value and

the efficiency-risk hypothesis that explain reverse causality from performance to capital structure holds in the Nigerian context?

1.2 Research Objectives

Based on the statement of the problem of this study and the gaps identified in the review of literature, three objectives are examined by this study. The objectives are:

- (1) To ascertain the causal relationship between capital structure and firm performance
- (2) To identify the determinants (firm specific and country factors) of capital structure of firms and speed of adjustment of firms towards their target optimal capital structure.
- (3) To establish the portability of the agency cost theoretical model embedded in the trade-off theory of capital structure that was developed with firms in developed economies in mind (western style theories) in the Nigerian context.
- (4) To assess the non-monotonic effect of capital structure on firm performance as well as the non-monotonic effect of performance on capital structure.

1.3 Significance of the study

Despite numerous and voluminous studies in the literature on capital structure both in the developed and developing countries. The empirical evidences on capital structure particularly on Nigeria have been limited and scanty (Onwualah, 1998; Sobodu, 1998; Salawu, 2007; Salawu and Agboola, 2008; Adesola, 2009; Onaolapo and Kajola 2009; Akintoye, 2009, Adenikinju, 2009). These few studies do not provide empirical evidences that capture jointly firm specific and country specific factors as well as the interactions between the country specific factors and firm specific factor as determinants of capital structure using the model of agency theory in a dynamic framework. Capital structure is inherently dynamic rather than static. Firms often do not adjust instantaneous when making capital structure choice. There are transaction costs and adjust

processes involved when adjusting capital structure towards the target level, therefore empirical analysis of capital structure must be treated as a dynamic phenomenon rather than static

In the same vein, the capital structure studies conducted on Nigerian firms have ignored largely the issue of causal relationship between capital structure and firm performance. The studies on capital structure and firm performance in developing countries and specifically on Nigeria have largely overlooked reverse relationship between performance and capital structure as postulated in the efficiency-risk (past performance influences equity financing choice of firms as it creates opportunities to access more long term fund) and franchise-value hypotheses (debt financing choice of firms is influenced by past performance to protect value created over the past years from new equity holders). These are important gaps in the empirical and theoretical capital structure literature that need to be investigated. This current study therefore addresses these gaps. Specifically, the study examines firm specific and country-specific factors that drive capital structure of the Nigerian public listed companies and the relationship between capital structure and firm performance in a dynamic framework rather than static approach employed by prior studies that use sample of firms in developing countries particularly studies on Nigerian firms.

The results of this study are of interest to different stakeholders such as the firms' owners, investors, banks, government, finance experts and the academic community. This study provides enhanced understanding to owners especially minority shareholders of firms on the roles and behaviours of majority shareholders who have managerial controlling interest in the firm. It avails them the opportunities to understand how to mitigate the excesses of these managers such that the managers can deploy the firms resources to enhance the value of the firm rather than for their benefits which could be very detrimental to the wealth of minority owners.

Similarly, the owners can now make informed decisions on how to relate and deal with the majority shareholders managers as well as other interest groups such as debtholders. The understanding that owners shareholders derive from this kind of study can broaden their scope

and horizon particularly on how to take advantage of the use of debt in their capital structure to enhance value of their firm. The outcomes of this kind of study also provide them better understanding of different financing opportunities and options in the capital and money markets they can explore sufficiently to improve their companies' performance.

The outcome of this study that provide empirical evidence on reverse causality from performance to capital structure of firms may spur owners to be more inform on the vast financing opportunities that better performance in a sustainable manner may provide for them. This may provide another perspectives and enrich understanding of owners on how better performance may influence financing decisions of firms. Owners can now appreciate that the level of performance of their firms can influence their choice of debt and equity.

The academic community tends to benefit from this study in a number of ways. One is that this study have been able to provide some level of reconciliation on the controversial issues of the relationship between capital structure and firm performance as well as on the factors that determine the capital structure of firms. One contribution in this direction is that this study have resulted in providing empirical evidences from the developing countries perspective particularly from Africa and specifically from Nigeria perspective on the portability of the agency cost theoretical model.

Similarly, the study offer opportunity for finance experts to provide evidence based on reliable scientific advise to their diverse clients. Especially in the area of modelling of the financing behaviour of firms and their performance. Finance experts can now extend beyond normal financial statement analysis to evaluate firm performance. With the econometrics methodology employed in this study, the finance specialist can now use robust and parsimonous econometrics based methods to analyse the financing choice of firms in a dynamic framework and identify the factors that drive firms to make capital structure decisions. This offers them the opportunities to

serve their clients better using evidence based scientific methods rather than the traditional descriptive approach.

This study also contributes in governmental decision making especially for developing countries. Government of countries in developing and emerging economies also tends to benefit from this study. The findings of this study serve as guide to present and future government as well as policy makers on how to strengthen the firms in the private sector by providing enabling financing environment for them. Outcomes of this study may aid government understanding of the challenges and financing constraints that are impeding firms in the private sector to explore fully their financing options to achieve better performance on a sustainable basis. This may guide government in the formulation and implementation of relevant policies that can ease the financing constraints of firms.

1.4 Scope of the study

The thesis covers from 1998-2012, a period of fourteen (14) years for one hundred and fifteen (115) companies that have ever been listed on the Nigerian Stock Exchange. Financial services and investment firms listed on the NSE are excluded because capital structure of firms in this Industry are well regulated by regulatory bodies such as the Central Bank of Nigeria (CBN), Nigerian Deposit Insurance Corporation (NDIC), National Insurance Commission (NICOM) and the nature of their asset and liabilities differs from non financial firms.

1.5 The structure of the Thesis

This thesis is structured into seven chapters. Chapter one is the general introduction. Chapter two provides the theoretical underpinning and the review of empirical literature on capital structure as well as on capital structure and firm performance. The agency cost theoretical model embedded in the trade-off theory of capital structure is extensively reviewed in this section. The different predictions on the factors that determine capital structure according to the agency cost theory are examined allowing the several hypotheses that will be tested in the rest of

the thesis. In addition, this chapter also reviews prior empirical studies on the determinants of capital structure and empirical literature on the link between capital structure and firm performance.

Chapter three explains the research methodology adopted in this study including various epistemological issues. Testable hypotheses are formulated in detail based on the theoretical predictions of the agency cost theory. Chapters four, five and six cover the empirical part of the thesis. Finally, chapter seven concludes the thesis.

CHAPTER TWO

THEORETICAL UNDERPINNING AND LITERATURE REVIEW

2.0 Preamble

This chapter reviews relevant theoretical underpinnings and empirical studies in the capital structure literature. The first part focuses on the review of theories and their significance in providing understanding on the topic. The agency cost theory forms the main theoretical underpinning of this study. Agency cost theoretical model embedded in the trade-off theory is reviewed extensively and the predictions of the theory are identified. This study used the agency cost theoretical model as the theoretical basis for the analyses of determinants of leverage of firm. The agency cost theoretical model is also employed as the theoretical basis to test the relationship between capital structure and firm performance.

The second part of this chapter focuses on the review of the reverse causality hypotheses: efficiency risk hypothesis and the franchise value hypothesis. These two hypotheses are the two main hypotheses that serve as theoretical basis for possibility of reverse causality from performance to capital structure. Appropriate theoretical predictions of the two hypotheses (efficiency risk and franchise value) guide in raising the hypotheses tested on reverse causality between performance and capital leverage.

2.1 Theoretical underpinning of the study

The position of theory to provide understanding about corporate issues and the relationships that happen between and within an organisations cannot be overlooked (Adelopo, 2010). Several theoretical frameworks have been employed to study the relationship between capital structure and firm performance as well as the determinants of capital structure. However, there is no one fit all theory in the capital structure theoretical literature. Myers (2001) asserts that

there is no universally applicable theory of capital structure because the theories are largely conditional and they depend on the firms adopted in the study (Margaritis and Psillaki, 2010).

This section of this chapter provides detailed explanation of the agency cost theory as the theoretical basis to achieve the objectives of this thesis. The thesis made case for the modification of the agency theory in the context of firms operating in environment that are pervaded with lots of market imperfections, poor quality institutions and macroeconomic imbalances. The efficiency risk and the franchise value hypotheses are also employ by this thesis as theoretical basis to develop the hypothesis on the possibility of reverse causality between firm performance and capital structure. Basically, the thesis employed multiple theoretical approach to achieve the objectives of the study and develop the set hypotheses tested by this study. These theories are now dicussed below.

2.1.1 Agency cost theoretical model of capital structure

Modigliani and Miller (1958) seminal paper on the irrelevance of capital structure on firm value (hence performance) laid the foundation for other differing theoretical predictions. The trade-off theory relaxed the perfect market assumptions of Modigliani and Miller (1958) and made theoretical prediction that capital structure is relevant for firm performance for reasons such as tax deductibility of debt interest and agency costs (Fosu, 2013). Agency cost i.e. due to conflict of interest between shareholders and managers therefore may be one of the core determinants of capital structure (Harris and Raviv, 1991).

Jensen and Meckling (1976) pioneer research effort in the area of agency cost theoretical model by building on the work of Fama and Miller (1972). Jensen and Meckling (1976) related that the observed capital structure of a firm should have the central objective to minimize the potential for opportunistic behaviour in the firm. Modern firms are organised in such a way that ownership is separated from control. Those that manage the firm on a day to day basis are

usually different from the owners' shareholders of the firm. The management at times own shares in the firm. It is also possible at times that the management do not have shares in the firm. The managers are expected to pursue objectives that can ensure wealth of the shareholders are maximize as well as the value of the firm. In order to ensure the wealth of owners are enhanced and the value of the firm is maximized. Managers have powers to take some decisions on behalf of owners. One of such decisions is the capital structure choice for the firm. Managers especially shareholders managers have opportunities to make decision on how debt and equity can be combined to enhance the performance and value of the firm.

However, managers may decide to pursue their personal goals at the detriment of achieving the goals of the firm. The managers can do this in different ways. It can be in form of consumption of perks and perquisites or empire building as well as investment in project with negative net present value. All these may reduce value of the firm rather than increase the value of the firm. This is refers to as agency cost. Agency cost is regarded as the reduction in the value of the firm as a result of the opportunistic behaviour by management of the firm (Jensen and Meckling, 1976).

In order to ensure their wealth is maximize, the shareholders put up measures to ensure that the agency cost is mitigated. One of such measures the firm often use to mitigate agency cost and reduce the opportunistic behaviour of managers is the use of capital structure especially debt as a device to minimize the potential for opportunistic behaviour of managers. Jensen and Meckling (1976) posit that firms can use their capital structure to mitigate the agency problem that arises from the opportunistic behaviour of managers. Jensen and Meckling (1976) identified two kinds of conflict in the firm due to agency problem and agency cost. They noted that on one hand is the conflict between the shareholders and managers. On the other hand is the conflict between the shareholders and debt holders.

The conflict between shareholders and managers arises because managers do not have full residual claim in the firm (Harris and Raviv, 1991). Therefore, managers may not act fully to protect the interest of shareholders but rather managers may tend to waste free cash flow on perquisites and bad investment. To forestall this, shareholders (Principal) create appropriate incentives for managers (agent) and incur monitoring costs to reduce the self-seeking behaviour of managers (Michalca, 2011). In order to resolve the conflict between managers and shareholders, firms tend to employ more debt in their capital structure. This often results into more debt repayment by managers. This reduces the available cash flow in the firm thus assist to control the opportunistic behaviour of managers (Michalca, 2011) thereby make the use of debt by the firm to become more of a benefit than cost (Harris and Raviv, 1991).

The second conflict identified by Jensen and Meckling (1976) is related to the conflict that arises between debt holder and equity holders because the debt employed by the firm to mitigate agency problem creates opportunities for shareholders to invest in a suboptimal manner which can result to risk shifting. (Harris and Raviv, 1991). Risk shifting relate to the tendency of debt employed by firms to induce equity holders to engage in high risk investment than the debt holder envisaged. This would cause changes to the cash flow and reallocate wealth from debt holders to equity holders if the risky investment is successful. This is possible because the amount of interest payable to the debt holder must have been fixed in the debt contract before the risk shifting behaviour of the firm. The extra gains from the successful risky investment become accruable to the equity holders. This risk shifting behaviour therefore could make debt to become more expensive, more constraining and less available in future as a source of finance (Manos, 2001). This implies that the use of debt become more of cost for the firm than benefit.

The explanations above implies that what drives firms to employ debt apart from equity in their capital structure is simply their aim of mitigating the agency cost that arises from separation of ownership from control rather than the aim of taking the tax advantage of using

debt and trading off the tax benefit of debt against the cost such as financial distress cost as posit in the trade-off theory. The agency cost theory also signifies that debt is not use by the firm to signal to investors about the quality of the firm in terms of capacity to use debt and make repayment after exhausting the internal funds and employ equity after the debt has also been exhausted and there is still financing needs by the firm as posit in the pecking order hypothesis.

The agency cost theoretical model posits by Jensen and Meckling (1976) assumed that firms have optimal capital leverage position that they strive to achieve. The optimal capital structure of the firm in the agency cost theoretical model is the capital structure level that minimizes the agency cost and maximizes the value of the firm. This implies that capital structure choice of the firm is not static but dynamic. The dynamic nature of capital structure suggests that capital structure of firms change across firms and across time i.e. each firm in an industry for example can change their capital structure over time to ensure the agency cost is minimized and value of the firm is maximized.

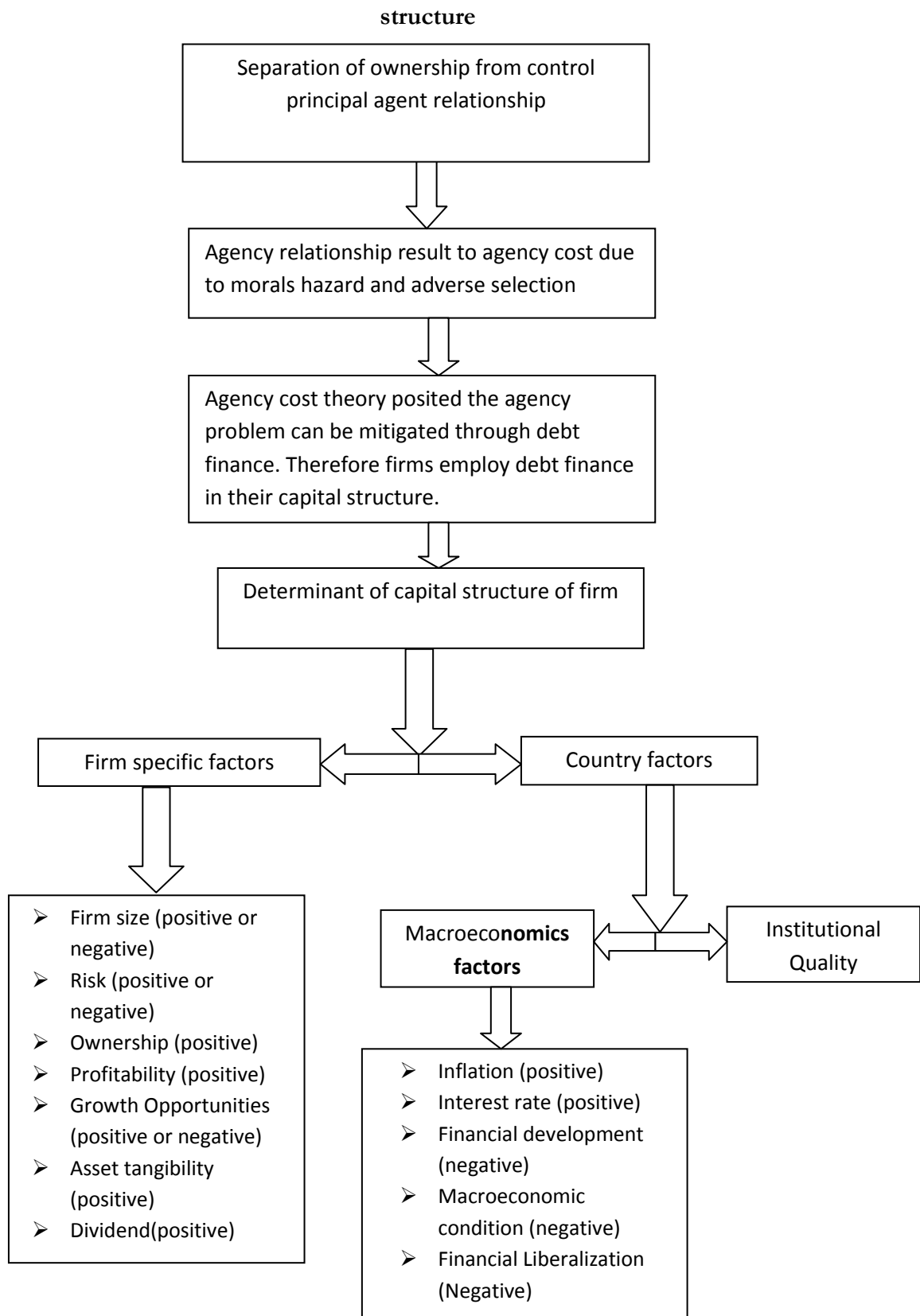
The Agency cost theoretical model is more relevant in an environment where the rights of creditors and shareholders are not well protected, institutional quality in terms of laws and its enforcements are very weak, financial development is still at infant stage, capital market is inefficient and thin, corporate governance at the firm level is very weak, several market imperfections often lead to high transactions costs if firms attempt to change their capital structure. These features are persistent features of most emerging markets. Most emerging market countries have poor institutional quality that promotes opportunistic behaviour of managers. Poor institutional quality in terms of weak protection of investors can serve as obstacle to firms having access to external financing thereby constraining them to use internal funds and debt financing particularly bank debt (Myers, 2003).

It is against the backdrop of the presence and persistence of these features that promotes agency related problems at the firm level i.e. weak institutions and other market imperfections in

a country like Nigeria that motivate this study to employ the agency cost theory as the main theoretical basis for this study. The study empirically examines the full portability of agency cost theoretical model in the Nigerian context with the aim to provide empirical validity for the theory in an economy that is quite different in terms of operating environment of firms (weak institutions, macroeconomic imbalances, severe market imperfection) from the developed economies (strong institutions, macroeconomic stability moderate market imperfections) that Jensen and Meckling (1976) had in mind when they developed the agency cost theoretical model.

Jensen and Meckling (1976) identified some agency related theoretical variables as proxies for agency problem that influence the capital structure of firm. These variables are measure by firm characteristics such as: Firm size, growth opportunities, asset tangibility, ownership, risk and profitability. The theoretical predictions of the agency cost based model on the relationship between capital structure and these agency theoretical variables differ from one variable to the other. Similarly, empirical studies that have included these factors in their studies of agency cost theory have also reported mixed and inconclusive findings. Based on the predictions of the agency cost theory and the empirical findings of studies in the literature, this study developed hypotheses to test the empirical validity of the agency cost theory in the Nigerian context. The hypotheses are formulated in chapter three.

Figure1: Schematic representation of the Agency cost theoretical model of capital structure



2.1.2 Capital structure and Firm performance: Theoretical underpinning

The agency cost theoretical model as related by Jensen and Meckling (1976) posits that firm employ debt financing to mitigate opportunistic behaviour of managers and other agency related problems. This has tendency to reduce the free cash flow that managers can use for perks and perquisites as well as empire building because the use of debt by firm may bring about debt commitment that must be repaid to meet up with debt obligations to prevent bankruptcy of the firm. Going bankrupt may be very costly for managers especially when they have managerial shareholding in the organisation. To forestall this kind of event, managers often strive to ensure they meet up with the debt commitment of the organisation to their creditors. Similarly, the managers would also work to maximize value of the firm through improve performance. In view of this, the agency cost theoretical model therefore predicts positive relationship between capital structure and firm performance.

The agency cost theoretical model was developed with firms in developed economies in mind. But does this prediction of positive relationship between capital structure and firm performance hold in emerging market countries that have different institutional and macroeconomic environment that are quite different from what obtains in developed economies? Most emerging markets are characterise with several market imperfections evidenced in poor creditors' and shareholder's protection, poor law and contract enforcement, lack of transparency and sound corporate governance practices at the firm level. The financial development and stock market as well as bond market is still at the infancy stage in the most emerging markets when compare to mature markets in developed economies that have better quality institutions that promote efficiency at the firm level and mitigate the agency problems to ensure the value of firm is maximized.

Poor quality institutions and other market imperfections in the emerging economies are responsible for the financing of firms largely with expensive short term debt usually from banks and non-bank creditors compared to their counterparts in the developed economies that are largely finance with long term debt at reduce cost (Gwartido, 2009). This implies that the absence of quality institutions and severe market imperfection may make it very difficult for firms to employ long term debt in their capital structure. The use of short term debt finance by firm in emerging countries could still stand as advantage to firms particularly where ownership and control are well separated. This is because the short term debt obligations would make managers to strive to meet up with the short term debt commitment thereby strive to achieve better performance for the firm.

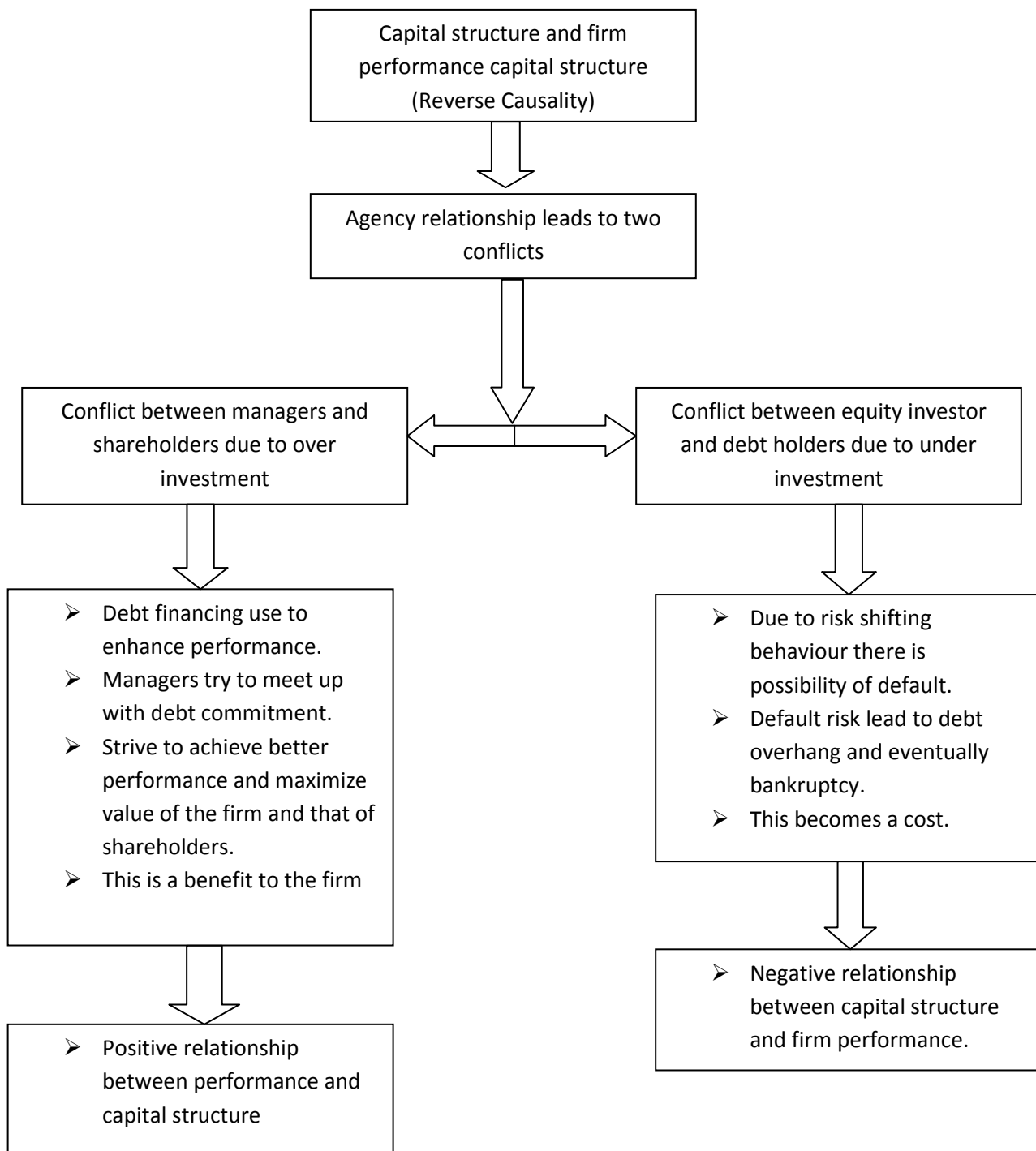
It is against this backdrop, that this study raised an important question: Is the positive relationship between capital structure and firm performance as posits by the agency cost theoretical model with firms in developed economies in mind obtainable in the emerging markets countries setting that have structural, institutional and macroeconomic environment that are different from what obtains in the developed economies? This study therefore empirically examine the impact of capital structural on firm performance in Nigeria to ascertain whether the agency cost theoretical model in this regard is portable in the Nigeria context.

Apart from the conflict of interest between managers and shareholders, agency cost theoretical model also posits that conflict can as well arise between debt holders and equity investors of the firm. The conflict that arise between these parties is usually due to risk of default (Margaritis and Psillaki, 2010). The risk of default often leads to an underinvestment problem (Myers, 1977). Stulz (1990) posits that debt financing by firm compound the underinvestment problem of the firm. The conflict between the debt holders and equity investor due to underinvestment is regarded as a cost of using debt rather than benefit. Therefore the agency cost theory predicts negative relationship between capital structure and firm performance due to

conflict between debt holders and equity investors that result to underinvestment created by default risk thus raises another question: Is the negative relationship predicted by the agency cost theory due to conflict of interest between debt holders and shareholders with firms in developed economies obtainable in a emerging economy like Nigeria considering the differences in institutional and corporate setting?

The kind of conflict that arises due to separation of ownership from control in a setting like Nigeria may not be only between managers and shareholders and shareholders and debt holders as posit by Jensen and Meckling (1976). There is a perspective that is quite different from this two due to concentrated ownership which often result into agency relationship between majority shareholders and minority shareholders due to the controlling power of the majority shareholders particularly when they are owners' manager. They exert power and control as well as make decision that could be detrimental to the minority shareholders who have minute diluted shareholdings and less voting rights. To forestall the opportunistic behaviour of the majority shareholders, the use of debt can help mitigate the agency problem as it reduces the cash that flows to the managers due to interest payment commitment thus impose on the owner managers to exert efforts to meet up with the debt obligation .The effects of their efforts would be felt in terms of better performance which could benefit the minority shareholders in the long run.

Figure 2: Schematic representation of Agency Cost theory: Capital structure and firm performance.



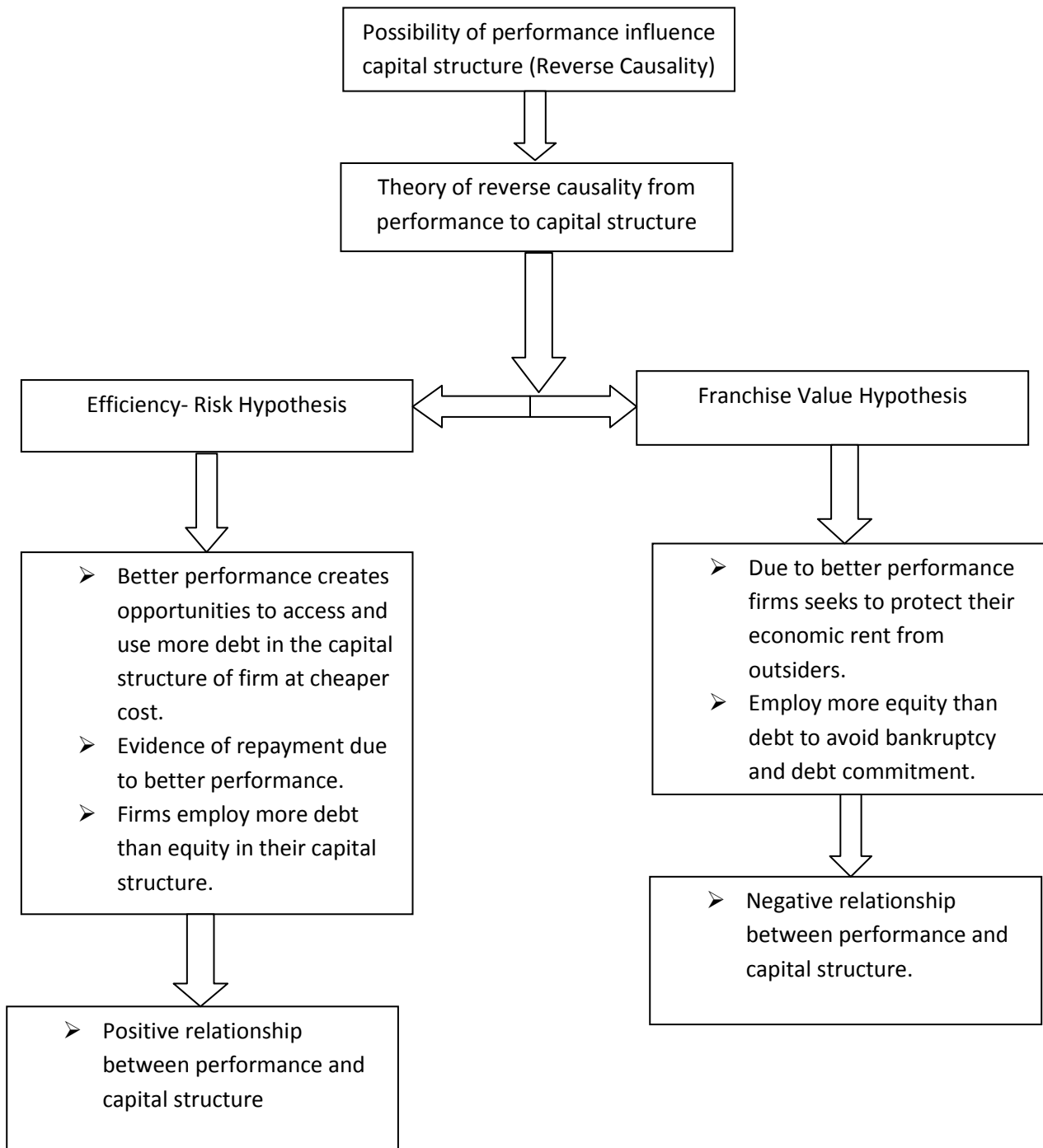
Apart from the analyses of the impact of capital structure on firm performance by the agency cost theory. This study also examines the possibility that the performance of firms can influence the choice of capital structure employed by the firm. This is one area that the agency cost theory lags behind because the theory only assumed that firms try to use debt financing to mitigate agency problem in the firm without explicit consideration of the possibility that the performance achieved by the managers of firms can also influence the capital structure choice. This line of thought that performance of firms can also influence their choice of capital structure is well captured in two major hypotheses in the capital structure literature. The hypotheses are hereby explained in the next section

2.1.3 Reverse causality from performance to capital structure: Efficiency-risk and Franchise value Hypotheses.

The theoretical basis for the reverse relationship between performance and capital structure is enshrined in the efficiency risk and franchise value hypotheses. The efficiency risk hypothesis posits that firms with better performance employ more leverage because the management of the firm has better capacity and capabilities to meet up with their debt obligations as at when due to avoid financial distress (Yeh, 2010). The performance of a firm influences their choice of higher debt to equity ratios (Margaritis and Psillaki, 2010). Berger and Udell (2006) relates that more efficient firms have higher tendencies to have more return on their investment which can prevent them against financial distress and create opportunities for them to choose more debt than equity in their capital structure choice. The efficiency risk hypothesis predicts positive relationship between performance and leverage (Yeh, 2010). However, the franchise value hypothesis posits that better performing firms employ lower debt to equity ratios to protect the rents and value the management have generated over time against liquidation (Margaritis and Psillaki, 2010). The franchise value hypothesis predicts negative relationship between performance and leverage (Yeh, 2010).

The efficiency risk and franchise value hypotheses serve as theoretical basis to test the reverse causality from performance to capital structure. These theoretical postulations guided the study in the development of hypotheses tested to establish the causal relationship between performance and capital structure. The thesis tested the unidirectional relationship between capital structure and performance of firms using mainly the agency cost theory. The reverse causality from performance to capital structure was tested with the efficiency risk and franchise value hypotheses.

Figure3: Schematic Diagram of the efficiency-risk and franchise value hypotheses



2.2 REVIEW OF EMPIRICAL STUDIES ON DETERMINANTS OF CAPITAL STRUCTURE OF FIRMS

2.2.1 Preamble

This section of chapter two is devoted to the review of existing studies that have been conducted on the determinants of capital structure of firms in the capital structure literature. This study intends to address a portion of gaps identified from the literature. A detailed critical review of empirical studies is carried out on studies in the capital structure literature that have examine firm specific and country factors as determinants of capital structure of firms. There are numerous empirical studies in the literature on the determinants of capital structure. The studies can be classified into two strands. The first strands of studies examine the firm specific determinants of capital structure. The second strands of studies considered both the firm specific and country factors as determinants of capital structure of firms. The first section reviews empirical studies on firm specific determinants of capital structure. The next section is devoted to the review of studies on firm specific and country factors as determinants of capital structure of firms.

Several empirical studies have been conducted in the literature on firm specific determinants of capital structure. Majority of the studies were carried out using samples of firms in the developed economies particularly the United States. Apart from studies from developed countries, several other studies have also been conducted in developing countries. Studies that have examined firm specific factors as determinants of capital structure of firms are hereby reviewed in this section of the literature review. It is very crucial to point out here that the studies reviewed found support for the different theories of capital structure. Some of the empirical studies support the trade-off theory and the agency theory of capital structure. While a host of other studies support the pecking order hypothesis and market timing theory of capital structure.

2.2.2 Summary of selected empirical studies

Summary of key evidences from empirical literature on firm specific determinants of capital structure is presented in the table 1 below:

Table 1: Review of selected studies

Author	Aim	Methodology(Data and Model)	Key Findings
Marsh (1982)	The study examines determinants of capital structure choice of UK companies and their target debt levels.	Logit analysis on 748 UK Companies between 1959 -1970.	Results indicate that capital structure choice of UK companies is influence largely by market conditions and past history of security prices. UK firms behave as if they have target debt levels. The findings support the trade-off theory of capital structure.
Bradley, Jarrel and Kim (1984)	Investigates the firm specific determinants of US firms.	851 companies for 20 years.	Result supports the trade-off theory of capital structure. Earnings volatility, intensity of research and development and advertising expenditure were found as main firm specific determinants of capital structure.
Kim and Sorensen (1986)	The study examines the relationship between agency cost and cross sectional Variation in leverage ratios	The study employed Analysis of variance and regression methods to analyse data of 330 US firms from 1978 to 1980	The findings indicate that firms with higher insider ownership have greater debt ratios and higher growth firms use less debt. Firm size is not correlated with debt level. The study supports the agency cost theoretical model
Kester (1986)	The study examines the capital structure of firms in both Japan and United States	The study employed the OLS regression method	The findings indicate that growth, profitability, risk and industry classification are important determinants of capital structure decisions of Japanese and the United States firms.
Titman and Wessels(1988)	The study examines the determinants of capital structure of firms in the United States	The study employed the Linear structural modelling approach on 469 US firms from 1974 and 1982	The study findings indicates that past profitability and transaction costs are important variables that drive capital structure decisions of firms in the United States

Hovakimia et al. (2004)	The study examines the effects of market and operating performance on the capital structure choice of firms	The study used OLS and Probit analysis on data of 94 firms from 1983 to 2000	The study findings support the pecking order hypothesis.
Adedipe (1989)	The study examines the determinants and speed of adjustments towards capital structure of firms.	The study employed panel regression method on data of 87 non-financial firms in Nigeria from 1974 to 1983	The findings indicate that firms adjust quickly to their target debt ratios and their capital structure changes are influenced by size company size and asset composition.
Schmidt (2013)	Examines determinants of capital structure of firms	695 German family firms and 4007 international firms from twenty one other countries in Asia and Western Europe from 1995 to 2009.	The study established that tight creditor monitoring is an important determinant of debt policy of family firms in Germany.
Karadeniz et al., (2008)	Examines firm specific of capital structure of firms	Data on five listed Turkish firms that cover between 1994 to 2006 were analysed using dynamic panel approach.	The findings indicate support for the pecking order hypothesis.
Chen (2004)	The study analyse the firm specific determinants of capital structure of firms and the portability of the western style theories of capital to China.	The study employed the static panel estimation method to analyse data of 77 Chinese publicly listed firms.	The findings show partial support for the pecking order hypothesis for Chinese firms.
Haung and Song (2006)	Examines factors that drive capital structure choice of Chinese firms	Data on 1200 Chinese firms that cover between 1994 and 2004 were analysed using static panel estimation method	The study findings evidence supports the portability of the static trade-off theory in Chinese firms.
Zou and Xiao (2006)	Investigates the determinants of capital structure of Chinese firms	The study used the static panel estimation method to analyse data of 216 firms across 15 industrial groups from 1993 to 2000	The study lend more support for the trade-off theory than the pecking order theory of capital structure
Salawu (2007)	Analyse the determinants of capital structure of firms in Nigeria	Data on 50 non-financial firms in Nigeria from 1990 to 2004 were analyse using static panel estimation methods.	The findings reveals that asset tangibility, growth opportunities and size are important determinants of capital structure choice of firms in Nigeria
Al-Sakran (2001)	Analyse the factors that drive capital structure choice of Saudi Arabian firms	The study employed multi-linear regression method to analyse data of 35 Saudi listed firms	The study findings suggest the inapplicability of the Trade-off theory of capital structure in the Saudi context due to tax system that is different from the Western economies tax

			system.
Boteng (2004)	Analyse the firm specific determinants of capital structure of firms in Ghana	The study used data from 41 international joint ventures business in Ghana using T-test and ANOVA.	The results of the study indicate that size, industry classification and ownership are important determinants of capital structure of Ghanaian firms.

2.2.3 Empirical Findings on firm specific determinants of Capital structure

Research on determinants of capital structure of firms can be divided into two areas. On the one hand is the research area examining firm specific factors as determinants of capital structure of firms and on the other hand is the area examining both firm specific and country factors as determinants of capital structure. The empirical studies in the literature tested largely the two widely acknowledged competitive models of capital structure: the static trade off and the pecking order hypothesis.

The findings in the seminal paper of Modigliani and Miller (1958) laid the foundation for other empirical studies that examine the determinants of capital structure choice of firms. Modigliani and Miller (1958) examined capital structure of firms in the electric and oil industries in the United States. Their finding indicates that the value of a firm and its cost of capital are independent of its capital structure. In addition, the authors found that tax benefit of using debt is not a strong driver that influences debt policy of firm thereby refuted the idea that firms have optimal capital structure. Contrary result was found five years later by these authors. Their findings in their (1958) study indicates that taxes created tax shield benefits of debt which could make firms to have optimal capital structure especially for firms that employ 100 percent debt financing. This implies that the tax advantage of using debt is the main factor that influences the debt policy of firms. However, Miller (1977) reported that the tax advantage of debt at the corporate level is offset at the personal level therefore tax does not influence debt policy of firms. However, there was complete departure from the empirical findings of Modigliani and

Miller (1958) and Miller (1977). The departure led to empirical testing of the trade-off and pecking order hypothesis.

Majority of past studies that examine the validity of the trade-off and pecking order hypothesis were conducted largely in the United States and some in the western European countries. Prominent among these studies is the works of Baxter and Cragg (1970), Martin and Scott (1974) and Taub (1975). Generally, the findings of these three studies indicate that equity issuance of small firms is influence by high price earnings ratios and high gearing. Specifically, the findings from the study of Baxter and Cragg (1970) indicates that control consideration and high ratios of market capitalization to total assets are equally important variables that determine capital structure of firms in their analysis of security issues of 230 firms between 1950-1965 using logit and probit analysis. But the findings from the study of Martins and Scott (1974) that use multiple discriminant analysis to examine 112 issues made in 1971 indicate that high pay out; low profitability and high proportion of fixed assets are important drivers of capital structure choice of firms in the US. The study provides weak and insignificant evidence on the role of coverage ratio and risk as determinants of capital structure. This is similar to the findings of Taub (1975) that also found weak and insignificant evidence regarding coverage ratio and risk as determinants of capital structure in their logit analysis of 172 issues made from 1960-1969.

A related study to the works of Baxter and Cragg (1970), Martins and Scott (1974) and Taub (1975) is the work of Marsh (1982) that addressed the dearth of studies on firm specific determinants of UK firms. The study examines issues of equity and debt made by sample of 748 UK companies over the period 1959-1970. The results of the logit analysis indicate that capital structure choice of UK companies is influence largely by market conditions and the past history of security prices. In addition, the findings show that UK firms behave as if they have target debt levels and their target debt levels are influence by company size, bankruptcy risk and asset composition. This finding is consistent with the target debt level proposition of the trade- off

theory. Similarly, Bradley, Jarrel and Kim (1984) documents empirical results consistent with the trade-off theory in their study of firm specific determinants of 20-year average firm leverage ratios of 851 firms covering 25 two-digit SIC industries in the US. The findings indicate that leverage ratios are strongly related to industry classification but inversely related to earnings volatility, intensity of research and development and advertising expenditures.

However, Kim and Sorensen (1986) focused on the agency cost in the trade-off theoretical model. Their study examines empirically the relationship between agency cost and cross sectional variation in leverage ratios of 330 US firms between 1978-1980. The ANOVA and regression results estimates show evidence in support of the presence of agency costs that is related to debt policy of corporations. Specifically, the findings show that firms with higher insider ownership have greater debt ratios than firms with lower insider ownership. In addition, the findings indicate that high growth firms use less debt rather than more debt, high operating risk firms use more debt rather than less debt and firm size is not correlated with level of debt.

Expanding further on the position of Kim and Sorensen (1986) on the relationship between agency cost and capital structure. Vilasuso and Minkler (2001) incorporate both agency cost and asset specificity in their analysis of capital structure of 28 public firms in the transportation, printing and publishing industries between 1987-1997. The findings indicate that agency costs and asset specificity are significant determinants of capital structure of firms in the transportation, printing and publishing industries. In addition, the study found conditions most favourable for reducing transaction costs due to asset specificity are the same as those for reducing the agency costs of debt. The study suggested that both agency costs and asset specificity should be included in optimal model of capital structure because ignoring one or the other may lead to erroneous predictions of the optimal capital structure of firms. The findings lend more support for the trade-off theory.

Further research on determinants of capital structure of US firms by Kester (1986) found growth, profitability, risk, size and industry classification as important variables that drive capital structure (market value leverage) decisions of firms in both Japan and the United States. The findings indicate that there is no country difference in leverage between US and Japanese manufacturing firms after controlling for firm characteristics such as growth, profitability, risk, and size and industry classification. But there is significant difference in terms of determinants of capital structure between Japanese and US firms when the book value measure of leverage is used. The findings suggest that firm characteristics are important determinants of capital structure of US firms and are the same for Japanese manufacturing firms despite the fact that Japanese firms have better opportunities to use more debt in their capital structure than US firms.

Other studies such as Myers (1977), Williamson (1988), Harris and Raviv (1990) and Shleifer and Vishny (1992) have found link between asset characteristics and capital structure of firm by comparing the benefit of using debt in the capital structure of firms with costs of liquidation. Generally, their findings indicate that firms leverage tends to be low if assets are not easily liquidated. The findings support the trade-off theory of capital structure. The finding of Alderson and Betker (1995) is also in line with the findings of these previous studies. Alderson and Betker (1995) found 88 firms in the US that are reorganising during 1982-1993 use less debt in their capital structure. The findings reveal that the liquidation cost is the main determinant of unsecured public debt and equity choice of firms under reorganisation. In addition, the findings indicate that firm size and non-debt tax shields are not important factors that drive capital structure choice of firms under reorganisation process. The findings of this study still supports the trade-off theory of capital structure in the area of cost than in the area of benefit of using debt in the capital structure of firms. Most of the past studies particularly on US firms employed quantitative research methods to analyse the determinants of capital structure of firms.

However, a unique study by Kjellman and Hansen (1995) use qualitative method by employing questionnaire to examine whether the trade-off or pecking order theories provide explanations for the financing behaviour of firms in Finland. The results from the financial managers that completed the questionnaire reveal that firms in Finland behave as if they have target debt position rather than follow financing hierarchy. This findings support the trade-off theory of capital structure. Contrary to previous studies that establish empirical supports for the trade-off theory, the findings in the work of Titman and Wessel (1988) found support for the pecking order hypothesis. Titman and Wessel (1988) analyse some of the optimal capital structure theories using samples of 469 firms in the US from 1974-1982. The study employ the linear structural modelling approach to identify the variables from the different theoretical predictions of the capital structure theories. The findings indicate that none of the variation in convertible debt ratios across firms is explain by growth opportunities, non-debt tax shields, volatility, or the collateral value of assets. But past profitability and transaction costs are important variables that drive capital structure decisions of firms as indicated in the findings of this study. The findings also show that smaller firms tend to use significantly more short-term debt than larger firms. The results also indicate that firm size and firm's uniqueness are negatively related to short term debt ratios.

Another study that found support for the pecking order hypothesis conducted by Hovakimian et al. (2004) examined the effects of market and operating performance on the capital structure choice of 94 firms covering between 1983-2000 using OLS and probit analysis. The findings indicate that return on asset, net operating loss carry forward, stock returns, firm size, asset tangibility and industry leverage are positively related to capital structure while selling expenses and research and development expenses are found to be negatively related to the capital structure choice of firm. The study findings support the pecking order hypothesis. The study of Karadeniz et al. (2008) on five listed Turkish firms between 1994-2006 also support the

pecking order hypothesis partially. The study use the dynamic panel data approach and found effective tax rates, tangibility of assets, return on assets, free cash flow, non- debt tax shields, firm size, net commercial credit position as determinants of capital structure of firms. More recent study by Schmidt (2013) examined the determinants of 695 German family firms and 4007 international firms from twenty one other countries in Asia and Western Europe between 1995-2009. The findings reveal evidence that show that family firms in Germany have lower leverage ratios than firms in other countries. The study found high creditor monitoring as determinant of debt policy of family firms in Germany. The study reported that family firms in Germany tend to avoid debt as external financing because of high creditor monitoring by providers of debt.

Being concentrated on the U.S and other developed Western Europe market so far, relevant research on developing and emerging markets has also provided supporting evidence on firm specific determinants of capital structure. For instance, Adedipe (1989) examines the determinants of capital structure and the speed of adjustments towards target capital structure of 87 non-financial firms in Nigeria from 1974 to 1983. The study findings indicate that firms adjust quickly to their target debt ratios and their capital structure changes are influenced by company size and asset composition. Al-Sakran (2001) examined the determinants of capital structure of 35 Saudi listed non-financial firms using multi-linear regression method. The author found growth; profitability and return on asset to be positively related to leverage ratios while size and government ownership are negatively related to leverage ratios. In addition, the findings reveal that the expected tax advantage of using debt by firms does not apply to Saudi firms because of the unique tax code of the Saudi Arabia economy that is based on net-worth thereby make the trade-off theory inapplicable in the Saudi context. Similar findings to the one reported by Al-Sakran (2001) was documented by Keister (2004) in the case of state owned Chinese unlisted firms between 1980-1989. The findings reveal evidence that during the period of

economic transition, retain earnings is the main determinant of capital structure of Chinese state owned firms, as Chinese firms use retained earnings to signal their financial capacity to borrow from banks. Similar study to the work of Kjellman and Hansen (1995) that employ qualitative methodology in terms of questionnaire was conducted by Boteng (2004). Specifically, Boteng (2004) analyse the firm specific factors that drive capital structure of 41 international Joint venture businesses in Ghana that have foreign partners in Western Europe, North America and Asia. The findings from the T-test and ANOVA results indicate that size, industry classification and ownership are important determinants of capital structure of Ghanaian firms.

Further studies on determinant of capital structure of Chinese firms by Chen (2004) provide partial support for the pecking order hypothesis as theoretical underpinning capital structure choice of firms in China. The author posits that neither the trade-off theory nor the pecking order theory derived from the western setting provides a satisfactory explanation for the capital structure choices of Chinese listed firms. The study noted that these theories are not fully portable in the Chinese context considering the peculiar institutional environment where Chinese firms operate. Specifically, Chen (2004) examined the determinants of capital structure of 77 Chinese publicly listed firms using static panel estimation methods. The findings reveal that factors such as profitability, asset tangibility, growth opportunities and size of firms that drive capital structure choice of firms in western economies are equally relevant as determinants of capital structure of Chinese firms.

Similarly, Haung and Song (2006) equally examined the factors that drive capital structure choice of Chinese firms. More specifically, the author used data on 1200 Chinese firm from 1994 to 2003. The findings indicate that firm size, fixed assets and industrial classification are significant factors that drive capital structure of firms. The authors noted that state and institutional ownership are not significant factors that drive capital structure choice of firms in China. The study posits that the static trade-off theory explain better the capital structure choice

of Chinese firms. Similar study to the works of Chen (2004) and Haung and Song (2006) on Chinese firms carried out by Zou and Xiao (2006) on determinants of capital structure of 216 Chinese firms across 15 Industrial groups from 1993 to 2000 using static panel estimation methods also found similar variables identified as determinants of capital structure in the work of Chen (2004) such as size, asset tangibility, growth opportunities and profitability as important determinants of capital structure choice of firms in China.

But the findings reveal evidence that show that ownership variable is not a significant factor that drives capital structure decisions of Chinese firms. Zou and Xiao (2006) lend more support for the trade-off theory of capital structure than the pecking order theory as portable western theory that explain capital structure of Chinese firms. Both studies posit that firms in China employ more short term debt financing than long term debt financing. However, Li, Yue and Zhao (2007) report contrary results to the findings of Zou and Xiao (2006) in terms of the role of ownership variable. Li, Yue and Zhao (2007) provides empirical evidence that show that ownership and governance structure of Chinese firms are the two most important variables that drive capital structure of Chinese listed manufacturing firms. The authors posited that the way and manners these factors influences capital structure choice of firms differ between small and large firms.

Unlike the works of Chen (2004) that neither support fully the trade-off nor the pecking order theory of capital structure from western setting, the empirical findings in the study of Salawu (2007) supports the full portability of western setting theories of capital structure in the Nigeria context. But found support for the findings of Chen (2004) and that of Huang and Song (2006) that firms in developing countries employ more short term debt financing than long term financing because of the underdeveloped nature of capital market especially bond market. Specifically, Salawu (2007) examined determinants of capital structure of 50 non-financial firms in Nigeria from 1990 to 2004 using the static panel estimation methods. The findings indicate

that asset tangibility, growth opportunities and size are the main determinants of capital structure choice of firms. Another interesting study that support the full portability of the western setting theory of capital structure (trade-off theory) as theoretical underpinning of capital structure choice of large listed firms in Nigeria is the work of Salawu and Agboola (2008).The authors specifically examine the determinants of capital structure of 33 large listed non-financial firms from 1990 to 2004.The results of the static panel estimations reveal that profitability, tangibility, firm size and growth opportunities are significant factors that determine capital structure choice of large listed non-financial firms in Nigeria. In the same vein, Adesola (2009) found both the trade-off and the pecking order hypothesis plausible in the Nigerian context in a study of listed firms that cover from 2001 to 2007. The OLS results indicate that asset tangibility, growth, size and profitability are drivers of capital structure of listed firms in Nigeria.

Another interesting study for the Chinese market is that of Qian, Tian and Wirjanto (2008) that attempt to validate the findings in the study of Chen (2004) and Huang and Song (2006). Qian et al., (2008) specifically considers larger panel data set than that of Chen (2004) and Haung and Song (2006) that span from 1999 to 2004 and use dynamic panel data estimation (Generalized method of moments) to estimate the capital structure model. The findings reveal evidence that support profitability, non-debt tax shield, growth and volatility of earnings as firm specific determinants of capital structure of Chinese firms. In a related study of 650 Chinese public listed firms from 1994-2004, Qian and Wirjanto (2009) examine the firm specific factors that determine the capital structure of Chinese firms using dynamic panel estimation method (Generalized method of moment).The empirical findings indicate that profitability, size of firm, tangibility, non-debt tax shields growth opportunities and state shareholding are the firm specific variables that influence capital structure choice of firms. Their study thereby supports the trade-off theory of capital structure. Further studies on firm specific determinants of capital structure of emerging economies conducted by Al-Najjar and Taylor (2008) on 86 non-financial listed

Jordanian firms from 1994 to 2003 supported other studies that make case for the portability of western capital structure theories to emerging economies. Pooled regression method used to estimate the model reveal evidence that indicate that profitability, firm size, growth rate, business risk, asset structure and liquidity are determinants of capital structure of firms.

As previous studies have examine the determinants of capital structure of large listed firms, the study of Abor and Biekpe (2009) provide empirical findings on firm specific factors that determine capital structure of small and medium enterprises (SMES) in Ghana using the static panel data econometric methods to analyse factors that drive capital structure of 160 SMES. The findings indicate that firm size, asset structure, profitability, firm growth and firm risk are main determinants of capital structure of SMES in Ghana.

Further investigation on firm specific determinants of capital structure in emerging markets carried out by Chakraborty (2010) on 1169 listed firms in India from 1995 to 2008 indicate that profitability, size of the firm, uniqueness, tangibility and non-debt tax shields are important determinants of capital structure choice of firms. The empirical finding supports the pecking order theory. Similar study by Akinlo (2011) also supports the pecking order hypothesis in the Nigerian case. The found growth opportunities, tangibility, liquidity, profitability and size as important firm specific factors that influence capital structure choice of firms in Nigeria. The work of Chandrasekharan (2012) is another interesting study that supports the pecking order hypothesis, trade-off theory and agency theory in the Nigerian context. Chandrasekharan (2012) analyse the capital structure of 87 firms for ten years (2007-2011).The pooled regression results indicate that size, age, growth, profitability and tangibility are important determinants of capital structure of firms in Nigeria. However, the study of Barine (2012) indicate that cost of equity, existence of debt tax shield, covenant restrictions in debt agreements, firm dividend policy, competitors capital mix, profitability, cost of debt, parent company influence and fear of financial distress are important determinants of capital structure of firms. The study of Sheik and

Wang (2011) in Pakistan on 160 manufacturing listed firms from 2003-2007 reveals that profitability, size, non-debt tax shield, tangibility, growth opportunities, earnings volatility and liquidity are important firm specific factors that influence the capital structure of firms in Pakistan thereby make case for the portability of western setting capital structure theories in the context of Pakistan. Furthermore, the study of Lin, Ma, Malatesta and Xuan (2013) that examine the effect of divergence between ownership and control on the debt choice of 9800 firms in 20 countries between 2001 and 2010. Their study make case for the importance of ownership as important determinants of capital structure of firms. The study empirical evidence indicate that the monitoring avoidance incentives created by the separation of ownership from control exert significant impact on the debt choice of firms

The reviews of empirical findings on firm specific factors that influence capital structure choice of firms indicate that the results are mixed and inconclusive. Some strands of studies support the trade-off theory while a host of other studies findings support the pecking order hypothesis of capital structure. The review findings equally indicate that some studies in emerging markets support the full portability of the trade-off theory and pecking order hypothesis while other studies provide partial support for these western style theories in emerging markets context. However, majority of the review studies particularly studies from emerging markets do not focus specifically on the role of agency cost in the trade-off theoretical model. This is one important gap address by this study. This current study examines the determinants of capital structure of firms using the agency cost theoretical model of capital structure.

2.2.4 Review of Empirical Studies on firm specific and country factors as determinants of capital structure

The lack of consensus on the firm specific determinants of capital structure both in the theoretical and empirical capital structure literature led into another line of thought on the determinants of capital structure of firms. The new perspective considers not only the firm specific factors but also external factors to the firms as probable determinants of capital structure because of the different legal institutions and economic environment where firms even in the developed economies also operate. The legal system in some of the countries favour the common law and others operate the civil law. Similarly, some of these countries financial system is market based (United State) while others are bank based (Germany). Due to these institutional country specific and macroeconomic factors, several studies were able to examine whether these institutional and macroeconomic factors along with firm specific factors explain the capital structure choice of firms in developed economies.

The first attempt to consider explicitly the role of institutional factors as determinant of capital structure of firms in developed countries was conducted by Rajan and Zingale (1995). Their path breaking and pioneer study provided new perspectives to the theoretical determinants of capital structure. Their study is one of the prominents studies that incorporated institutional factors as determinants of capital structure of firms that extended their analyses beyond the United States to other developed Countries (G7 countries). Rajan and Zingales (1995) investigated the factors explaining the capital structure of firms. They found factors explaining capital structure decisions in the United States to be similar to those in the G7 developed countries. They therefore posits that despite some institutional differences between the United States and some of the G7 countries, the capital structure theories and their predictions still appear portable to other developed economies beyond the United States, therefore instutional differences does not matter in firms financing.

Similarly, Demirguc-Kunt and Maksimovic (1996a) examine the role of financial institutions as drivers of capital structure of firms. Specifically, they investigated the impact of stock market development on financing decisions of the largest manufacturing publicly traded firms in thirty (30) developed and developing countries. The study established that the existence of active stock market in the countries used as samples especially countries with developing financial markets impact significantly on the financing choices of the firms. They argued that the stock market activeness in these countries provided opportunities for the firms to raise equity fund from the market.

In the same vein, Demirguc-Kunt and Maksimovic (1996b) compared and explained firm debt maturity choices across countries in developed and developing countries. They found systematic differences in the use of long term debt between developed and developing countries as well as between small and large firms even after they controlled for firm characteristics. These studies contradicted the position of the work of Rajan and Zingales (1995) that institutional differences does not matter as determinants of capital structure of firms in the United State and G7 countries. They were able to established that the role of institutions cannot be ignored when assessing the determinants of capital structure of firms whether in the developed or developing countries because institutional variables are usually outside the control of the management of the firm as they are external and their impact can be significant such that firms maynot be able to overlooked these variables in making their capital structure decisons .

Another interesting study by De Miguel and Pindado (2001) provided international evidence by examining the firm and institutional characteristics that influence capital structure of firms of a non G-7 country. Unlike Rajan and Zingales that focused on the G-7 countries, their study focused specifically on only Spain but compared their results with the United States firms. The study employ two step Generalised Method of Moments(GMM) to estimate panel

data of 135 non financial quoted Spanish companies from 1990 to 1997. Four important results were reported by this study.

Firstly, the findings of this study showed that firms bear transaction costs when they decide to adjust their debt level. They argued that in the case of Spanish firms, the transaction costs were lower than those of the US firms due to their higher percentage of private debt. Secondly, the study reported from the estimated target adjustment model that an inverse relationship exist between non debt tax shields and debt. They noted that this was observed to be more significant for Spanish firms because they have more non debt tax shields than US firms. Similarly, an inverse relationship was reported between financial distress costs and debt. They opined that this result was due to the higher premium of debt underwriters.

However, a direct relationship was recorded between investment and debt. They noted that this confirmed the simultaneity of both decisions. Thirdly, inverse relationship was obtained between cashflow and debt. They posited that this indicated that cashflow was preferred to the use of debt as a source of financing. Fourthly, the study documented that debt has greater sensitivity to fluctuations in cashflow when the public debt ratio was high. They suggested that this indicated that in countries like Spain, where the bond market is inadequately developed, the advantage provided by private debt (lower agency costs of debt) is not as great as that provided by access to the bond market. The findings are consistent with tax and financial distress assumptions of the tradeoff theory. They also provided additional evidence supporting the pecking order and free cash flow theories. Similarly, the study confirmed the impact of some institutional characteristics on capital structure of Spanish firms which supported the position of Demicguc-Kunt and Maksimovic (1996) and contradicted the findings of Rajan and Zingales (1995) that institutional characteristics does not matter in the financing firms in the G7 countries.

However, unlike previous studies that focused largely on institutional characteristics as external country specific factors that determine capital structure of firms. Kim and Wu (1988) examines the effects of inflation on the demand and supply of debts simultaneously. The sample of firms used in this study consist of 1,092 firms for the period between 1961-1981. The autoregressive regression results indicates that financial leverage increase during inflationary period among medium, high and low leverage firms. They noted that this result suggests that inflation increases the debt level of firms. A related study that also examine the impact of inflation on capital structure of firms in financially repressed (Turkey and Greece) and financial unrepressed economies (United States and Canada) conducted by Cebenoyan, Fischer and Papaionnou (1995) using sample of 140 listed non financial firms on the Athen Stock exchange for the period between 1972-1983. Financial data for the turkish firms cover between 1972-1986 for 56 firms listed on the Istabul Stock exchange. Samples of industrial firms for the US and Canada cover between 1972-1986 with 1400 and 2397 observations for US and Canadian firms respectively.

They reported negative relationship between inflation and capital structure of firms in the US and Canada. Specifically, total debt ratio and current inflation rates were found to be inversely related. They noted that the result contradicted expectation of a positive relationship between inflation and leverage in a financial unrepressed economies of the US and Canada. Similarly, negative relationship was reported between inflation and debt maturity for the Canadian and US firms which they asserted conforms with theoretical expectaion of the relationship between inflation and debt maturity in unrepressed economies. The study reported similar significant negative relationship between inflation and leverage as well as debt maturity for the Greek firms. This is similar to the results obtained for the US and Canadaian firms. This implies that the direction of relationship between inflation and leverage and debt maturity for some firms in financial repressed economies and those in the unrepressed economies are similar.

However, different results were obtained between inflation and leverage in the case of Turkish firms. Inflation was found to be positively related to leverage and debt maturity among the Turkish sample firms. The size of firm was found to be negatively related to debt ratio for both Greek and Turkish firms but the relationship was not significant. They opined that these results suggest that when the financial system is repressed, increases in inflation rates induce firms to reduce their financial leverage and smaller firms are likely to be credit rationed than larger firms. One of the reasons why the small firms could be credit rationed in a financially repressed economy is that the firms may not have the collateral to secure their debt and due to the presence and persistence of poor institutions that can not guarantee the rights of creditors, debt that would be available to such small firms would be minimal. This implies that quality of institutions is very crucial as determinant of leverage particularly in financially repressed economies.

It is against this backdrop that La Porta, Lopez-De-Silanes, Shleifer and Vishny (1997) later refer to as LLSV examine the capacity of firms in different legal environments to raise external finance in terms of debt and equity. They found in their sample of 49 countries that countries with poor investor protections have thin capital markets in both equity and debt markets. They reported that French civil law countries have both the weakest investor protections and the least developed capital markets especially capacity of firms in different legal environments to raise external finance in the debt and equity markets.

Specifically, the regression results of this study indicate that law enforcement, creditors rights, shareholders rights and gross domestic products growth were found to be positive and significantly related to external finance. LLSV (1997) noted that this result suggests that countries with better legal systems that protect investors and creditors rights as well as ensure the enforcement of law tend to have better access to equity and debt markets than countries with poor legal institutions. The implication of this finding as related by LLSV is that the quality of

the legal environment of where firms operate would go a long way to determine the opportunities that the firms in such countries would be avail in terms of external finance.

Noguera (2001) investigated the effect of inflation on the capital structure of forty American firms using micro data from comput-stat Database for the period 1978-1996. The study used both the pooled least square and generalized least square estimation methods. No relationship was found between inflation and capital structure in the regression model where a unique slope assumption was made as well as when the slope was varied. The study documented that the relationship between inflation and capital structure is inconclusive except for one out of the forty firms that indicated a negative slope between inflation and capital structure.

Similar study on inflation and capital structure was also conducted by Hatzinikolaou, Katsiribris and Noulas (2002). They focused on the impact of inflation as a key macroeconomic factor that influence the capital structure of firms. Their study investigated the effect of inflation uncertainty on the capital structure of 30 Dow Jones industrial firms during the period 1978-1997. The 20 years data were sourced largely from the COMPUSTAT and OECD main economic indicators. Both heteroskedastic linear and semilog version of a cross sectionally and time-wise autoregressive models were employed by this study. They gave consideration to both the fixed and random effects static panel data regression estimation method. The study reported that the estimated semilog model indicated that inflation uncertainty showed the expected negative sign. They therefore asserted that the data supported their hypothesis that inflation uncertainty negatively influences a firms' debt to equity ratio. They equally reported that the coefficient of expected interest rates and asset tangibility were also negatively related to debt-equity ratio and were found to be statistically significant.

The study therefore concluded that inflation uncertainty reduced the number of investment projects that could be financed by issuing debt. They also submitted that it also reduces the number of capital investment projects that the firm can undertake because it increases interest rate uncertainty. The findings of this study implies that not only institutional characteristics influences the capital structure of firms. The role of macroeconomic factor such as inflation and macroeconomic uncertainties cannot be ignored by firms in their capital structure decisions because they could constraint the financing choice of firms.

It is against this backdrop that Nejadmalayeri (2001) examines the macroeconomic determinants of capital structure. The focus of the study was on the term structure of interest rates. Basically, the study found that changes in the macroeconomy that are caused by the term structure of interest rates do affect the financing decision of firms. The study used non-financial operating firms in the United States during 1980-1995. The reported results show that the short-rate, the corporate bond yield and the volatility of the yield curve do influence the financing choice of firms. Nejadmalayeri (2001) related that these results suggest that when the treasury bill yield rises, external financing in form of bond by firm also increases. The study however noted that the result also implies that when the treasury bond yield rises or interest rates become more volatile, firms reduce debt financing. Other macroeconomic factors such as inflation, cyclicity, mortgage rates, personal tax rates and corporate quality spreads were also found to have significant impacts on the debt-equity choice. Specifically, short rate was found to be positively related to debt financing. Long rate and curvature of the yield curve was found to be significant and negatively related to debt financing. Inflation was reported to be significant and negatively related to debt financing.

Most previous studies rarely consider the issue of institutional quality as determinants of capital structure. But the role of quality of institutions cannot be ignored in a comprehensive analyses of the factors that determine the capital structure of firms. Prominent studies that have

examine the impact of institutional factors as determinants of capital structure of firms focused largely on institutional development rather than on the quality of institutions. Giannetti (2003) made similar observation in the works of La Porta et al. (1997 and 1998); Demircuc-Kunt and Maksimovic (1996 and 1998). The study noted that these prominent past studies on institutional factors and capital structure of firms considered only the variability in the debt maturity structure of firms in their cross country studies and how leverage and the maturity structure of debt differ across countries according to the level of financial development and institutional development. He noted that the conclusion of majority of these studies is that debt maturity is shorter in countries where the level of enforcement is lower. The claim of this study is that previous studies only consider the level of development of institutions rather than the quality of development of institutions.

Giannetti (2003) employed the fixed effects regression method to examine how the quality of institutions can be used to mitigate agency problems from the corporate finance perspective. Specifically, the study investigated the influence of firm characteristics, legal system and financial development on the financing choice of 33,885 listed and unlisted firms in eight European countries. Also, the study examined whether the capital structure decisions of firms varies from one country to the other due to the differences in the quality of legal institutions and the level of financial development of the countries. The study reported that agency problem proxy by firm characteristics such as age, and square of age were found to be negative and statistically significantly related to leverage. The study supports the pecking order theory of capital structure that predicted that as firms get older, they use less debt.

Giannetti (2003) also reported another interesting result. The study found that the coefficient of the ratio of intangible assets to fixed assets when interacted with the dummy English origin was found to be positive, significant and partially offsets the negative coefficient of the ratio of intangible assets to fixed assets. Creditor protection index was found to be significant

and positively related with the share of intangible assets when it was interacted with the share of intangible assets. The study therefore concluded that highly protected creditor rights may improve financing opportunities primarily for unlisted companies, therefore noted that the low quality of law enforcement in Italy is a significant contributor to the very short maturity of Italian firms' liabilities and the low quality of creditor protection makes it more difficult for firms investing in intangible assets such as R&D to obtain debt finance in France. The study also asserted that countries with underdeveloped bond market tends to have low leverage as leverage was found to reduce faster as the firms become older because firms cannot substitute more expensive bank loans with market debt.

Another comprehensive study on the country specific determinants of capital structure was also conducted by Korajczyk and Levy(2003). They investigated the role of macroeconomic conditions and financial constraints in the determination of capital structure choice of firms using the generalized method of moments. Specifically, they tried to quantify the relative importance of these factors by performing a variance decomposition for the time variation in financing choices on a sample of firms that were splitted on a measure of financial constraints. The samples used by this study contained 5,623 event quarters of non financial firms with significant capital structure changes from 1984 to1993.

The study documents that the relationship between firm specific variables and target leverage were consistent with some elements of the pecking order theory and the tradeoff theory of capital structure. They reported that larger firms and firms with more tangible assets were found to have higher leverage. Firms with unique assets were found to have lower leverage while firms with large depreciation as tax shield were found to have lower target leverage. They argued that these results were consistent with the tradeoff theory. The study also documented that the results show deviations from the estimated target leverage which explain firms' choice of security

issuance. The overall results of their study is consistent with the predictions of both the pecking order and tradeoff theory of capital structure.

A similar study to the work of Korajczyk and Levy (2003) that consider the role of macroeconomic factors along with firm specific factors as determinants of capital structure of firm was also conducted by Frank and Goyal (2007). They examine the relative importance of many factors in the leverage decisions of publicly traded US firms from 1950 to 2003. Their study improved on the factor analytical technique used by Titman and Wessel (1988) in the United States firms. Frank and Goyal (2007) employed the unconditional correlation method to test the relationship between the capital structure determinants and different measures of leverage. The Akaike information criterion (AIC) and the Bayesian information criterion (BIC) were used as test of parsimony to select the most appropriate factors that drive capital structure decisions of publicly traded US firms. The linear regression method was also utilized to assess the effect of the leverage factors. They equally tested the effect of conditioning on firm circumstances. The results of their study showed that the most reliable factors in the determinants of the capital structure of US firms were median industry leverage, market-to-book ratio, tangibility, profits, log of assets and expected inflation. The findings of the study were consistent with the trade-off theory of capital structure and refuted the pecking order theory as established in the study of Titman and Wessel (1988).

Similar study to the work of Korajczyk and Levy (2003) is the study of Kyaw (2004) that also examine country and firm level characteristics as determinants of capital structure of 28 developed and developing countries in four major industries. The generalized method of moment (GMM) estimation method was employed to examine the speed of adjustment and account for the endogeneity between unobservable firm specific and the regressors in the model. The study reported that both country and industry sector effects are significant in explaining the changes in corporate debt ratios of countries but country factors were found to provide

explanation of the corporate debt ratios than industry factors. Legal, cultural, financial and economic institutions were found as factors explaining the corporate capital structure of firms in both developed and developing countries firms. The results of the GMM estimates of the total debt ratio indicated that the lagged total debt is positive and significant. The adjustment coefficient stood between zero and one implying that firms adjust their debt ratios in a slow manner to achieve their target debt ratio. Also the results revealed that the adjustment coefficient was found to be significant. The author noted that this finding indicated that firms bear transaction costs when they adjust their debt level to target.

Positive relationship was found between tangibility and debt ratio but not significant. The tangible asset when lagged was found to be negative and significant. The study posited that this finding support the pecking order theory that firms with higher profitability would use internal resources first to finance investment opportunities before the use of external financing. Firm size was found to be positively related to debt ratio but the lagged of firm size was found to be negative and significant. Positive relationship was found between total debt ratio and the firm's tax rate. Negative significant relationship was also found between Z-score use to measure bankruptcy and debt ratio but the relationship became positive when Z-score was lagged. The study therefore posits that this result conforms to the trade-off theory of capital structure that predicted that firms that have high bankruptcy risk tend to reduce their subsequent year debt level. Positive relationship was found between growth opportunities and debt ratios. The study noted that this finding contradicted the normal understanding particularly for firms in developed countries that high growth firms tend to use more debt.

The study also revealed the following results with regard to the country level determinants of capital structure. Positive relationship was found to exist between three cultural indexes (power distance, individualism and masculinity) and use of debt by firms as well as between stock market developments, stock market liquidity and long- term debt. These variables

were found to be negatively related with total debt ratio. Country's bank emphasises and economic growth was found to be positively related to debt while inflation was reported to be negatively related to debt. Common law was also found to be negatively related to total debt ratio. The study argued that these results indicated that common law countries have better stock market development because less information asymmetry among firms and in the stock market firms provide opportunities for firms in the countries with common law to have easier access to equity market. Corruption perception index was found to be positively related with firm's total debt ratio. This result implies that investors prefer debt because of the contractual obligation on equity in countries with high corruption.

Basically, the novelty of this study is that country factors are crucial in the analyses of capital structure of firms because firms in different countries operate within different institutional framework that can influence their capital structure. However, unlike previous studies that considered the impact of firm specific and country factors as determinants of capital structure of firms using the direct channel to evaluate the impact of these factors on capital structure choice of firms. The issue of indirect channel was examined by Jong, Kabir and Nguyen (2008).

Jong, Kabir and Nguyen (2008) examine the direct and indirect channels through which firm and country specific factors influence the capital structure of firms in 42 developed and developing countries for every continent for the period 1997-2001. The countries were divided equally between the developed and developing countries. The study used sample of 12,000 firms that consisted of both large and small firms. The ordinary least square regression method was used to estimate the model that captures the direct channel through which firm specific factors influence capital structure while the weighted least square regression method was employed to estimate the indirect channel.

The results of this study revealed that the impact of some factors like tangibility, firm size, risk, profitability and growth opportunities were very strong and consistent with standard capital structure theories across a large number of countries. Their study rejected the hypothesis that firm specific coefficient are equal across countries. They argued that this finding indicated that the often made implicit assumption of equal firm level determinants of leverage across countries does not hold. The results of their analysis of the direct impact of country specific factors revealed that certain factors like GDP growth rate, bond market development and creditor right protection significantly explain the variation in capital structure of firms across countries. Moreover, they found considerable explanatory power of country-specific variables to be stronger than firm specific factors.

The study also related that the results of the indirect impact of country-specific variables show the importance of country factors. They documented their significant effects through firm specific determinants. They argued that the effects of some firm-level determinants of leverage such as growth, opportunities, profitability and liquidity were also reinforced. Generally, they posited that the findings of the study indicated that the conventional theories of capital structure developed using firms from the United States as a role model work very well in similar economies that have well developed legal environment and high level of economic development.

In a related study by Zhang (2006) that was influence largely by the work of Faulkender and Petersen (2006) that examine the impact of supply side constraints on leverage. Zhang (2006) examines how country specific factors affect the capital structure choice of Canadian multinational firms (MNCS) between 1990-2003 using panel data of 5,176 firm level observations. The study employed the fixed effect panel data approach as estimation method. Zhang (2006) documents that agency cost of debt and business risk has negative impact on leverage and it is higher for Canadian MNCs' non-US operations than those with US operation. The study found significant positive relationship between bond market access and leverage. He

argues that access to the US bond market is another important factor that increase the debt financing of Canadian firms because the market debt ratios of firms with access to bond market was found to be higher than that of firms without access to the bond market. The study also reported that low credit quality firms have access to bond market is about five times higher than high credit quality firms among the Canadian MNCs. This finding of this study supports the submission of Faulkner and Petersen (2006) that supply side constraints significantly affect capital structure of firms. This study equally reported that sensitivity of leverage to firm-specific factors differ between firms in the US and Canada.

Hackbarth, Miao and Morellec (2006) investigated the impact of macroeconomic conditions on credit risk and capital structure decisions using a contingent claims model that capture cash flow to be dependent on both an idiosyncratic shock and aggregate shock that reflect the state of the economy. Their analysis was developed within a standard model of capital structure decisions. They also examine dynamic capital structure choice and relate both the pace and the size of the capital structure changes to macroeconomic conditions. This study was largely theoretical as they used both calibrations and simulations to generate models.

The results of their model of the shareholder default policy revealed that aggregate shocks generated some time-series variation in the present value of future cash flows to current cash flows that may induced the firm to default following a change in macroeconomic conditions. They also demonstrated that while variations in idiosyncratic shocks were unlikely to explain the clustering of exit decisions observed in many markets, they argued that changes in macroeconomic conditions provided the basis for such phenomenon.

The implication of the shareholder default policy model for financing decisions revealed that the leverage ratios that were generated by the model were in line with those in practice. They posit that the prediction of the model was countercyclical and consistent with the evidence reported by Korajczyk and Levy (2003). Similarly, they reported that the credit spreads are also in

line with those observed in practice. They observed that for any given debt level, credit levels were higher in a recession than in a boom. They noted that the change in credit spread after a change in the value of the aggregate shock can be very substantial to the extent that it could reach up to 120basis points for financially distressed firms. They also observed that the term structure of credit spreads produced by the model comprise of potentially substantial short term credit spreads. They equally found that firms adjust their capital structure more often by smaller amounts in booms than in recessions in their dynamic modelling of capital structure choice and how the pace and size of capital structure changes to macroeconomic conditions.

Gonzalez, Lopez and Saurina (2007) employed dynamic panel data estimation techniques on a sample of about 60,000 Spanish firms during the period from 1992 to 2002 to establish the factors driving Spanish firms access to external finance from both bank and non-bank sources. They argue that the appropriate framework for analysing the relationship between firms financing choice and their specific characteristics is a dynamic panel model. They related that this position is based on the fact that the financing choices of the firms are usually influence by their prior decisions. They also stressed that it is very crucial to account for firm heterogeneity because of the different attitude of firms to take on more banking debt or trade credit.

The findings of this study indicate that negative relationship exists between firm size and access to external financing. However, positive relationship was found between firm age and short-term financing and short-term bank financing. The study documented negative relationship between tangible assets and short-term non-bank financing and overall short-term debt measure but was found to be positively related with total bank debt. Return on equity, gearing and Liquidity were found to be negative and statistically significant for all the measures of financing except the ratio of short-term debt to total debt. Similarly, the study related that negative relationship was found between the lagged and contemporaneous values of industrial production growth and the ratios of short-term debt and the non-bank short-term to total debt.

A positive relationship was found for the short-term bank debt variable. They posited that this result indicated that as the macroeconomic conditions improved, firms tend to rely less on short-term debt financing particularly the use of expensive trade credit and use of more bank debt.

Overall, this study posited that Spanish firms depend largely on short-term non-bank financing that account for about 65 percent of the total firm debt of Spanish firms and this type of financing is less sensitive to firm characteristics than short-term bank financing. They observed that short term bank debt was more access by Spanish firms during economic expansion and as the cost of fund rises. The study posited that this observation indicated that the capital market for debt and equity in Spain is still not as developed and sophisticated as that of countries such as the US and the UK that have the capacity and capability to provide long term funds for firms through the capital market at cheap cost.

This study signals that not all the economies in the developed western setting have similar features in terms of the level of financial development. Some countries have better developed financial system than the others and were able to use the financial system to provide external finance on long term basis at cheaper cost while other countries like Spain, Italy etc financial system is not as developed and sophisticated like that of the US and the UK to provide sufficient long term finance at cheap cost. Firms in these economies still rely substantially on short term financing.

To provide another detailed contrary perspective to the position of Rajan and Zingales (1995) and confirm the results of Demirguc-Kunt and Maksimovic (1999) that institutions matter in the analyses of the determinants of capital structure of firms. Vasilious and Daskalakis (2009) investigated how and whether the differences in institutional characteristics may affect the determinants of capital structure of Greek firms. They analysed the economic and institutional differences between Greece and other economies in Europe and the United States in their analysis of the determinants of capital structure of firms. Specifically, they examine whether these

differences affect the debt-equity choice of firms in these countries. The analysis was achieved by examining the capital structure of Greece and comparing their findings to the firms in other European countries and the United States.

They employed qualitative survey method by administering questionnaires to financial managers of 89 listed non-financial firms on the Athens stock exchange. The firms were grouped into small and large companies based on their turnover and based on whether they manufacture product or provide services. The factor analysis techniques similar to Titman and Wessels (1988) method and the correlation statistical method were applied to analyse the data of the study. One important finding reported by this study is that Greek firms generally seem to avoid long term debt financing. They canvassed two key reasons for this finding. Firstly, they argued that it could be because of the relatively low level of financial intermediaries in Greece when compared with other countries. Secondly, they argued that following the market timing approach Greek firms have used the “window of opportunity” during the 1998-2000 that was wide to raise large amount of equity capital. Similarly, they adduced another crucial reason that relate to the fact that firms in Greece seem to care more about the disadvantages of debt particularly the issue of financial distress than the advantages like the tax shields and lowering agency costs of equity.

The study also argued that the findings suggested that the pecking order theory seems not to hold for Greek listed firms as well as the signalling theory. They posited that this could be probably because of the inefficiency of the capital market in Greece. In the same vein, they observed from the findings that agency costs of equity and control considerations also appear not to be very important in Greece because of the concentrated ownership structure of the Greek firms, the legal remedies of the mandatory dividend and the legal reserve that is set to increase poor investor protection.

They posit that the results are similar to most of the related studies that were conducted on European and the United States firms like that of Rajan and Zingales (1995). They therefore

submitted that financial managers in Greece, European countries and the United States tend to consider similar factors when making capital structure decisions despite the institutional differences between Greece, European countries and the United States. They argued that Institutional features of Greece show that Greece has low investor protection, low creditor rights enforcement consideration, low capital market development and financial intermediary. They observed that all these features were very high in other European countries and the United States, yet the determinants of capital structure were still found to be similar despite these institutional differences.

Similarly, to confirm further that institutional factors that are country specific are very crucial as determinants of capital structure of firms particularly for multinational firms. Multinational firms were known to operate both locally and overseas therefore are always faced with domestic and risk from their trading partners. These risks could affect their capital structure decisions. To confirm the plausibility of this assertion that risk from trading partners can influence the capital structure choice of multinational firms. Ramirez and Kwok (2010) investigated the role of country export partner risk (CEPR) as determinants of corporate leverage of a sample of 98,000 firm year observations from 42 countries between 1990-2004. They argued that CEPR is a robust measure of the risk MNCs face when they do business abroad. The study controlled for both firm level and country level variables and employed CEPR as independent variable. The firm level variables used in the study were: growth opportunities, non-debt tax shield, profitability, firm size and risk. Country level variables that were employed as control variables were inflation, country risk, Gross domestic product, stock market development, legal system and economic freedom. Panel regression method was employed to estimate the model of the study.

The result of this study shows that the weighted average risk level of a country's export trading partners is negatively related to the leverage of its multinationals. They also reported that

when they controlled for CEPR they found that the multinationality of the firm was positively related to leverage. They asserted that this result support the traditional diversification argument that as firms expand overseas they can take advantage of diversification benefits in adjusting their financial leverage and this benefit will be reduce if the CEPR facing the firm is very high. They therefore suggested that MNCs should consider these factors together when designing their optimal capital structure.

In addition to the several studies that support the position of Rajan and Zingales (1995), Demiguc-kunt and Maksimovic (1996) and Booth et al (1999) that institutional differences should be considered in the analysis of capital structure of firms. Oztekin and Flannery (2012) found empirical support for the hypothesis and the dynamic trade-off theory that posited that better institutions lower the transaction costs associated with adjusting the leverage of firms. They found that a country's legal and financial institutions significantly affect both the costs and the benefits of moving towards target leverage.

Their study estimated dynamic panel models using the dynamic panel methods of two step system generalized method of moments and the corrected least squares dummy variables. The sample consisted of unbalanced panel of 15,177 firms from 37 countries for a total of 105,568 firm year observations for 16 years (1991-2006). The models incorporated both the firm specific variables and country variables. The study therefore argued that the findings of this study as mentioned above suggested that a firm's capital structure is a reflection of its own characteristics and the traditions of its operating environment. They also posited that the findings imply that firms from different countries have different costs and benefits of attaining their target leverage.

Cortei, Fahat and Abugri (2011) also found support for the position of past studies that institutions and country specific factors are crucial in analysing the capital structure of firms. They investigated the link between financing patterns, information asymmetry and legal

traditions of 37 countries during the period 1994-2004. They claimed that their study was the first that used a modified pecking order model in an international context and shed light about the rate of adjustment to optimal capital structure. The analysis of this study was based on three theories: the trade-off theory, pecking order hypothesis and market timing hypothesis. They tested the predictions of these theories/hypotheses using regression analysis. They employed the panel data regression method with firm and country fixed effects. The modified pecking order model developed by the study was used to control for short- and long-term debt level changes and simultaneously used in testing the predictions of all the identified theories.

The findings of their study are consistent with studies for US firms. The results showed that firms across all countries adjust toward the target leverage, but with significantly different rate. The long-term debt contribution in the rate of adjustment was reported to be 64 percent in common law countries and 51 percent in civil law countries. The ability of the model to explain changes in leverage ratios was found to be higher in common law countries. They found support for market timing hypothesis but no support for pecking order theory of financing. These results supported their conjecture that stronger investor's protection, higher transparency and well-developed financial markets in common law countries reduce the cost of recapitalization. The findings show that firms' capital structure decisions are not only a function of their own characteristics but also the result of legal and financial market development in the countries where they operate.

However, a recent study by Drobetz, Gouopoulos, Merikas and Schroder (2013) show contrary results to Cortei, Fahat and Abugri (2011). They documented that country level variables were not significant factors that can affect the capital structure of firms. The argument they gave for this results is that shipping companies were truly global business with very limited local influences on their activities particularly their capital structure decisions. The focus of their study was to test whether listed shipping companies follow a target capital structure and analyzed

their adjustment dynamics after deviations from the target leverage ratio. The sample of their study consisted of 115(84 active and 31 inactive) listed shipping companies covered in the COMPUSTAT Global database from 1992-2010. Pooled ordinary least square and fixed effect static panel econometric techniques were employed to estimate the model of the firm specific determinants of capital structure of the shipping firms, and battery of dynamic panel data estimators such as the OLS estimator, the fixed effect (FE) estimator, Blundell and Bond(BB) estimator and the fractional dependent variable(DPF) estimator were used to estimate the dynamic panel model set to capture the speed of adjustment of the capital structure of the listed shipping firms used as samples by the study.

The results of their different estimations revealed that listed shipping companies have significant higher leverage ratios and by extension higher financial risk than large samples of industrial firms in the G7 countries. They reported that the traditional capital structure variables have significant impact on the cross-sectional variation of leverage ratios and the degree of their impact was different from other industries because of the peculiar nature of the shipping industry. They found asset tangibility of the listed shipping firms to be positively related to leverage and its economic impact was observed to be more pronounced than other industries. The study found asset risk and operating leverage to be inversely related to leverage. They argued that this indicated that financial managers in the shipping industries employ financial and operational hedges as complement in their corporate risk management considerations. Their findings contradicted the market timing theory as they observed very weak evidence for the market timing behaviour in the shipping industry. They also reported that the leverage of the shipping companies behave counter-cyclically. They argued that this conforms to their expectation because of the highly cyclical nature of the shipping industry.

In addition, the study documented that the shipping firms' speed of adjustment subsequent to target leverage deviations was much higher than that of other industrial firms.

They reported that adjustment speed was significantly lower during economic recessions. They posited that this could be because of the substantial costs of deviation from the target leverage ratio due to shipping companies' high expected costs of financial distress.

Apart from the review studies above that were carried out largely in the developed economies, several studies have also investigated the firm specific and country factors as determinants of capital structure of firms. One of the pioneer studies that consider firm specific and country factors as determinants of capital structure of firms in developing countries was conducted by Wiwattanakantang (1999) on the determinants of Thailand firms' capital structure based on the common optimal capital structure theories namely the tax based theory, the signaling theory and the agency theory. Specifically, the study tested the signaling and the agency effects of financing decisions of Thailand firms. The sample used by the study consisted of 270 listed firms on the Thailand stock exchange in 1996. The results of the tax and signaling effect revealed that the coefficients of non debt tax (NDT), return on asset (ROA), market to book ratio and size were consistently significant and have the predicted signs. Specifically, NDT, ROA and market to book ratio showed negative relationship with leverage. Size was positively related to leverage. Fixed asset used as proxy for tangibility was observed to be positively related to leverage and significant when market leverage was used as a dependent variable. The estimated coefficient of risk proxy by variation in firms' was reported by the study to be positively related to leverage when leverage was measured based on book values. When the market values was employed as measure of leverage a negative relationship was recorded between risk and leverage. This result was observed to be insignificant across all the regression. They also noted that the result also ran contrary to the prediction of the traditional capital structure literature by Myers (1984) that posited a negative relationship between debt ratio and the choice of bankruptcy.

This study also examine whether negative relationship exist between non-debt tax shields and leverage ratio so as to confirm or refute the assertion of Mackie-Mason (1990) that firms

that face tax exhaustion i.e. those that pay little or no tax are likely to issue less debt because the associated interest deduction would be cancelled out by non-debt tax shields. The result of the investigation revealed that the tax exhaustion effect does not exist. This study also found that industry classifications have an impact on the determinants of debt-equity choices.

Additionally, this study also tested the influence of the agency variables on the debt-equity choices while controlling the tax, signaling effects and the variations in industries. The regression results were found to be consistent with the above estimated results reported in the tax and signaling effects except for the coefficient of the market-to-book ratio. The relationship between market-to-book ratio as well as the fixed asset ratio and leverage were found not to be consistently significant. Significant results were also not reported by the study on the estimated coefficient on risk in the regression model. The study posited that the significant positive relationship between fixed asset and the negative relationship between the market to book ratio were also consistent with the agency literature. Family was reported to be positively and significantly related with the level of both market and book leverage. The estimated coefficients of the conglomerate, foreign and government variables were found not to be significant. The results revealed that there exist no significant differences between the capital structure of the firms that have conglomerate groups, the government and foreign investors as their major shareholders and the firms that do not have these investors as their major shareholders. The study reported that the AGE variable was not significant. A re-estimation was also carried out to include the no of years of incorporation of a firm. However, the estimated result was still not significant. In the same vein, the study reported that the coefficients of the proxies of board size and the ownership of CEOs were not significant. But the estimates for the directors' ownership was positive. It was not robust to the specifications of leverage and ownership concentration.

This study equally extended the analysis to examine the effect of management ownership on financing decisions of single family owned firms. To capture this an alternative regression was

ran. Two new measures of managerial ownership were used. The results indicated that the coefficients of *DIRECTOR FAMILY* and *CEO FAMILY* were positive and consistently significant across all the equations. The study noted that although the managements' ownership generally had no impact on the firms' financial choice. It reported that it had a positive effect for the single family-owned firms. The study also documented that the coefficient estimated for the ownership of the largest corporate shareholder and five largest shareholders were negative and significant. The estimated coefficients of the largest financial institutional shareholders were consistently insignificant across all the estimates.

This study is a comprehensive and robust study on samples of firms in developing countries. Despite its robustness and comprehensiveness in the testing of the theories of capital structure. It focused largely on the firm characteristics determinants of capital structure and the explanation of the theories around the firms' determinants. Institutional determinants of capital structure of firms as explained by the capital structure theories were not considered exhaustively. The only variable that the study considered as an institutional factor is ownership of business. Tax was although considered in the analyses but the variable was not considered as an institutional variable rather treated as a macroeconomic factor that interacts with firm-specific factors.

Similar study was conducted in Malaysia and the Republic of Korea by Hussain (1997) in the period following the financial liberalization of these economies between 1980 and 1990. The sample consists of 100 largest listed manufacturing firms from Malaysia and the Republic of Korea. The explanatory variables included in their model were: profitability, size, taxes and industry dummies. One significant submission of this study is in respect of the role of institutional factors such as tax structure and other government policies as determinants of capital structure of firms. The author noted that government policies and tax structures are crucial along with the firm-specific factors in the determinants of capital structure of both listed manufacturing firms in Malaysia and the Republic of Korea. The conclusion of this study is also

in line with the submissions of Rajan and Zingales (1995) that better understanding of institutional factors may help to understand the theoretical determinants of capital structure.

In an attempt to study the institutional and regulatory factors that influence the capital structure of manufacturing and non manufacturing firms in Japan. A study similar to the works of Hussain (1997) and Rajan and Zingales (1995) was carried by Hirota (1999) on Japanese firms. The study utilized the cross sectional regression method for four years data (1977, 1982, 1987 and 1992) as well as a pooled regression for these years. The main results of this study supported the agency theory. Other results in the study established the importance of institutional and regulatory characteristics of the Japanese environment as drivers of capital structure of Japanese firms to confirm the position of Rajan and Zingales (1995) and Hussain(1997) on the role of institutional factors as determinants of capital structure of firms.

Similarly, Caprio and Demirguc-Kunt (1997) examine the factors that serve as hindrance to firms having access to long term finance. Caprio and Demirguc-Kunt (1997) assessed the role of long term finance in developing countries through a descriptive analyses of the factors militating against firm access to external financing especially manufacturing firms. The evidences that emerged from this study suggested that both the financial market development and legal effectiveness are crucial in meeting the long term external financing needs of firms and facilitating firms growth. The study also supported the initial position of previous studies by Ragan and Zingales (1995) on th role of institution in the determinant of capital structure of firms especially financial institutions. Similarly supports the position of Demirguc-Kunt and Maksimovic (1996b) on the importance of banking and capital market as strong factors that influences financing choice of firms in the developing countries.

To butressed the findings of previous studies that firm specific, institutional and regulatory factors specific to each environment and country are crucial in the determination of the financing choice of firms. Booth, Demirguc-Kunt and Maksimovic (2001). Booth et al

(2001) used a new firm-level data to assess the determinants of capital structure of firms in a sample of 10 developing countries: India, Pakistan, Thailand, Malaysia, Turkey, Zimbabwe, Mexico, Brazil, Jordan and Korea. The combination of these countries reflect the Anglo-Saxon capital markets and the continental-German-Japanese banking systems as used in the study of Mayer(1990) and Rajan and Zingales (1995). Booth et al (2001) accounted for firm specific, institutional and macroeconomic determinants of capital structure of firms in the 10 developing countries samples. The study utilized the cross-sectional regression and the panel data techniques for sample of firms within each country using the ordinary least squares and the fixed effects estimates respectively.

The findings of the study revealed that variables that were relevant for explaining capital structure in the United States and European countries were also relevant in developing countries despite the profound differences in institutional factors across the developing countries. The study argued that knowing the firm specific, institutional and macroeconomic factors that drive capital structure of firms help predict the financial structure of a firm better than knowing only the nationality of the firms. Generally, the findings of this study show that debt ratios in developing countries seem to be affected in the same way and by the same types of variable that are important in developed countries.

However, the study posited that there were persistent systematic differences in the way these ratios were affected by country factors such as inflation rate, real GDP growth rate, Gross national product per capita indicating that specific country factors are very crucial. The study reported that the results is consistent with the pecking order theory. Theoretically, it contradicted the study of Rajan and Zingales (1995) that supported the tradeoff theory but support the position of Rajan and Zingales (1995) that emphasised the role of institutional differences in their study of the G7 developed countries. The study supported the study of

Demirguc-Kunt and Maksimovic (1996a) & (1996b) and the work of Caprio and Demirguc-Kunt (1997) that used sample of firms from both developed and developing countries.

Similar study by Deesomsak, Paudyal and Pescetto (2004) investigated the determinants of capital structure of firms from countries in the Asian Pacific region namely: Thailand, Malaysia, Singapore and Australia. They also tried to find out the effects of the Asian financial crisis of 1997 on the capital structure of non financial firms listed on the National stock exchange of these countries. This study was largely informed by the fact that different institutional factors such as financial markets, legal traditions, bankruptcy codes and corporate ownership structure could influence the capital structure decisions of firms such that the received established capital structure theories may not apply generally to other economies because of these institutional differences.

Data for the study were largely sourced from Datastream. The samples consisted of 294 Thailand firms, 669 Malaysian firms, 345 Singaporean firms and 219 Australian firms. Ordinary least square (OLS) regression with the cross section framework for each country was used to assess the firm specific factors that drive capital structure in each of the sample countries. Firm specific variables considered were: Tangibility, profitability, Growth opportunities, Volatility of earnings/risk, non debt tax shield, liquidity and share price performance. Similarly, the study considered the effects of country specific variables on the capital structure decisions of firms in the sample four countries. Fixed effect panel and pooled OLS procedures were used by the study. The firms specific variables and seven additional country specific variables namely: the degree of stock market activity, the level of interest rates, the legal protection of creditor's rights, ownership concentration and three country dummies were used by this study to capture the possible effects of the Asian financial crisis of 1997 on the capital structure decision process by the study two sub sample periods were used. A pre-crisis period between 1993-1996 and post crisis period period 1998-2001.

Several interesting results were reported by this study. Firstly, the test of the firm specific factors that account for capital structure of firms in each of the countries showed that tangibility was positively related to leverage but was only significant in Australia. Profitability and leverage was found to be negatively related and significant in Malaysia but insignificant in other countries. Firm size was reported to be positively related to leverage and significant except for Singapore. They noted that this could be as a result of the fact that firms in Singapore receive government support thereby face less risk of financial distress in respect of their size. The predicted negative relationship between non debt tax shield and leverage was documented by this study. This was statistically significant for all the countries thereby align with the tax-based models of capital structure. Earnings volatility as a measure of risk was found to have no significant effects on leverage in any of the countries. Liquidity and share price performance was reported by this study to be negatively related to leverage and were found to be significant in all the countries.

Secondly, the results of the test of the effect of Asian financial crisis on the capital structure decisions of firms in the pre and post-crisis periods revealed that the crisis affected the process of capital structure decision of firms in the sample countries in the Asia Pacific region. Equally, the crisis altered the determinants of firms capital structure decisions. They reported that the significance of some of the determinants over the whole period such as firm size, non debt tax shield and liquidity were mainly driven by their significance in the post crisis period. They however reported that the contributions of determinants such as tangibility of assets, volatility of earnings and share price performance were not affected by the crisis.

Thirdly, the results of the empirical investigation of the role of the country specific factors on the capital structure of firms revealed that a negative relationship exists between the financial activity of the stock market and leverage. This relationship was reported to be significant. However, a contrary result was reported between interest rate variable and leverage. This relationship was also found to be insignificant over the whole sample period and before the

crisis. They reported that the interest rate variable became significant and positive after the crisis. The study also documented that the country dummies have effect on the country specific factors. The legal and institutional determinants represented by index of creditor's right (CRR) and measure of ownership concentration revealed that the coefficient estimates for CRR was significant and positively related to leverage over the whole sample period after the crisis. It was reported to be marginally significant before the crisis but negative. The study therefore submitted that the results showed clearly that the 1997 Asia financial crisis had impact on the capital structure decision of firms in the Asia pacific region at both the firm specific and country specific levels. It was also asserted by the study that the positive relationship reported for the post-crisis period alluded to the fact that the theories developed in the developed economies may not be applicable to emerging economies.

In a related robust and comprehensive study by Fan, Titman and Twite (2006) that examines the capital structure and debt maturity choices of firms in a cross section of 39 developed and developing countries. They focused on the effect of the countries' public policies and institutional structures using broader set of countries than other cross country studies. The study reported the variation in capital structure across countries that cannot be explained by either differences in the industrial mix across countries or by cross-country differences in firm level characteristics. The study also assessed a broader class of country-level explanatory variables and included interactions between these variables and firm specific factors that allowed estimation of how institutional differences between countries affect the cross sectional variations in capital structures within the countries.

The study reported some new findings that were quite different from previous studies such as the work of Booth et al. (2001). Specifically, taxes were found to have an important influence on capital structure choices of firms. The study argued that firms used less debt in countries where dividends were preferentially taxed. This evidence contradicted the findings of

Booth et al (2001) that reported insignificant relationship between debt ratios and tax policy. This study also documented that countries with stronger unions tend to have higher leverage. As threat of unionization lead firms to choose higher leverage which is related to the stakeholder theory of capital structure that most studies often ignored.

This study also examine the extent to which the preferences of suppliers of capital partially determine the mix of securities that get issued by firms. The study found that firms in countries with large amounts of bank deposits have shorter maturity debt. Additionally, they reported that in countries where state have ownership stake in banks, firms tend to use more debt than equity in their capital structure as debt are being subsidized in these countries. This study also documented that life insurance companies which tend to hold long- term bonds especially in developed countries have influence on how firms are financed. They noted that this influence is somewhat very different in developing economies thereby reflected the lack of a developed bond market in most developing countries.

The analysis of this study also cover the examination of how the legal system and its integrity affects financing choices. The study found the quality of the legal system to influence financing choices of firms in the 39 developed and developing sample countries used in their study. This finding was found to be consistent with the findings of Demirguc-Kunt and Maksimovic (1999). Although the measure of the integrity of the legal system differs between the two studies. Demirguc-Kunt and Maksimovic (1999) used an index of the efficiency of the legal system that measures the extent to which it is utilized to resolve conflicts. They reported that countries where the legal system is less biased have longer debt maturity. Fan et al (2006) used an index of country corruption unlike the index of the efficiency of the legal system used by Demirguc-Kunt and Maksimovic(1999). The assessment of the index of country corruption index with leverage ratios as well as debt maturity by the study show that firms in countries that were viewed as more corrupt were more levered and used more short-term debt.

Similarly, this study examine the effect of the legal system per se. They found common law countries tend to have lower leverage and use more long-term debt. The analyses of this study also extended further the works of Rajan and Zingales (1995) and Booth et al. (2001) that examine the effect of firm specific factors on leverage so as to establish whether firm specific factors affect leverage differently in different countries. The study found a consistent result with that of Rajan and Zingales (1995) and Booth et al. (2001) that reported cross sectional determinants of leverage to be roughly consistent across countries. However, they documented some notable cross-country differences. This study emphasised significantly the role of firm specific and institutional factors as determinants of capital structure. Less emphasises was placed on the role of macroeconomic factors as determinants of capital structure of firms. Macroeconomic factors were crucial to financing decisions of firms especially to firms in developing countries as related by Booth et al (2001). Similarly, most firms in the developing countries rely on short term financing as they have limited access to long term finance (Green and Mutenheri, 2002; Gwartidzo, 2004, Chen, 2004, Abor and Biekpe, 2009).

To substantiate the above position and provide empirical evidence for the role of both internal firm specific factors and external factors as determinants of capital structure of firms in developing countries particularly in a country specific case in Africa. Green and Mutenheri (2002) examined the patterns of financing of firms in Zimbabwe. They found that listed firms in Zimbabwe employed short term fund from external sources than long term funds. The study reported that the stock market was found to be significantly related to capital structure of listed Zimbabwean firms thereby contributing significantly to the financing choice of firms. The study also documented that asset tangibility; tax rate, growth opportunities, earnings volatility and bank liquidity were significant firm specific determinants of capital structure of Zimbabwe listed firms. They provided good evidence from Africa to buttress the understanding on how firms in

developing countries of Africa were been financed and the firm specific as well as external factors that influence the financing choice of the firms.

To account for this shortfall, another regional wide study was conducted by Jorgensen and Terra (2003). They investigated the determinants of capital structure in Latin America. They focused specifically on the role of firm specific and macroeconomic factors that account for the capital structure of Latin American firms. Jorgensen and Terra (2003) analyzed the traditional firm-specific determinants of capital structure and the relevance of country-specific factors for the corporate leverage decision of Latin American firms thereby testing whether macroeconomic or institutional factors could account for these relevance.

Panel data techniques were employed to sample of over 700 firms from Argentina, Brazil, Chile, Colombia, Mexico, Peru and Venezuela in the period of 1986-2000. For the purpose of comparison, samples of 132 firms were also drawn from the United States. The results of this study revealed that the empirical evidence of traditional single country capital structure models shows that the determinants of capital structure and their effects seem similar among developing countries and between the developing countries and firms in the United States. The study therefore posited that there seems to be important idiosyncratic effects that cannot be accounted for by existing theory-suggested firm-specific factors and some support were found in favour of the pecking-order theory. One of such idiosyncratic factors noted by the study is managerial discretion in making capital structure choice for the firms. The results reported from the pooled estimation suggested that country-specific factors whether institutional or macroeconomic were significant in explaining capital structures but seem not to matter decisively. This particular finding ran contrary to the results of previous studies like Ragan and Zingales (1995), Demirguc-Kunt and Maksimovic (1996a&b), Caprio and Demirguc-Kut (1997), Demirguc-Kut and Maksimovic (1999), Booth et al. (2001) and Fan, Titman and Twite (2006) that recorded the significance of institutional and macroeconomic factors in the determinants of

capital structure of firms. Jorgensen and Terra (2003) found the explanatory power of such factors to be well offset by the much important firm-specific factors.

Another interesting study by Bokpin (2009) capture the role of macroeconomic factors along with firm specific factors as determinants of capital structure of firms. Bokpin (2009) examines the impact of macroeconomic factors on capital structure decisions of firms in 34 emerging market countries. The study employed the seemingly unrelated regression approach to mitigate the effects of endogeneity and multicollinearity as well as test the stability of parameters estimate across the countries and panel data regression method to estimate the specified model of the study. The study cover the period of 17 year between 1990-2006. Bokpin (2009) reported a positive but insignificant relationship between dividend payout ratio and firms' leverage and the choice of short term debt over equity. Statistically insignificant negative relationship was reported between dividend payout, debt ratio and external financing. Negative relationship was documented between asset tangibility and all the capital structure measures. The result of the relationship between profitability and capital structure show statistical significant negativer relationship. However, statistically significant positive relationship was found between investment opportunity and choice of external financing. Similar positive relationship was also found between risk and all measures of capital structure employed by the study except financial leverage. This relationship was not found to be significant. The relationship between financial leverage and risk was found to be negative and statistically insignificant.

The study also reported that stock market capitalization to GDP was found to be insignificantly negatively related to financial leverage and debt, but found to be positively statistically insignificantly related with choice of both external financing and short-term debt over equity. Bank credit was found to be positive and statistically significantly related with financial leverage and the choice of short term debt over equity. The study also reported negative statistically significant relationship between bank credit and total external financing. Statistically

insignificant positive relationship was found between bank credit and debt ratio. Inflation and the measures of capital structure used in this study except external financing was found to be statistically insignificant and negatively related. However, external financing as measure of capital structure was found to be positively related to inflation. GDP per capita was found to be statistically significant and negatively related with the measures of capital structure except for external financing that was found to be insignificant. Interest rate was found to be significant and positively related to short term debt over equity and insignificant in most of the other measures of capital structure choices.

Macroeconomic condition is a crucial factor in the emerging economies that cannot be ignored in the assessment of their capital structure as firm specific factors are likely to vary with the macroeconomic conditions. Yeh and Roca (2010) noted that firm specific determinants of capital structure for instance may vary with macroeconomic conditions. They asserted that there are more future investment and growth opportunities available at economic trough than at economic peak thus suggesting that firms would adjust their capital structure in response to the change in growth opportunities arising from the fluctuation of macroeconomic conditions in particular at economic trough and peak. Therefore, macroeconomic conditions have to be taken into account when firms determine their capital structure decisions. To test these assertions empirically. They provided new perspective on the impact of macroeconomic conditions and their interactions with firm-specific variables on capital structure over the business cycles.

The study used the partial adjustment model with the financial constraint of over-leverage and under leverage being accounted for to examine the impact of macroeconomic conditions on capital structure in the context of the textile, plastics and electronics industries in Taiwan. The empirical results show that macroeconomic conditions have positive effect on capital structure decisions for firms with the financial constraint of under-leverage relative to the target debt ratio. Additionally, the results indicated that the interaction between macroeconomic

conditions and firm specific variables also affect capital structure decisions. However, the results show that this effect depends upon whether the firms are over-leverage or under-leverage relative to their target debt ratios. Furthermore, the study found the variation in the rate of adjustment towards their target debt ratios to be dependent on whether the firms are over – leverage or under –leverage through their debt ratio target.

The findings of this study is consistent with some previous similar studies that examined the effect of macroeconomic conditions on capital structure decisions of firms. One of such study is the prominent study by Miller (1977) that reported that the debt ratios of the typical non-financial companies in the United States varied with the business cycles between 1920 and 1960 and in addition, debt ratios tend to fall during economic expansions. The findings of this study also supported the work of Ferri and Jones(1979) that found positive relationship between macroeconomic conditions and capital structure in their assessment of the determinants of capital structure for the years during expansion and recession.

The findings of the above studies were not consistent with the findings of Korajczyk and Levy (2003) that examine the impact of macroeconomic conditions on capital structure by splitting sample firms into financially constrained and financially unconstrained thus allows them to test whether the traditional theory and the pecking order theory can explain the effect of financial constraints and macroeconomic conditions on capital structure decisions. They found leverage to be counter-cyclical for financially unconstrained firms. Another study that supported the counter cyclical position of the study by Korajczyk and Levy (2003) was the study of Levy and Hennessy (2007). They developed a general equilibrium model for corporate financing over the business cycles. They argued that managers would hold a proportion of their firm's equity in order to avoid agency conflicts. They argued further that firms finance less debt due to the increases in managerial wealth and in risk sharing during expansion than during contractions.

Based on their simulations, Levy and Hennessy reported a counter-cyclical variation in leverage for less constrained firms.

A more comprehensive and robust study by Michalca (2011) tried to identify the determinants of capital structure for 109 listed companies on the Bucharest Stock Exchange and RASDAQ in Romania. The study attempted to validate the assumptions of the capital structure theories that best explain the financing behavior of Romanian firms and the differences regarding some specific financing decisions of firms in the developed and the developing countries. Michalca (2011) found that Romanian firms have lower long-term debt ratios and total debt ratio than developed countries resulting from macroeconomic conditions. The macroeconomic conditions favoured the use of equity as financing sources because of high market value during economic growth period. Inflation uncertainty was also noted to be responsible for the lower debt ratios of Romanian firms during these period. They posited that inflation uncertainty increases the firm's business risk, the volatility of the firm's operating income and the probability of insolvency thus make firm to choose equity rather than debt thus resulting in a low debt ratio. The last factor that was observed to be responsible for the lower debt ratio of Romanian firms is the high reference interest rate established by the Romania National Bank which imposes high level of interest rates on firms thereby forcing them to pay more on debt financing therefore firms in Romanian were pushed to use other financing sources such as reinvested profit and issuance of equity. Furthermore, the empirical results revealed that the relationship between profitability and total debt ratio is negative and statistically significant. They asserted that this result supports the pecking order theory as explained by Myers & Majluf (1984) which states that more profitable firms use less debt since these firms can use available internal financing resources. Michalca (2011) stressed further that another explanation for the negative relationship between profitability and total debt ratio in Romanian firms could be related to the assumptions of the "new pecking order theory" posited by Chen (2004).

Michalca (2011) related that the theory stipulated that banks from the developing countries provide short-term loans rather than long-term loans, thus firms have to finance their investments with equity. The study however, opined that in these countries shareholders' protection laws are weak and managers prefer retained earnings as financing resource.

The result revealed a positive and significant relationship between firm size and total debt ratio which suggested that large firms are more diversified, less prone to bankruptcy and implicitly they have a higher debt ratio. The study reported a negative significant relationship between total debt ratio and tangible assets. They noted that this suggested that firms with high proportion of tangible assets have a lower debt ratio which is contrary to the assumptions of the trade-off theory and to the results obtained for developed countries as documented in the studies of Rajan & Zingales, 1995; Titman & Wessels, 1988). The trade-off theory related that tangible assets were used as collateral for debt. Michalca (2011) however, observed that the use of tangible asset as collateral for debt is constrained by certain factors such as underdeveloped legal systems and illiquid secondary market as a result the negative correlation between assets tangibility and debt ratio portrays the true nature of developing countries.

To assess whether the firm specific determinants of capital structure of Romanian firms differs when capital structure is measured using total debt ratio or long term debt ratio. The dynamic model estimated using long term debt ratio as dependent variable shows that firm size and assets tangibility were statistically significant. The study therefore established that differences arises between the correlation of the determinants of capital structure and total debt ratio. Similarly, the same was reported between the determinants and long-term debt ratio when the determinants employed were firm size and assets tangibility. Regarding the firm size, the study found it to be positive and statistically significant for the total debt ratio, but negative for the long-term debt ratio. The study reported asset tangibility to be negatively related to total debt ratio and positive but not statistically significant for the long term debt ratio. The study argued

that this implies that large listed- firms prefer short-term loans as financing sources rather than long-term loans and when they use long-term loans the tangible assets may be used as collateral.

The study went further to assess the influence of capital market on the Romanian firms capital structure. The descriptive analysis of the market timing behavior of Romanian firms was carried out by comparing the mean of price earnings ratio (PER) for Bucharest Stock Exchange with the number of Romanian listed firms that have conducted share capital increase through new contributions in cash by the period 2000-2009. The findings indicate that the correlation coefficient between the PER index and the number of Romanian listed firms that have conducted share capital increase through new contributions in cash revealed a strong positive result. This indicates the existence of a market timing behavior in the financing decisions of Romanian listed firms. The outcome of this study represent one of the recent effort to test the market timing theory of capital structure. It also provide new theoretical perspective challenging the applicability of the capital structure theories developed from the developed countries to the transition and developing countries context. Particularly, the support it gave to the “new pecking order” theory of capital structure is a pointer to the fact that new line of thinking on capital structure theories is emerging from the developing countries.

Another interesting study on capital structure of transition economies in Eastern Europe carried out by Joeveer (2013) examine the role of firm specific, institutional and macroeconomic factors as determinants of capital structure of listed and unlisted firms in nine Eastern European countries (Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia) from 1995 to 2002. The study employed both the ANOVA and the ANCOVA models to capture the categorical and continuous variables employed by the study. The ordinary least square method was employed to estimate the models separately for the listed and the unlisted firms. The study reported that the largest share of listed firms’ leverage variation irrespective of leverage measure or size was accounted for by industry factors. A contrary result

was reported for the unlisted firms as the results were robust to the leverage measure used. The results of the broad measure of leverage revealed that the firm specific factors explained more of the variation in the leverage of the firms while the results of the narrow measure indicated that the country-specific factors provide better explanation for the variation in the leverage of the firms. They study also reported that the immeasurable country institutional differences explain as much as 25% of unlisted firms broad leverage variation. The results across various size classes show that country factors were the most significant explanatory factors for both leverage measures for smaller unlisted firms. The study argued that smaller firms seem to be more constrained by the financial market in their country of incorporation. The study also observed that the regression analysis results show some surprising coefficient for some firm-specific variables in some specifications particularly negative signs on tangibility and firm size. Equally, country characteristics were found as significant determinants of leverage particularly for unlisted firms.

Overall, the review of empirical studies indicate that both firm specific and external factors are crucial in the analyses of capital structure of firms. This current study therefore examine the firm specific and country factors as determinants of capital structure of firms in Nigeria within the agency cost theoretical model of capital structure.

2.3 Review of Empirical studies on capital structure and firm performance.

2.3.1 Preamble

This section of chapter two of the thesis is devoted to the review of relevant empirical studies that focus on the relationship between capital structure and firm performance. Empirical studies that used samples of firms from developed and developing countries were examined exhaustively in this section. Studies that used different indicators of performance such as financial performance and efficiency as measures of performance were also reviewed. In the

same vein, empirical studies that have tested the efficiency-risk and franchise hypothesis of reverse causality from performance to capital structure were equally examined in this section of the chapter.

2.3.2 Summary of some review studies on capital structure and firm performance

The summary of some empirical studies are hereby presented in table (2) below:

Table 2: Review of selected empirical studies on capital structure and firm performance

Author(s)	Country	Method	Key Findings
Modigliani and Miller (1958)	United States	Two-stage Instrumental Variable approach	Capital structure does not affect the performance and value of firm
Abor (2005)	Ghana	Panel data Regression method	Capital structure was found to be negatively related to firm performance. The study argued that this support the pecking order theory
Zeitun and Tian	2007 ,Jordan	Random effects panel Regression method	The study found negative relationship between capital structure and firm performance
King and Santor (2008)	Canada	Panel data Techniques	Capital structure was found to be negatively related to performance
Berger and Bonaccorsi di patti (2006)	United States	Two stage least squares and Granger causality test	The study found that higher leverage is associated with higher profit efficiency. They supported both the efficiency-risk and the franchise value hypotheses.

Margaritis and Psillaki (2010)	New Zealand	Quantile Regression method	They found support for the agency cost hypothesis that higher leverage result into improved performance. The study also supported the efficiency risk hypothesis.
Asimakopoulos et al (2009)	Greece	Panel data Regression method	Capital structure was found to be negatively related to performance
Salim and Yadav (2012)	Malaysia	Panel data Regression method	Capital structure was reported to be negatively associated with performance
Ebaid (2009)	Egypt	Pooled Regression method	Capital structure was found to have a weak to impact on firm performance

One important organisational decision for most firms is the financing choice decision. This is because the financing choice of firms have very great tendency to impact their performance. But the theoretical proposition that laid the foundation for other theoretical and empirical studies in the capital structure literature opined that the capital structure choice of the firms do not alter their value and by extension their performance. This theoretical proposition was first tested in the pioneering and seminal article by Modigliani & Miller (1958) refer later as (M&M). They tested the relationship between capital structure and firm value under the perfect market assumptions in the United States Petroleum, oil and electricity industries using the two – stage instrumental variable approach. They found value of firms not to be influence by their capital structure.

Five years later, Modigliani and Miller (1963) corrected their previous assumption of no taxes under the perfect market classical assumption by incorporating corporate income taxes into their model, because of the tax deductibility of interest payment at the corporate level, capital structure was found to have an increasing effect on the value of firm. They noted that this is because interest payments were deducted in arriving at the profit figure on which taxes is charge. They argued that these payments reduce the corporate tax liability. This corporate tax model asserted that the value of firm will be at the maximum with 100 percent use of leverage financing. Neither of these predictions reflects objective reality of the world (Ismail, 2006). Rarely would firms use 100 percent debt in their capital structure in real life.

Fourteen years later, Miller (1977) presented another model that incorporated personal income taxes to the existing corporate tax model. Their study asserted that the corporate tax benefit of debt may be offset by the tax disadvantage of interest payments at the personal level. Miller (1977) hypothesised that if personal tax rates on interest income are relatively higher than the personal tax rates on equity, then the gains to corporate leverage can largely be discounted or even eliminated entirely, thus reverting to the irrelevant results of capital structure earlier reported in the MM(1958) study. Since this position has been held by Modigliani and Miller, several theoretical and empirical studies have been conducted in the capital structure literature.

The theoretical studies culminated largely into three main theories: The trade-off theory, pecking order hypothesis and agency cost theory. Lately, the market timing also evolved. All the theories aimed at relaxing the assumptions of the Modigliani and Miller (1958) irrelevance theory. In the same vein, several empirical studies have been conducted in the capital structure literature to test the validity of these theories to establish that capital structure choice of the firm influences the performance and value of the firm. The empirical studies have documented mixed findings and inconclusive evidences on the relationship between capital structure and firm performance.

The empirical studies can be categorised into two strands. The first strand found positive relationship between capital structure and firm performance while the other strands of studies documented negative relationship between capital structure and firm performance. One interesting study by Abor(2005) employ panel estimation methods to examine the relationship between capital structure and profitability of firms of listed firms in Ghana from 1998 to 2002. The findings of this study indicates that significant positive relationship exist between short term debt ratio and return on equity. Similar positive result was reported between total debt to total capital and return on equity. The finding of this study support the tradeoff theory. However, the findings equally indicates that negative relationship exist between long term debt to total capital and the return on equity which supports the pecking order theory of capital structure.

In a related study carried out specifically on small and medium enterprises in Ghana and South Africa. Abor (2007) investigated the impact of debt policy on performance of small and medium enterprises in both Ghana and South Africa. The study used the Generalized Least Squares (GLS) panel model for the estimation and other descriptive statistics method such as the t-test. The results of the T-test indicated that Ghanaian SMES have significantly higher short term debt and trade credits than their South Africa counterpart. The results of the test however revealed that SMES in South Africa use more long term debt than Ghanaian SMES. The same applies to total debt as the results show that SMES in South Africa have more total debt in their capital structure than the Ghanaian SMES.

The regression results show that short term debt have significant negative effect on performance when gross profit margin was used to represent performance for both Ghana and South Africa. The study results also indicated that long term debt was significant and positively related with gross profit margin for SMES in both countries. But the effect of total debt on gross profit margin was found to be significant and negatively related to gross profit margin. A similar result was reported between trade credit and gross profit margin for both South Africa and

Ghana. The control variables of size and sales growth were found to be significant and positively related to gross profit margin for all measures of debt except the total debt measure that show a significant negative relationship between growth and gross profit margin for the Ghanaian samples. The results of the South Africa samples indicated that size is positively related with gross profit margin for all measures of short term debt and trade credit. The result of long term debt was found to be insignificant and that of total debt was reported to be negative. Sales growth as a control variable in the South Africa sample indicated that a significant positive relationship with gross profit for all measures of debt.

When return on asset was used as proxy of performance. The Ghanaian sample indicated that significant negative relationship exist between all the measures of capital structure and return on assets. Similar significant and negative relationship was also reported between firm size and return on asset for all the measures of debt. Sales growth as a control variable revealed statistically positive relationship with long term debt, total debt and trade credit but was found not to be statistically significant for short term debt. The South Africa sample indicated that statistically significant positive relationship exist between short term debt and return on assets. Statistically significant relationship was also reported between trade credit and return on assets.

The result also revealed that significant and negative relationship exists between return on assets and long term debt and total debt. Firm size and return on assets was also found to be significant and negatively related for measures of short term debt, long term debt and total debt. Statistically significant positive relationship was reported between size and return on assets for the trade credit model. The result indicates a significant negative relationship between sales growth and return on assets for measures of short term debt and total debt but statistically significant positive impact on return on assets for measures of long term debt and trade credit. The results of the study also indicated that statistically significant positive relationship exist between financial performance and short term debt as well as trade credit when Tobin's q was

employed as measure of performance for the listed SMES in South Africa. However, the result showed a significant negative relationship between Tobin's q and long term debt and total debt ratios. The study also reported that firm size and sales growth were found to be positively related to Tobin's q.

A related study to the work of Abor (2007) conducted by Zeitun and Tian (2007) on 167 listed non-financial Jordanian firms between 1989-2003 examines the effect of capital structure on the performance of these firms by using the different measures of performance such as return on assets (ROA), return on equity (ROE), earnings before interest and tax plus depreciation to total assets (PROF) which are accounting measure of performance. Tobin's q, market value of equity to the book value of equity (MBVR), price per share to the earnings per share (P/E) and market value of equity and book value of liabilities divided by book value of equity were used as market measure of performance. The study employed the random effects panel regression to estimate the models. The results indicate that capital structure has significant negative impact on the performance of firms when accounting and markets measures were used as proxies of performance. This finding supports the position of Abor (2007). However, they reported positive significant relationship between capital structure and performance when capital structure was measured by short-term debt to total assets and the market measure (Tobin's Q) was used to proxy performance. The findings indicate that the Gulf crisis from 1990-1991 have a positive impact on Jordanian corporate performance but they reported that the outbreak of Intifada (War) in 2000 was found to have negative impact on the corporate performance of Jordanian firms.

A similar study by Onaolapo and Kajola (2010) focus on thirty listed firms in Nigeria from 2001 to 2005 using the Pooled ordinary least square method. The study reported significant negative relationship between the two measures of performance and debt ratio which they contended supported the agency cost theory of capital structure. They also reported that asset

turnover, size and age are important determinants of financial performance of firms in Nigeria. The study findings indicate that negative and significant relationship exist between asset tangibility and return on asset.

To account for the impact of ownership on firm performance and how it interact with capital structure. King and Santor (2008) examine the relationship between ownership structure, performance and capital structure of 613 Canadian firms from 1998 to 2005. Panel data techniques was employed to control for unobserved firm heterogeneity and account for the effect of control and ownership separately. The estimated results of the first model that tested the effects of ownership on performance and use financial leverage as one of the explanatory variables revealed that size, return on asset and financial leverage were found to be negatively correlated to Tobin's q. Sales growth, industry q, membership in the TSE 300, capex-to sales and cross-listing q, membership in the TSE300 and cross-listing on a US exchange were found to be positively related to Tobin's q. Firm age was found not to be significant. They found higher levels of control above 20% to be negatively correlated to Tobin's q.

The results of this study also indicated that it is only family owned firms that have lower Tobin's q relative to widely held firms. They reported that firms with corporate and financial owners do not show statistically different Tobin's q ratios from widely held firms. The control variable use to measure the wedge between control rights and cash-flow rights indicated a strongly negative and significant result. The results of the second model that capture the effects of capital structure on ownership revealed that higher level of control is related with higher financial leverage. The results also indicated that the types of controlling owners are very important as family and financially controlled firms have higher leverage. They reported that financial leverage was not found to be statistically different in situations where control rights exceed cash-flow rights. The study therefore concluded that free standing family owned firms that have single share class have similar market performance than other firms based on Tobin's q

ratio, superior accounting performance based on ROA and higher financial leverage based on debt-total asset.

A related study by Ebaid (2009) examines the empirical relationship between debt level and financial performance of 64 listed non-financial Egyptian firms. The study shows that a negative significant relationship exists between short-term debt, total debt and financial performance measured by Return on Asset but the relationship between financial leverage and ROA was not found to be significant when long-term debt was used as a measure of financial leverage. The study also reported that short-term debt, long-term debt and total debt were found not to have significant influence on financial performance when it was measured by ROE and Gross Margin. Generally, they assert that the results show that the capital structure choice has a weak-to-no impact on firm's performance in Egypt. Asimakopoulou, Samitas and Papadogonas (2009) improved on other studies that have examined the performance of firms that largely focused on firm-specific variables as drivers of performance. They examine firm-specific and economy-wide determinants of firm profitability of non-financial firms listed on the Athens stock exchange from 1995-2003. The study considered the pre-European Union and the post-European Union periods. Panel data regression method was employed by this study. Profitability of the firm was found to be positively affected by the size of the firms, sales growth and investment. However, leverage and current assets were found to be negatively related to the profitability of the firms. They also document that Greek firms were not ready to be exposed to competition that resulted from joining the EMU and adopting the Euro currency.

Another interesting study by Liew (2010) investigated two main issues that are related to the key financial performance features of listed real estate companies in 24 countries and three continents over 2000 through 2006 for 336 public real estate investment and development firms. Liew (2010) examines whether successful listed real estate companies have similar characteristics. This paper was based on value-based planning that sees shareholder value creation as main

objective. The study therefore investigated the determinants of firm value and identifies the financial variables that are most crucial as predictors of stock market success of listed real estate firms when Sharpe ratio and Jensen alpha were used as measures of stock market success.

The study model four main corporate performance equations through the use of system equation approach. The study established link between the stock market and financial performance of the companies as well as examine the key financial performance indicators of successful real estate companies. The iterated Weighted Two stage Least Square (ITW2SLS) estimation method was employed by this study. The study focuses on companies in Asia, Europe and North America. The study found that real estate companies that are successful are generally very large in terms of size. They also command attractive market valuation in relation to their underlying book value. The study equally reported that these successful firms are usually profitable and use financial leverage to their advantage. It was also documented by this study that the financial variables that affect successful performance are very similar for all countries and regions but they differ in degree and at times the influence work in opposite direction.

Further study on capital structure and firm performance by Majumdar and Sen (2010) examines the role of different types of debt on the strategic behaviour and performance of firms in India used firm level data for 1,052 Indian firms listed on the Bombay Stock Exchange from period 1988 to 1993. The ordinary least squares and instrumental variables equations were used to examine the effects of debts on performance. The regression result indicates that only fixed deposit have significant and positive relationship with performance. Other types of debt were not found to be significant.

In a related study, San and Heng (2011) investigated the relationship between capital structure and performance of Malaysian firms in the construction sector before and during crisis that started since 2007. The study span from 2005 to 2008 and covered 49 listed construction companies in Main Board of Bursa Malaysia which were divided into big, medium and small

sizes based on their paid-up capital. Pooled regression method was employed to estimate the model. The results indicated that for big companies return on capital was found to be positively related to debt to equity market value. The same positive relationship was found between earnings per share and long term debt to capital. However, earnings per share were found to be negatively related with debt to capital. They also reported that operating margin and long term debt to common equity were positively related for medium companies and earnings per share and debt to capital has negative relationship in small companies.

More recent study on Malaysian listed firms by Salim and Yadav (2012) examine the effect of capital structure on performance of listed firms on the Bursa Malaysia stock exchange from 1995 to 2011 using panel data regression method. The results indicate that capital structure measured by total debt and short term debts have negative impacts on ROE. This result is consistent with Ebaid (2009). Long term debt and Total debt as measure of capital structure has negative impact on the performance of firms when it was measured by ROA. This supports the findings of Zeitun and Tian (2007) and Abor (2007) that indicates that the performance of firms is negatively related to capital structure. The study also documented that Tobin's Q has positive and significant impact with short term debt, long- term debt and total debt. They also documented positive relationship between Tobin's Q and size.

All the above reviewed empirical studies employed financial performance indicators as measures of performance. But there are empirical studies in the capital structure literature that documented that the financial measures of performance of firms is a very limited measure of performance because it is not capable to identify how the input factors have been used to generate the desired optimal output by the managers of the firm. These empirical studies employed efficiency as a measure of performance rather than the financial performance measures.

One of the path breaking studies that use efficiency measure of performance conducted by Berger and Bonaccorsi di Patti (2006) provides new perspective to test the agency cost theory in the United States Banking industry. Specifically, they investigated the relationship between capital structure and firm performance of Banks. They argue that their choice of the Banking industry is informed by the fact that agency cost is naturally very high in the banking industry because the banks have more private information on their loan customers (information opaque). They equally noted that the agency problems of banks are worth examining because the banks have very high tendency to engage in risk shifting or lax risk management because they have access to government deposit insurance and other safety net protections which may increase the agency costs of outside debt.

Berger and Bonaccorsi di Patti (2006) tested the agency cost theory, efficiency-risk and franchise value hypothesis in banks in the United States. The two stage structural equation method was used to estimate the two equations structural model that takes into account reverse causality from firm performance to capital structure. This study found mainly that higher leverage or a lower equity capital ratio to be associated with higher profit efficiency over almost the entire range of the observed data of the study. The effect was found to be economical and statistically significant. They also reported that neither the franchise-value nor efficiency-risk hypotheses dominate the other over the range of data. Margaritis and Psillaki (2007) provide further evidence on the relationship between capital structure and firm performance of French firms.

Margaritis and Psillaki (2007) departed largely from past studies that have investigated the relationship between capital structure and firm performance including the novel study of Berger and Bonaccorsi di Patti (2006) by using the non- parametric efficiency measure that capture the industry's best practice production frontier using data envelopment method(DEA). Similarly, this study is one of the pioneers that used quantile regression method to test the way capital structure

would affect performance across spectrums of firms and compare the findings with OLS. Samples of 12,240 New Zealand firms from the 2004 Annual Enterprise survey was used in this study. The results revealed that both the linear and quadratic leverage terms significantly affect efficiency. The effect was reported to be positive at the mean of leverage and over the entire relevant range of leverage values. This findings support the agency cost hypothesis that higher leverage lead to enhance efficiency. Industry concentration was also found to be positively related to efficiency. They also reported that firms that are exposed to international trade or those that have intangible assets are more efficient. The results of their study also indicated that firms that operate in the tradable sector and those with substantial intangible investment opportunities are generally expected to use better technologies and employ better managers thereby assist them to achieve improved efficiencies. However, the results show that firm size and risk were negatively related to efficiency. The study observed that the negative relationship between size and efficiency could indicate the loss of control as a result of inefficient hierarchical structures in the management of the company.

The results of the leverage model specified to test the efficiency-risk and franchise hypotheses across the different range of leverage revealed that industry effects captured by industry dummies was a significant determinants of leverage. They also reported that risk and growth were not significant factors that explain capital structure of firms. The study observed differences between the conditional mean (OLS) and conditional median regression results. They claimed that this difference could be a result of the asymmetry of the conditional leverage distribution also as a result of the strong effect exerted on the least squares estimates by high leverage data points. They equally observed that the results also differ when they considered the effect of the different factors on leverage at other quantiles. They reported that the OLS results show a significant negative relationship between efficiency and leverage. This finding supports the franchise value hypothesis and contradicted the efficiency-risk hypothesis supported in the

study of Berger and Udell (2006). Fixed asset and profitability was found to be positively related to leverage which supported the trade-off theory and contradicted the pecking order theory. The OLS results indicated that intangible and other assets were found to be negatively related with leverage. They asserted that this finding conforms to the position of Myers (1977) that firms with expected growth opportunities would maintain low leverage levels in order to prevent adverse selection.

The quantile regression results indicated that efficiency is positive and significantly related with leverage in the low to median range of the leverage distribution. The study asserted that this finding supports the efficiency-risk hypothesis. The results also indicate that at higher leverage levels the income effect of higher rents dominates the substitution effect of higher efficiency over equity capital. This supports the franchise value hypothesis. The quantile regression result also indicates that tangible assets to be positive and significant across the entire range of the leverage distribution. Profitability was also reported to be positive and significantly related to leverage for firms at low and at high leverage quantiles. Intangibles and other assets were found to have a negative effect on leverage. Concentration index was found to be positively related with leverage for low debt firms. This effect was found not to be significant for more levered firms. The effect of firm size on leverage was found to be positive for firms in the middle to upper half of the leverage distribution. They also found the effects of firm size on leverage to be negative at low debt ratios.

A related study by Margaritis and Psillaki (2010) provides better understanding and empirical evidence on how competing hypotheses may behave at different segments of the relevant data distribution and cautions against the standard practice of drawing inferences on capital structure studies that have used conditional mean (OLS) estimates. Margaritis and Psillaki (2010) investigate the relationship between capital structure, equity ownership and firm performance of a sample of French firms from two traditional manufacturing industries (Textiles

and Chemical) and growth industry (Computer and other related activities and R&D) from 2002 to 2005. Specifically, they examine the direct effect of leverage on firm performance as postulated by Jensen and Meckling (1976) agency cost model. Equally, they assess the effect of firm efficiency on capital structure and investigated whether this effect is similar or not across different capital structure choices thereby tested the reverse causality efficiency-risk and franchise hypotheses.

Equally, the study examines explicitly the role of equity ownership on both capital structure and firm performance. The study employed a two equation cross-section model to test the agency cost hypotheses and the reverse causality hypotheses. The quantile regression analysis method was employed to estimate the two conditional hypotheses in order to capture the capital structure choices of different subsets of firms. The study found support for the prediction of the Jensen and Meckling (1976) agency cost hypothesis. Higher leverage was found to lead to improved performance in terms of efficiency over the entire range of the data. They also documented that the alignment and entrenchment agency effects of ownership concentration vary across industries and across concentration ratios. They reported that more dispersed firms face higher agency costs. They also found family firms outperform non family firms. The quantile regression used to estimate the leverage model that tested the efficiency-risk and franchise-value hypotheses indicated that the effect of efficiency on leverage was found to be positive in the low to high ranges of the leverage distribution thereby provide support for the efficiency risk hypothesis. This is in line with the findings of Berger and Bonaccorsi di Patti (2006) and Margaritis and Psillaki (2007). They also found more concentrated ownership to be generally associated with more debt in the capital structure. However, they found no evidence to support that ownership type has an effect on leverage choices.

Contrary to the study of Berger and Bonaccorsi di Patti (2006) that used profit efficiency and Margaritis and Psillaki (2007& 2010) that measure efficiency using X efficiency as proxy of

firm performance. Yeh (2011) employed the dual of X-efficiency to measure performance of Banks in Taiwan. The stochastic frontier approach was used to determine cost efficiency as indicator of firm performance. The study argue that this method is superior to the data envelopment method employed by previous studies to estimate profit efficiency because it takes into account producer-specific random shocks to generate a relatively stable efficiency index for each firm. Yeh (2011) examines whether Banks in Taiwan can minimise the agency costs to improve on their performance. The study employed the two stage least squares (2SLS) method to test the relative influence of firm performance, capital structure and ownership of 44 Taiwanese Banks from 1999 to 2004. The findings indicate that an optimal relationship exists between leverage ratio and performance. The study conforms with the agency cost theory of capital structure as the submissions of other similar studies that have used efficiency as measure of performance rather than financial performance (Berger and Udell, 2006; Margaritis and Psillaki, 2007, 2010). The author also asserted that the findings of the study indicated that reducing managerial shareholdings will decrease agency costs and increase firm performance. Similarly, positive relationship was reported between firm size and firm performance which the author posited that it is as a result of the synergies associated with economies of scale, simplified merger procedures and favourable tax treatment that arises from the Taiwanese government led merger promotion policy that encourage banks to undergo mergers. The result of the second model also indicated positive relationship between cost efficiency and leverage ratio. But the square of cost efficiency was found to be significant and negatively related to leverage ratio. The author noted that these results imply that highly efficient banks are generally better able to prevent bankruptcy and financial crisis as well as increase their leverage ratio to raise funds for the purpose of pursuing growth.

Generally, the empirical evidences on capital structure and firm performance are mixed and inconclusive. The empirical irregularities necessitate further investigation on how capital

structure influence firm performance particularly in emerging market context (Nigeria) using agency cost theoretical model by Jensen and Meckling (1976). This is to establish the portability of the agency cost theoretical model in a context with institutional and structural differences from the developed markets where the model was developed.

CHAPTER THREE

METHODOLOGY OF THE STUDY

3.0 Preamble

This chapter explains the research approach used in this thesis. It also discusses the steps involved in conducting the research and the challenges faced in the process. The hypotheses were developed based on the research questions using the theoretical predictions of the agency cost theoretical model embedded in the trade-off theory of capital structure and the findings of prior empirical studies as well as observations peculiar to the study setting (Nigeria). Secondly, the justification and explanations of the methodology employed in this thesis is provided. The chapter provides argument to support the fact that the strategy employed by this study is the most feasible and realistic strategy considering the kind of research questions, scope and other constraints that the researcher faced. Lastly, sources of data for the study, population and the sample used in the study are discussed.

The main focal points of this thesis are largely three First, to examine the causal relationship between capital structure and firm performance. Second, ascertain the firm specific and country factors that influence capital structure decisions and speed of adjustment of firms towards their target capital structure. Third, establish the portability of the agency cost theoretical model of capital structure in the Nigerian setting.

3.1 Development of Hypotheses: Determinants of capital structure

3.1.1 Development of Hypotheses: Firm specific factors and capital structure

Several theoretical and empirical studies have established the role of firm specific factors as determinants of capital structure of firms. The firm level factors identified in the agency cost theoretical predictions as discussed in chapter two of this thesis were used in the development of

hypotheses specified to ascertain the firm specific factors that drive capital structure of firms in Nigeria.

3.1.1.1 Firm size and leverage

Agency cost theory predicts dual relationship between firm size and leverage. The positive relationship is based on the fact that firms employed long term debt to mitigate the excesses of managers. This usually applies in large firms where managers do not have controlling interest. Large firms tend to have access to debt at cheaper cost than small firms because they are diversified and have reputation as well as capacity to repay their debt than small firms. Agency problem is more prominent in large firms than small firms as the principal (shareholders) are usually separated from the agent (managers). But in most small firms ownership is not well separated from control.

However, where the managers have controlling interest in the firm, they tend to grow the firm to large size and ensure their interest is well protected such that they have continuous access to perks and perquisites as well as opportunities to engage in empire building. The controlling managers avoid the use of debt even when it is available at cheaper cost to prevent bankruptcy and the taken over of the firm by outsider. Based on this, agency cost theory predicts negative relationship between firm size and leverage.

Several empirical studies have confirmed the positive theoretical prediction between firm size and capital structure as posited by the agency cost theory. Empirical studies that confirm this theoretical prediction include: Titman and Wessel (1988), Rajan and Zingales (1988), Wiwattanakantang (1999), Al-Sakran (2001), Green and Mutenheri (2002), Deesomsak et al., (2004), Boteng (2004), Hovakimian et al., (2004), Zou and Xiao (2006), Salawu (2007), Karadeniz et al., (2008), Haung and Song (2008), Salawu and Agboola (2008), Qian et al., (2008), Abor and Biekpe (2009), Qian and Wirjanto (2009), Sheik and Wang (2011), Akinlo (2011), Michalca

(2011). Contrary to the positive theoretical prediction of the agency cost theory. Other empirical studies documented negative relationship between size and capital structure to support the negative prediction of the agency cost theory as regard firm size and capital structure. Empirical studies that documented negative result include: Chen (2004), Joeveer (2003), Chakraborty (2010), Shehu (2011) and Chandrasekharan (2012).

Based on the theoretical prediction of the agency cost theory and the mixed findings in the empirical literature. The study employed the natural logarithms of total asset as a measure of firm size of listed firms. This study hypothesized that:

H₀₁: There is no statistical significant relationship between firm size and leverage

H₁₁: There is statistical significant positive relationship between firm size and leverage

3.1.1.2 Profitability and leverage

The agency cost theory predicted that profitability should be positively related to leverage. This theoretical prediction is hinged on the fact that debt is used by the firm as a measure to prevent managers to have access to excess cash flow that can enhance their opportunistic behaviours. As firms become more profitable, they have the capacity to obtain debt and repay as at when due. Therefore, firms use debt as a measure to prevent managers from having access to excess free cash flow that can increase their perks and perquisites. Similarly, the free cash flow can make managers engage in other activities that are not value enhancing for the firm. Firms therefore use debt to forestall it.

Several empirical studies in the literature have found theoretical support for the positive predictions of the agency cost theory as regards the relationship between profitability and leverage based on the above explanation. Among these studies include: Salawu and Agboola (2008), Shehu (2011), Chandrasekharan (2011), Barine (2012). However, other studies have reported negative relationship between profitability and leverage. These studies include: Al-

Sakran (2001), Chen (2004), Deesomsak et al., (2004), Xiao (2006), Salawu (2007), Qian et al., (2008), Qian and Wirjanto (2009), Chakraborty (2010), Sheik and Wang (2011), and Akinlo (2011).

Based on positive theoretical prediction between profitability and leverage by the agency cost theory and the empirical studies that have found support for this prediction. The study employed the ratio of earnings before interest and tax to total assets as measure of profitability. The study hypothesized that:

H₀₂: There is no statistical significant relationship between profitability and leverage

H₁₂: There is statistical significant positive relationship between profitability and leverage

3.1.1.3 Asset Tangibility and leverage

Agency cost theory predicts positive theoretical relationship between asset tangibility and leverage of firms. This theoretical prediction is based on the fact that firms with tangible asset tend to use more debt in their capital structure. This is because the tangible asset can serve as collateral to secure the debt in the event of bankruptcy. Then, the debt would provide opportunity to monitor the managers indirectly and reduce their opportunistic behaviour. The managers would therefore work to ensure that the debt are repaid as at when due so as to avoid bankruptcy which can be very costly for the firm. The managers may lose their job and reputation in a situation where the firms cease to exist due to inability of firms they manage to meet up with debt obligation or the firm asset was taken over by the debt holders as a result of non-repayment of debt. Therefore managers would be force to protect the interest of the firms because of the debt commitment thus the relationship between asset tangibility and leverage would be positive.

Empirical studies have established the validity of this theoretical prediction of the agency cost theory. The studies found positive relationship leverage and asset tangibility. The studies include works of Bradley et al, (1984), Hovakimian et al, (2004), Korajczyk and Levy (2003), Chen (2004), Haung and Song (2006), Zou and Xiao (2006), Salawu(2007), Qian et al, (2008),Salawu and Agboola (2008), Abor and Biekpe (2009), Qian and Wirjanto (2009), Shehu (2011), Chandrasekharan (2012), Drobetz et al.,(2013).However, there are studies in the literature that refuted the positive prediction of the relationship between asset tangibility and capital structure. The studies include the works of Alderson and Betker (1995), Vilasuso and Minkler (2001), Karadeniz et al,(2008), Sheik and Wang (2011), Akinlo (2011), Michalca (2011) and Joeveer (2013).

Based on the positive theoretical prediction of the agency cost theory with regards the relationship between asset tangibility and leverage as well as empirical studies that have found support for this positive theoretical prediction. The study used the ratio of fixed tangible asset to total asset as a measure of asset tangibility of firms. The study therefore hypothesises that:

H₀₃: There is statistical significant no relationship between asset tangibility and leverage
H₁₃: There is statistical significant positive relationship between asset tangibility and leverage of firm

3.1.1.4 Growth opportunities and leverage

Agency theory predicts dual relationship between growth opportunities and leverage. The positive prediction is hinge on the fact that growth opportunities create rooms for more opportunistic behaviour by managers. In order to mitigate the opportunistic behaviour that can arise due to future growth opportunities, the firm employ more debt in their capital structure. The relationship between growth opportunities and leverage can also be negative. Firms may employ less debt when they see that debt can restrict them to explore future opportunities

because of the commitment and covenants associated with debt. Future growth opportunities are intangible that cannot be used as collateral to secure debt therefore firms tend to employ less debt to have full benefit of the opportunities of growth in the future that may be eroded by debt commitment.

Empirical studies in the literature have found support for both positive and negative prediction of the agency cost theory on the relationship between growth opportunities and leverage. Among the studies that have reported positive relationship between growth opportunities and leverage include: De Miguel and Pindado (2001), Salawu (2007), Karadeniz (2008), Shehu (2011), Chandrasekharan (2012). However, there are other empirical studies that have reported negative relationship between growth opportunities and capital structure of firm. The studies include the empirical works carried out by Al-Sakran (2001), Hovakimian (2004), Salawu and Agboola (2008), Akinlo (2011) on the determinant of capital structure of firms. The study measures growth opportunities as the change in the log of total assets of firms. The study hypothesized that:

<p>H₀₄: There is no statistical significant relationship between growth opportunities and leverage</p> <p>H₁₄: There is statistical significant positive relationship between growth opportunities and leverage</p>

3.1.1.5 Firm risk and leverage

The expected theoretical expectation predicted by the agency cost theory between firm risk and leverage can either be positive or negative. The positive relationship between firm risk and leverage is hinge on the fact that firms employed debt as disciplinary device to prevent moral hazard and other opportunistic behaviour of managers especially the tendency of the managers to take actions that can increase the variation of earnings of the firm. To forestall this, the firm employ more debt in their capital structure to increase the debt commitment of the firm to debt holders. The higher the tendency for managers to engage in opportunistic behaviour, the more debt that are likely to be employ by the firm. However, the use of debt in an effort to reduce the opportunistic behaviour of managers can increase the level of volatility of the earnings of the firm and the tendency of going bankrupt if debt obligations are not met as at when due. Therefore as the firm has tendency of their earnings becoming volatile the less debt that the firm would to employ in their capital structure. This implies that the relationship between firm risk and leverage would be negative.

Various studies have reported mixed results on the relationship between the risk of firms and leverage. Positive relationship was reported between firms risk and debt ratio by Wiwattanakantang, (1999). However, Alderson and Betker (1995), Qian and Wirjanto(2009), Sheik and Wang(2011), Qian et al,(2008), Drobetz et al(2013) documented negative relationship. The study employed the standard deviation of earnings before interest and tax to book value of asset as measure of risk. The study hypothesized that:

H₀₅ : There is no statistical significant relationship between firm risk and leverage

H₁₅: There is statistical significant positive relationship between firm risk and leverage

3.1.1.6 Ownership structure and leverage

The agency theory predicts dual relationship between ownership and leverage. Firms that have low managerial ownership tend to employ more debt to mitigate the agency problem and opportunistic behaviour of the managers created by separation of ownership from control. Therefore, the relationship between leverage and ownership is expected to be positive. However, negative relationship is also possible where there is high managerial ownership. Firms with high managerial ownership have less debt because the managers would not want to lose control, ownership and free cash flow that can be mitigated by debt covenants. Individual and corporate owners have tendencies to exert more controlling influence over firms such that they make financing choice that would not reduce their access to free cash flow, perks and perquisites thereby influence the use of debt financing because of the debt repayment associated with the use of debt. They therefore make the use of debt as a mechanism to reduce agency problem very difficult.

Bradley et al., (1984), Wiwattanakantang (1999), Li et al.,(2007), Qian et al(2008), Qian and Wirjanto (2009) documented positive relationship between ownership and leverage. Zou and Xiao (2006) documented negative relationship between ownership and leverage. The study employs the percentage of shares held by foreigners' i.e nationals that are not Nigerians. The percentage of shares held by individuals whose nationality is Nigeria is equally used as measure of ownership. In the same vein, the study used the percentage of shares held by institutions such as pension fund, Banks, investment companies etc as a measure of ownership. The essence is to establish whether the different kinds of owners influence the leverage choice of firm. The study then hypothesized that:

H₀₆: There is no statistical significant relationship between ownership and leverage

H_{i6}: There is statistical significant negative relationship between ownership and leverage

3.1.1.7 Dividend and leverage

Firms with dividend obligations tends to employ more debt to generate more returns for the firm so that part of the returns generated over time can be pay to shareholders in form of dividend. Shareholders would also prefer the use of debt to finance positive NPV projects as debt would help to reduce the opportunistic behaviours of manager. Therefore the higher the dividend pay-out by firm the more the debt employ by firm. The study used ratio of dividend to profit after tax as measure of dividend. The study therefore hypothesize that

H₀₇: There is no statistical significant relationship between dividend and leverage

H₁₇: There is statistical significant positive relationship between dividend and leverage

The study tested the above stated hypotheses that are hinged on the firm characteristics of firms as predicted by the agency cost theory as determinants of leverage of firm. The study used three measures of leverage. The first measure is total leverage ratio which is measure as the ratio of total debt to total debt and total equity. The second measure is the ratio of the long term debt to total debt and total equity while the third measure is the short term leverage ratio measure by the short term debt to total debt and total equity. All the leverage measures considered were in their book value because of accuracy and relative ease of measurement of leverage of firms using book value.

3.1.1.8 Age and leverage

Firms that have been in existence for a long period of time with good track records and better performance are expected to employ more debt financing. The goodwill and credibility they have created over time may be used by creditors especially banks to provide them debt financing for them. The debt financing may then be employed to mitigate the opportunistic

behaviours of managers. In view of this, the relationship between leverage and age of firm is expected to be positive. The study therefore hypothesize that

H₀₈: There is no statistical significant relationship between age and leverage

H₁₈: There is statistical significant positive relationship between age and leverage

3.1.1.9 Return on equity and leverage

Apart from profitability that may create opportunities for firms to employ debt financing. The return on equity of investors can also enhance the use of debt financing by firms. Firms that generate better return on equity for investors are more likely to use more equity financing than debt financing provided that equity funds are used in a manner that interest of equity investors are protected. The investors may be willing to increase their equity shareholdings because of the better returns. They may be willing to also support the use of debt financing to mitigate the opportunistic behaviours of managers especially in the consumption of pecks and perquisites.

H₀₉: There is no statistical significant relationship between return on equity and leverage

H₁₉: There is statistical significant positive relationship between return on equity and leverage

Apart from firm specific factors predicted directly by the agency cost theory as determinants of leverage. The agency cost theory is hinged on the imperfect market assumption. The market imperfections are evidence in the poor quality of institutions and macroeconomic imbalances that can affect the capital structure of firms. Both institutional quality and macroeconomic conditions are external to firm .The quality of institutions determine whether the rights of shareholders and creditors would be well protected. It also determines regulatory efficiency and rule of law. Firms that operate in economies with high quality institutions would

likely have less agency problems. The financing opportunities for firms even at cheaper cost are likely to be more for firms in these kinds of economies. This is because the high quality institutions in terms of regulatory efficiency, rule of law and contract enforcement would guarantee the creditors and shareholders' rights thereby serve as incentives for creditors to provide debt at cheap cost because of low default risk and guarantee of debt recovery within a short period in case of bankruptcy as the legal institutions and the enforcement institutions as well as the laws are functional and effective.

The same applies to the macroeconomic conditions and macroeconomic factors. Firms that operate in environment where the economy is stable and the macroeconomic variables such as inflation, interest rates, exchange rate, gross domestic products are favourable tends to have better opportunities to access external financing such as equity and debt on long term basis at cheaper cost . In this kind of economies, it is a lot easier for the firms to mitigate the agency problems and opportunistic behaviour of managers because the transaction costs are minimal and affordable by the firm. It also guarantees firms better performance and survival.

However, firms that operate in economies that have high level of market imperfection are usually pervaded with poor quality institutions, unstable macroeconomic conditions and unfavourable macroeconomic variables. They tend to have more agency related problems which may make them to employ more external finance especially debt in their capital structure to mitigate the opportunistic behaviours of managers. Due to poor quality institutions that cannot guarantee the protection of the rights of creditors and shareholders' as well as poor regulatory efficiency, absence of rule of law and contract enforcement thereby makes cost of obtaining external finance such as debt very expensive. Similarly, the poor quality institutions can make transaction cost of obtaining external equity higher due to several bottle necks and corruptions. The lack of transparency also at the firm level due to poor corporate governance system and lack

of efficient regulatory system that can ensure adequate disclosure of the activities of the firms especially their financial transactions can also make cost of external finance higher.

In the same vein, unstable macroeconomic conditions and unfavourable macroeconomic factors such as interest rates and inflation rate etc can also influence the extent to which firms make their capital structure choice. For instance, firms would have opportunities to change their capital structure easily when the economy is in a better state than when it is in a bad state. Similarly, the cost of funds in terms of interest would be higher in economies where the quality of institutions cannot guarantee and protect the rights of creditors. To prevent against default risk, creditors tend to charge higher interest rate on debt. The higher interest rate can hinder firms to employ debt sufficiently to mitigate the agency related problems and opportunistic behaviour of managers of the firm.

The foregoing suggests that empirical test of agency cost theory need to consider the external country specific factors so as to have a robust analysis of the determinants of capital structure of firms within the agency cost theoretical framework. In the same vein, Frank and Goyal (2003) argues that the internal firm specific factors can only account for 30 percent of the factors that determine the capital structure choice of firms. This view was also supported by Bokpin (2009) who acknowledged this fact and opined that this submission of Frank and Goyal (2003) implies that other factors that explain the capital structure of firms can be attributed to the external factors which are country specific and are capable to interact with the firm specific factors to influence the capital structure choice of firms. These studies have been able to establish that institutional, macroeconomic and firm specific factors are very crucial in any comprehensive analysis of capital structure of firms. It against this backdrop that this thesis therefore examine the role of country factors such as institutional and macroeconomic factors as well firm specific factors as determinants of capital structure of firms within the agency cost theoretical framework. The study then consider the country specific factors as determinants of

capital structure of firms within the agency cost theoretical model therefore formulate hypotheses that are related to country specific factors as determinants of capital structure. These hypotheses are stated below:

3.1.2 Development of Hypotheses: Country specific determinants of leverage of firms

The empirical literatures have not been able to establish a consensus on the theoretical model that explains the capital structure of firms. The different theories differ in terms of variables and their predictions of the relationship between these variables and capital structure. Kyaw (2004) argues that firms operate in different environment and the peculiarities of these environments in terms of institutional quality, investors' protection, financial development and the level of development of the economy could influence their capital structure choice. This suggests that the firm specific factors are not the only determinants of capital structure of firms. Rajan and Zingales (2003) supported this position by their conclusion that about 30 percent of differences in capital structure of firms can be accounted for by internal firm specific factors. This implies that other factors that are not internal to the firm would account as factors driving the capital structure choice of firms. Bokpin (2009) noted that financial managers need to be more concern about the development in the financial market and the general economic conditions of the country where they source fund. This implies that country factors could have tremendous impact on the capital structure choice of firms as the country factors differ from one country to the other.

The theoretical postulations and predictions of the agency cost theory of capital structure implies that the institutional quality in terms of contract enforcements, protection of creditors and shareholders' right in a country are very crucial for firms to make their capital structure choice. The creditors most especially banks would provide more funds in an environment where the legal institutions are effective and contracts enforcement are very high. The agency cost theory account for the role of the country factors such as the institutional quality to protect the

debt holders as well as the shareholders. The agency problem would be well mitigated in an environment where the quality of institutions is very high because such institutions would promote transparency. Therefore the firms would likely have access to debt finance and the shareholders would be willing to provide more equity fund because the institutional environment can protect their interest and ensure the managers work to maximize the value of the firm and wealth of shareholders.

It is against the backdrop of this inference implied from the postulations of the agency cost theory that this thesis raised another set of hypotheses that relate to country factors as determinants of capital structure. This was done with a view to establish the role of the country factors as determinants of capital structure of firms particularly from a developing country perspective. Incorporating this country factors as part of the variables that drive capital structure is very crucial from the developing countries perspective as this study is aim to test the agency cost theory in a developing country. This context is quite different in terms of structural features, institutional quality and macroeconomic conditions from the developed markets where the theory was formulated and tested by several empirical studies. Consideration of these country factors in the analysis of determinants of capital structure of firms in developing countries is very crucial because most of the country factors appear not functional and favourable like the way they work in developed economies. This implies that the way and manner these factors would influence the financial managers capital structure decisions and the shareholders as well as creditors can be different.

Cebenoyan, Fisher and Papaioannou (1995) observed that the working of the financial markets, financial intermediaries, securities markets and inflation rate differs between the developed western economies and the emerging markets. These differences should have different influence on the capital structure choice of firms. La Porta, Lopez-de Silanes, Shleifer and Vishny(1997,1998) equally argued that countries with better legal quality that can protect

investors and creditors create opportunities for firms to have access to both equity and debt market. This may not be obtainable in developing countries that are usually characterised with poor institutional quality and unstable macroeconomic environment.

The emerging markets and developing countries are usually characterised with very poor institutional quality that cannot guarantee the protection of investors and creditors rights. The level of transparency in the private and public sector of the economy is usually very low. Asymmetric information is very high and corrupt practices couple with poor corporate governance is persistent at the firm level. The capital market is usually very thin and the economies are usually pervaded with several uncertainties and shocks from external environment. These features of developing and emerging markets indicated that the predictions of the agency cost theory of capital structure may not be fully applicable and portable to emerging markets like Nigeria which is the research setting of this current study.

Equally, several studies have been conducted in the literature on the country factors determinants of capital structure of firms. The studies have documented different factors as drivers of capital structure. The results of these studies have been mixed even among studies conducted in the developed countries. This also warrant that this thesis to empirically examine the country factors as determinants of capital structure within the agency cost theoretical framework.

3.1.2.1 Inflation and leverage

Firms would employ more debt during inflationary period. During inflationary times firms would have better opportunities to access more debt to mitigate agency problem because the worth and value of debt would be lower during this period of high inflation .If the high inflationary level persist and the debt holders foresee that the rising inflation may continue for longer period, there is every likelihood that they would make the debt available to firms at reduce

cost. Therefore the interest rate that firms pay during period of rising inflation may not be as higher as during low inflationary times. Therefore firms would be able to access more debt at cheaper cost during high inflationary period than at low inflationary period to mitigate the excesses and opportunistic behaviour of managers. Therefore, inflation and leverage in the agency cost theory is expected to be positively related.

However, the relationship between inflation and leverage in the developing countries setting is expected to be negative as less debt would be available particularly on long term during inflationary period. Firms in developing countries do not have access to long term fund in sufficient and required amount. This is due to the high volatility and several market imperfections such as lack of transparency, poor contract enforcement and inability to protect the rights of creditor in these economies. These imperfections serve as constraints that hinder the availability of long term funds. The short term debt that may be available to firms would be provided to them at higher cost because banks and other creditors would try to hedge against inflation by providing debt at high interest rate. This would become disincentives for firms to use debts to mitigate the agency problem in the developing countries context.

Several studies have documented mixed empirical evidence between inflation and capital structure in the literature. Some studies found inflation to be negatively related to capital structure. Other studies have documented evidence that support positive relationship between inflation and capital structure. Few studies found inconclusive evidence between inflation and capital structure. Inflation makes the real cost of debt to be lower. Therefore investors prefer to sell their bond during inflation period. Firms would prefer to use more debt than equity during inflationary period as bond would become cheaper when they are available.

But this may not apply in developing countries context such as Nigeria where firm are largely financed with short term fund especially short term debt from banks at very high cost during high inflationary period and low inflationary period. Long term debt are rarely available

from the banks because of the low level of financial intermediation, poor savings culture couple with very low income per capita and short-termism savings attitude. Similarly, long term fund is very difficult to access in desirable and require amount because of the high transaction cost and thinness of the capital market couple with poor institutional quality of the market that often result into market inefficiencies which discourage long term investors. Most of the players in the capital market are there in the market for capital gains rather than to make long term investment. The reason why they pursue this short term objective is due to the inefficiencies of the capital market and lack of regulatory efficiency in the market.

Positive relationship was reported between inflation and leverage of firms in the empirical studies of Kim and Wu,(1988), Cebenoyan, Fischer and Papaioannou (1995), Sinha and Ghosh (2010), Ali (2011). However, De Angelo and Masulis (1980), Cebenoyan et al. (1995),Noguera (2001), Nejadmalayeri (2001), Hatzinikolaous et al.(2002), Korajczyk and Levy (2003), Kyaw (2004), Bokpin (2009), Sinha and Ghosh (2010) documented negative relationship between inflation and leverage. De Angelo and Masulis (1980) also provided theoretical explanation for the negative relationship between inflation and leverage. They argue that inflation makes the real cost of debt lower such that the demand for debt increases during inflationary period. During inflationary period when the real cost of debt becomes cheaper firms employ more debt to mitigate the agency related problems. Inflation is measure by consumer price index

The study hypothesized that:

H₀₁₀:There is no statistical significant relationship between inflation and leverage

H₁₁₀:There is positive relationship between inflation and leverage

3.1.2.2 Interest rates and leverage

Interest rate is the cost of debt either on short term or long term basis. Its influence on the leverage of firms cannot be overlooked. Firms prefer to obtain more debt especially from banks and the bond market to finance investment when the cost is very low. In most developed economies the interest rate is very low usually single digit particularly in bank based western economies. This creates opportunities for firms to obtain debt financing at low cost. However, interest is very high in most developing economies despite the financial liberalization of their financial markets. Interest rate is usually double digit and funds are provided mostly on short term basis. The savings behaviour of bank depositors that save on short term basis and expect higher rates on saving is one of the factors that can be adduced to be responsible for the high interest rates in most developing economies. Similarly, the high level of market imperfection such as asymmetric information between the debt holder and the firm and high tendency for moral hazard and risk shifting makes debt holders to provide funds at high cost to mitigate against the agency related problems.

Theoretically, the expected relationship between interest rates and leverage would be positive. This is because interest rate is usually very low in most developed economies. This makes debt financing attractive to firms such that they can use debt in the capital structure to mitigate the agency problem of firms. The high quality of institutions protects the rights of creditors and guarantee contract enforcement therefore the interest rate that debt holders would charge would be very low as the debt holder does not need to hedge against default risk the way it would be done in an environment with poor institutional quality.

However, theoretical relationship between interest rate and capital structure in the developing economies is expected to be negative due to the high interest rate even on short term funds which make debt financing unattractive to firms to mitigate agency problem. The poor

institutional quality in most developing countries that does not guarantee contract enforcement and creditors right account largely for the high interest rates in developing economies.

Several empirical studies have documented mixed results between interest rate and capital structure. Positive relationship was documented between interest rate and leverage by Nejadmalayeri (2001), Drobetz and Nanzenried (2006), Gonzalez et al.(2007), Bokpin (2009), Sinha and Ghosh (2010), Cook and Tang (2010) Hatzinikolaous et al (2002), Hackbarth et al., (2006),Gonzalez et al., (2007), Sinha and Gosh (2010), Cook and Tang (2010).The high interest rate on debt that is not available to the firms in developing countries on long term makes it unattractive to the owners to use it to mitigate the agency problem arising from the opportunistic behaviours of the managers. This may alter the positive relationship expected between leverage and interest rate as deduced from the agency cost theory. Interest rate is measure as the rate banks lend to firms which is the commercial lending rate. This thesis hypothesized that:

H₀₁₁: There is no statistical significant relationship between interest rates and leverage

H₁₁₁:There is statistical significant negative relationship between interest rates and leverage

3.1.2.3 Macroeconomic conditions and leverage

The state of the economy is a crucial factor that can influence the decisions and behaviour of firms. Different economies are prone to fluctuations particularly from other environment. When the economic conditions are good the firms tends to perform well as opportunities especially financing opportunities would be available in the economy at favourable cost. Firms would have the opportunities to access funds from different financing sources. However, bad state of the economy would make funds to shrink and the little available fund would be lent by the creditors and banks at very high cost.

This implies that at good economic state the relationship between macroeconomic condition and leverage would be positive as firms would have access to more debt financing to mitigate the agency related problems in the firm. However, at bad economic conditions, debt may not be available to achieve this purpose. And where they tend to be available, it would be very expensive and a very prohibitive cost. Therefore firms would not be inclined to use debt to mitigate the opportunistic behaviour of managers. The relationship between leverage and macroeconomic condition would then be expected to be negative.

When the economy is in a bad state, financial distress is likely to be higher for firms as there are tendencies for them to go bankrupt because they may not be able to generate sufficient cash flow from their business to fulfil their debt obligations therefore debt financing may be very difficult for firms during bad macroeconomic condition to mitigate the opportunistic behaviour of managers and other agency related problems due to separation of ownership from control. Similarly, firms would not have the opportunities to raise debt at cheap cost at bad economic conditions as banks and other creditors would not be inclined to borrow funds to firms even at higher cost due to higher likelihood of default in bad economic conditions, Even where they provide debt to firms it would be at a very high cost due as they would charge premium for default risk. Therefore firms would find debt financing very difficult to employ to mitigate agency related problems.

Since the developing countries have been experiencing bad macroeconomic conditions for several decades and reforms programmes aim at reviving the economies of these countries have not yielded desirable favourable economic outcomes. This kind of poor economic condition in the developing countries implies that raising debt to reduce agency problem during this kind of economic condition would be a difficult task for firms. Therefore negative relationship is expected between leverage and macroeconomic condition in developing countries and specifically in a setting like Nigeria.

There are mixed evidences between macroeconomic conditions and leverage. Korajczyk and Levy, (2003); Gonzalez et al. (2007) document positive relationship between macroeconomic conditions and leverage. However, Hackbarth et al., (2006) found negative relationship between macroeconomic condition and leverage. The theoretical expectation between macroeconomic conditions and leverage is expected to be negative in the developing economics as most of these economies have witness bad macroeconomic conditions for several decades except for some few countries that are emerging and experiencing good macroeconomic conditions in recent times. The bad state of the macroeconomic conditions of developing economies is evident in the thin level of the capital market and low level development of the financial sector as well as low per capita gross domestic product. The growth rate of gross domestic product (GDP) is employed as a measure of macroeconomic condition. The study then hypothesizes that:

H₀₁₂ : There is no statistical significant relationship between macroeconomic conditions and leverage

H₁₁₂: There is statistical significant negative relationship between macroeconomic conditions and leverage

3.1.2.4 Financial Development and leverage

The level of financial development in a country has the tendencies to influence the financing decisions of firms. Economies that are well developed tend to have high level of financial development in both the money and capital markets. This often led to increase in the amount of credit from the financial sector to the private sector in the economy. Therefore, the firms would have access to more debt finance to mitigate the agency problem at the firm level. Therefore, the relationship between financial development and leverage of the firm would be positively related in the agency cost theoretical framework.

However, several economies in the developing economies are still largely underdeveloped and the level of financial development is still at the infant stage and the financial markets are pervaded with several market imperfections and inefficiencies. Therefore the financial sector cannot provide the require credit for the development of the private sector. Where they even tried to provide credit, it is usually at very prohibitive cost due to the facts that they hedge for several risks that arises due to the market imperfections. This implies that firms may find it very difficult to use debt financing to mitigate the opportunistic behaviour and agency related problems at the firm level.

Attempt to resolve the financing constraints facing firms due to market imperfections and inefficiencies of the financial market in developing economies resulted into the liberalization of their financial sector as part of the financial development programme that is meant to assist the development of the financial sector particularly the banks and capital market such that firms would have access to better financing opportunities at market competitive price from these financial institutions. If this proposition holds, then financial liberalization is expected is be positively related to capital structure as more firms are expected to have access to more external financing in terms of debt and equity from both the bond and stock market as well as the banks at affordable market competitive price. The financial institutions in the post reform era are expected to develop very fast, becomes more competitive and efficient because of the liberalization policy that allow the market forces to dictate their activities rather than government interventions that often repressed the financial sector.

The financial liberalization theory posited that the negative real interest rates will turn to positive when the financial sector is liberalized. Financial liberalization is therefore expected to be positively related to capital structure of firms in economies that have adopted the financial liberalization programmes because firms in such economies are expected to have wider

opportunities to employ debt financing at cheaper and competitive cost to mitigate the agency related problem at the firm level.

Several empirical studies in the literature found support for the positive theoretical prediction of the agency cost theory on the relationship between financial development and leverage. Among these studies include the works of Demirguc-Kunt and Maksimovic (1996) Giananetti (2003), Kyaw (2004), and Bokpin (2009). However, negative relationship was reported between financial development and capital structure in the studies conducted by Kyaw (2004), Gianneti (2003), Schmukler and Vesperoni (2006), Bokpin (2009), Ameer (2010). However, several other studies reported negative relationship between financial development in terms of the effects of financial liberalization on leverage. The studies include the studies carried out by Kyaw (2004), Gianneti (2003), and Bokpin (2009) Credit to private sector as a percentage of GDP and Stock market capitalization as a percentage to gross domestic product (GDP) are employed as measure of financial development. The study hypothesized that:

H₀₁₃: There is no statistical significant relationship between financial development and leverage.

H₁₁₃: There is statistical significant negative relationship between financial development and leverage of firms

3.1.2.5 Institutional Quality and leverage

Apart from macroeconomic factors that influence the capital structure of firms. The quality of institutions in the country is also very crucial. Countries with poor institutional quality promote corruption, increase information asymmetries, support poor corporate governance practices, does not assist in the protection of creditors' and shareholders rights. Similarly, contract and law enforcement would not be effective in such economies. Agency problems are

more pronounced in firms that operate in economies with poor institutional quality. Therefore to stem the agency problems, firms use debt financing for instance to reduce the opportunistic behaviours of managers. Poor contract enforcement and poor creditors' protection would make debt financing very expensive as creditors would provide funds at high cost to mitigate the default risk. Shareholder may also not be willing to invest in the equity market in economies where their rights are not well protected.

Poor institutional quality is one of the persistent features of most developing economies. This has tendency to hinder the financing choice of firms especially debt financing which can be used to mitigate agency related problems at the firm level. Therefore, the theoretical expectation is that negative relationship would exist between institutional quality and capital structure of firm in economies that have poor institutional quality. However, the relationship is expected to be positive in economies with better quality institutions.

Several studies have been conducted that examine different proxies of institutional quality on leverage. The findings of these studies have been mixed. La Porta et al. (1997), Giannetti (2003), Kyaw (2004), provided positive relationship between institutional quality and capital structure. Negative relationship was reported between institutional quality and capital structure by Mutenheri and Green (2003) and Kyaw (2004). The quality of institutions is measure by shareholders' right (anti-director index) index, investors' protection index and the creditors' right index. The study used the anti-director index as proxy for the protection of the interest of shareholders. The study adopted the La Portal et al., (1998) measure of shareholders' rights. La Portal et al.,(1998) used the summation of five different indexes. The indexes include: a one man one share vote, proxy by mail, allowed oppressed minority, pre-emptive right to new issues and the percentage of share capital needed to call an extraordinary meeting. The indexes are represented by dummy variable which is equal to 1 if the variable exist or zero otherwise. Then the anti-director index sums up the result of these indexes to determine how shareholders rights

are protected. The values of the anti-director index ranges between 0 and 5. The higher the value the higher the shareholders rights are well protected.

The study also employed investor protection index as a measure of how investors are protected in the country. The study used the World Bank Doing business measure of investors' protection. The investors' protection index is the average of three other indexes: Disclosure index, Director Liability index and Shareholder suits index. The investors' protection index ranges between 1-10. The study employed creditor right index that ranges between 1 and 0 as defined by La Portal et al., (1998). The creditor right is a summation of four indexes: No automatic stay on assets, secured creditors paid first, restrictions for going into reorganisation and management does not stay in reorganisation.

The study test the Hypothesis that:

H₀₁₄: There is no statistical significant relationship between institutional quality and leverage

H₁₁₄: There is statistical significant negative relationship between institutional quality and leverage

Apart from providing answers to the research questions on the determinants of capital structure of firms in Nigeria. This study is also interested in providing answers to the research question on whether capital structure of firms affect their performance and the possibility of reverse causality between capital structure and firm performance. Based on these, the study therefore formulated two more hypotheses that were tested in this thesis.

3.1.3 Development of Hypothesis: Capital structure and firm performance

Empirical studies that have tested the agency cost theory on the relationship between leverage and firm performance have found mixed evidences. Some studies such as Berger et al.,

(1997), John and Senbet (1998), Safieddine and Titman (1999), Harvey et al., (2004), Abor (2005), Zeitun and Tian (2007), Majumdar and Sen (2010), Sen and Heng (2011), Salim and Yadav (2012) documented positive relationship between leverage and firm performance. The findings supported the facts that disciplinary measures embodied in debt contracts can be used to mitigate agency problem which in turn reduce moral hazards of the managers thereby make them strive to achieve better firm performance. However, negative relationship was reported between leverage and firm performance by other studies such as Armen et al.,(2004), Zeitun and Tian (2007), King and Santor (2008), Ebaid (2009), Asimakopoulos et al.,(2009), Liew (2010), Majumdar and Sen (2010), Salim and Yadav (2012) on the relationship between leverage and firm performance. These studies found support for the risk shifting behaviour of firms and conflict of interest between debt holders and shareholders. Excessive use of debt will impinge on firm performance. Based on the theoretical prediction of the agency cost theory and empirical evidences on the relationship between leverage and firm performance. The study used three measures of leverage. The first measure is total leverage ratio which is measure as the ratio of total debt to total debt and total equity. The second measure is the ratio of the long term debt to total debt and total equity while the third measure is the short term leverage ratio measure by the short term debt to total debt and total equity. All the measures were considered in their book value because of accuracy and relative ease of measurement of capital structure of firms using book value. Performance was measured in terms of financial performance. Return on equity (ROE) is used as proxies to measure financial performance of firms. This study hypothesized that:

H₀₁₅: There is no non-monotonic (positive for small values and negative for large values of leverage ratios) statistical significant effect between leverage and firm performance.

H_{i15}: There is statistical significant non-monotonic (positive relationship for small values and negative for large values of leverage ratios) relationship between leverage and firm performance.

3.1.4 Development of Hypothesis: Performance and capital structure

The efficiency risk and franchise value hypotheses serve as theoretical basis to test the reverse causality from performance to capital structure. These theoretical postulations guided in the development of hypotheses tested to establish the causal relationship between performance and capital structure. The thesis tested the unidirectional relationship between capital structure and performance of firms using mainly the agency cost theory. The reverse causality from performance to capital structure was tested with the efficiency risk and franchise value hypotheses.

Empirically studies have been conducted on the reverse causality between capital structure and firm performance in the capital structure literature. The few studies have reported mixed results on the reverse causality between capital structure and firm performance. Berger and Bonaccorsi di Patti (2006) and Margaritis and Psillaki (2007) reported mixed evidence between performance and capital structure i.e positive and negative results which support both efficiency-risk and franchise value hypotheses. However, Margaritis and Psillaki(2010) and Yeh (2010) reported positive relationship between performance and capital structure to find support for the efficiency-risk hypothesis.

Based on the theoretical prediction of the efficiency-risk and franchise value hypotheses as well as the findings of empirical studies, the study therefore, hypothesized that:

H₀₁₆: There is no statistical significant relationship between firm performance and leverage.

H_{i16a}: There is statistical significant positive relationship between firm performance and leverage.

H_{i16b}: There is statistical significant negative relationship between firm performance and leverage.

3.1.5 Development of Hypothesis: Non-Monotonic relationship between firm performance and leverage

The study equally examines how leverage response to changes in firm performance position. The study hypothesis that:

H₀₁₇: There is no non-monotonic (positive for low performance and negative for high performance values of leverage ratios) statistical significant effect between performance and leverage.

H₁₁₇: There is statistical significant non-monotonic (positive relationship for small values and negative for large values of leverage ratios) relationship between performance and leverage.

3.2 Model Specification

We employed the agency cost theoretical model embedded in the trade-off theory as the main theoretical framework for the development of the empirical models to test the relationship between capital structure and firm performance. Our choice of the agency cost theory is based on the fact that this theory provides clear explanation and predictions on how capital structure choice of firms can impact their performance. The agency cost theoretical model specifically posits that the use of debt in the capital structure of firm can serves as a disciplinary device to reduce the waste of free cash flow by managers thereby reduces agency cost that arises due to separation of ownership from control. In the same vein, the use of debt in the capital structure may also propel managers to achieve better firm performance. This could be possible because debt would make managers strive to meet up with debt repayment obligations which can be achieve through better performance. However, debt use in the firm can also lead to poor

performance if it is excessively use such that it results to under investment which may lead to debt overhang.

The above suggests that the prediction of the agency cost theoretical model regarding capital structure and performance may be non-monotonic. It can be negative at excessive high debt level and positive if it is moderately employed and use efficiently. Based on the predictions of the agency cost theoretical model, this study specified the relationship between capital structure and firm performance in the empirical models stated below following the work of Margaritis and Psillaki (2010).

$$roe_{it} = \alpha_0 + \alpha_1 roe_{it-1} + \alpha_2 lev_{it} + \alpha_3 lev_{it}^2 + \alpha_4 Z_{it} + U_{it} \dots\dots\dots (1)$$

Where roe is return on equity which is measure of firm performance, LEV is the measure of capital structure(short term leverage ratio, long term leverage ratio and total leverage ratio) and Z_{it} is a vector of control variables (firm size, age, ownership, growth opportunities, asset tangibility) U_{it} is a stochastic error term.

Apart from testing the direct effects of leverage on capital structure, this study extend further to capture the reverse causality from firm performance to capital structure i.e. examines whether performance of firms influence the capital structure choice of firm. This is hinge on both the efficiency-risk hypothesis and franchise value hypothesis.

The efficiency-risk hypothesis predicted that past performance of firms have impacts on the financing choice of firms. Favourable past performance would indicate the debt repayment capacity of the firm. This would serve as impetus to access debt financing. The implication of this theoretical prediction is that the performance of the firm determines whether the firm would be able to use debt financing or not in their capital structure i.e. it is not the capital structure that determines firm performance. The efficiency risk hypothesis therefore predicted positive relationship between firm performance and capital structure.

However, the franchise-value hypothesis postulated that firms seeks to protect the value that they have achieved over the years from been taken over by outsiders to the firm particularly debt holders. The firm rather prefers the use of equity financing to debt financing. This theoretical position suggests that the past performance of the firm influences their financing choice. The theoretical prediction signifies negative relationship between the performance of firms and debt financing as the firm prefer equity financing to debt financing. The leverage model below captures the effects of performance of firms on their capital structure. :

$$\text{Lev}_{it} = \beta_0 + \beta_1 \text{Lev}_{i,t-1} + \beta_2 \text{roe}_{i,t-1} + \beta_3 Z_{i,t-1} + V_{it} \quad \dots (2)$$

The parameters are as define in equation (1).The thesis employed the lagged values of performance indicators (return on equity) rather than the current values as the main variable in the model. This is in line with the theoretical specification of the efficiency-risk and franchise value hypotheses. This is based on the fact that it is the past performances of firms that determine their leverage. This is well indicated in both the franchise-value and efficiency-risk hypotheses as explained in the theoretical section of this thesis in chapter two. The study also include current return on equity as part of the control variables to capture whether current return on equity can also account for the leverage choice of firms in the Nigeria context. This may be important because creditors and other debt holders may be interested in both current and past financial performance of firm particularly returns to equity holder before they finance. This may signal debt repayment capacity of the firm particularly meeting up with debt obligations. It is against this backdrop that this study examines both the efficiency-risk and franchise value hypotheses in the Nigerian context using the model specify in equation 2.

The agency cost theoretical model of capital structure has different predictions about the theoretical determinants of capital structure. This agency cost theory was developed with firms in the developed economies in mind. This suggests that the predictions of this theory may not hold

in the developing countries context because of the structural differences and institutional peculiarities as well as macroeconomic conditions of the developing countries that are different from the developed economies.

The institutional and structural differences suggest that the nature of agency related problems in firms in the developing countries may be different from that of developed economies. For instance the nature of agency problem in India is such that the management work to protect the interest of the majority shareholders at the detriment of the minority shareholders. This happens because the firms in India are usually interrelated and the ownership system is infused in a kind of business affiliations. The managers of affiliated firms strive to protect the economic interest of related companies in their group at the expense of minority shareholders. Their ultimate aim is not to enjoy free cash flow for their self-interest in the form of perks and perquisites and empire building the way managers of firms in the developed firms that Jensen and Meckling (1976) had in mind when they developed the agency cost theory would do (Chakraborty, 2010).

The differences in the pattern of agency problems among firms in developing countries such as Nigeria, China, India etc where poor institutional quality and several market imperfections as well as very weak corporate governance at the firm level can aggravate the agency related problems. The variations in the agency related problems warrant the empirical testing of the agency cost theoretical model in a different market from the developed markets where the agency theory was developed based on the experience and observations of behaviour of managers and the owners. The theoretical foundation of the empirical analysis of the determinants of capital structure as outlined by the agency cost theoretical is employed to derive the models estimated as determinants of capital structure.

The agency cost theory predicts that firms strive to achieve optimal debt level. In order to achieve this optimal debt level they would need to change their capital structure from time to

time to ensure they move towards the target optimal capital structure level that can ensure the agency problem is mitigated, achieve desirable good performance as well as ensure the value of the firm is enhanced. The firm would incur adjustment costs to achieve the optimal capital structure level. The agency cost theory focus on the market imperfections that arises from separation of ownership from control. The decision to use debt by the firm is hinge on the fact that the owners intends to reduce agency cost or mitigate agency cost and underinvestment due to risk shifting. Theoretical and empirical studies have documented that ownership, size, profitability, asset tangibility and growth opportunities and risk are proxies for agency problem that determine the capital structure of firms. These variables were employed as firm specific factors in the estimated model. The unobservable firm specific and time specific effects were captured by the proxies of the institutional quality and the macroeconomic factors respectively.

The formalization of the theory into empirical model borrows largely from the specifications of Qian and Wirjanto (2009) on the determinants of capital structure of Chinese firms with some modifications to reflect the peculiarities of Nigeria firms and their external environment. The formalization is stated as below:

Assuming the optimal leverage ratio for firm i at time t is denoted as L_{it}^* . This optimal leverage is allowed to vary across firms and over time. The factors that influence the firm's capital structure may change over time, the optimal debt ratio itself would also change over time for the same firm. This reflects clearly the dynamic nature of the capital structure of firms. Normally, the expectation would be that the change in actual leverage of firm i at time $t - 1$ to time t would be equal to the change required to achieve the target level at time t . This can be depicted as $L_{it} - L_{it-1} = L_{it}^* - L_{it}$. Adjustment to achieve L_{it}^* may not be automatic and instantaneous. Therefore there would be speed and cost of adjustment especially when external finance is involved. This implies that the adjustment may be partial. This adjustment process can be formulated as,

$$L_{it} - L_{it-1} = \lambda (L_{it}^* - L_{it-1}) \quad \text{-----} \quad (3)$$

λ is the adjustment parameter. This depicts the degree of the desired adjustment between two subsequent periods or the rate at which L_{it} converge to its target level; L_{it}^* if $\lambda_i = 1$ then $L_{it} = L_{it}^*$. This implies that the adjustment costs is zero and firms adjust instantaneous and automatically to their target level. $\lambda_o = 0$ Implies that there is prohibitive adjustment cost and firms do not adjust to their target at all. If $\lambda < 1$ it implies that firms adjusts slowly to the target. If $\lambda > 1$ it implies firm over – adjust it debt level above the target leverage.

To avoid potential specification error, equation (3) is expressed to incorporate other factors that are relevant to target capital structure of the firm. Therefore equation (3) is stated as

$$Y_{it} = \lambda y_{it}^* + (1 - \lambda)y_{it-1} \quad (4)$$

Where Y_{it}^* ($\equiv L_{it}^*$ in equation (1)) is the target leverage ratio of firm i at time t .

Model (4) can be incorporated into an empirical model that account for the firm specific factors and country factors that affect capital structure to accommodate the role of external factors alongside firm specific factors as determinants of capital structure of firms in a developing country specifically in Nigeria. The external factors are crucial and their role cannot be overlooked in the dynamic analysis of the determinants of capital structure of firms in a country like Nigeria that is pervaded with macroeconomic imbalances and poor institutional quality that affect the various decisions of firms. Therefore the empirical model can be stated as:

$$Y_{it}^* = a + \chi_{it}^1 \beta + V_t + u_{it} \quad \text{-----} \quad (5)$$

Where Y_{it}^* is the leverage of firm i in year t , χ_{it}^1 consist of the following firm specific determinants: profitability, Asset tangibility, size, growth opportunities and risk. V_t is the time specific effect for a given year over firm i . It captures the effects of economic factors such as

inflation, interest rate, macroeconomic conditions, financial development and institutional quality variables which vary across time but remain the same for all firms in a given year.

Next, equation (5) is substituted into equation (4). This yields the final form of the model estimated:

$$Y_{it} = a\lambda + \lambda X_{it}^1 \beta + (1-\lambda)y_{it-1} + \lambda v_t + u_{it} \text{ -----} \quad (6)$$

Where

$$(1-\lambda) = \phi_0 \quad a\lambda = \gamma_0$$

Therefore, equation (6) becomes:

$$Y_{it} = \gamma_0 + \lambda X_{it}^1 \beta + \phi y_{it-1} + \lambda V_t + U_{it} \text{ -----} \quad (7)$$

3.2.1 Definition of Variables

1. Total Leverage Ratio (TLR) = total debt/Total Debt and total equity.
2. Long Term Leverage Ratio (LTLR) = Long term debt/total debt and total equity.
3. Short Term Leverage Ratio (STLR) = Short Term Debt/Total Debt and Total Equity.
4. Profitability (PROF) = Earnings before Interest and Tax/Total Assets.
5. Size (SIZE) = Natural logarithm of total assets.
6. Assets Tangibility (TANG) = Fixed tangible assets/total assets.
7. Growth opportunities (GO) =Percentage change in the log of total assets.
8. RISK = Standard deviation of the earnings before interest and tax to total asset.
9. Ownership= is the shareholdings held by the various categories of shareholders(foreign, individual and corporate) of the firms
10. Interest rate =Lending rates of banks
11. Inflation=consumer price index
12. Macroeconomic conditions=growth rates of GDP
13. Financial development=Stock market capitalization as percentage of GDP
14. Dividend pay-out= Dividend/Profit after tax
15. Measure of financial performance: Return on equity = net income/shareholders equity.
16. Institutional Quality :summation of three indexes: shareholders right, investors' protection index and creditors' right index

3.3 Sources of Data and Data Collection Techniques

This study employs secondary data available in the annual reports of listed companies in Nigeria and the facts books published by the Nigeria stock exchange. Numerous studies have found that the annual report of companies is still the most reliable means of communication in the modern business world (Lee and Tweedie, 1975; Chang and Most, 1985; Day, 1986; Bouwman et al., 1987; Wilmshurst and Frost; 2000; Stanton and Stanton; Davison, 2002; Holland and Foo, 2003). Although, this data collection approach has some deficiencies, the benefits outweigh the costs. This is because annual reports still remains the only statutory obligation of the firm to show in detail the commercial activities in a given year. The truth and fairness of the information contain in the report is usually certified by the auditor as part of statutory requirement. Therefore, the data from the annual report of companies can be relied upon to a great extent because of these processes and procedures of preparation and certification. The facts book of the Nigeria stock exchange is also reliable. It contains the five year summary of the financial position of the companies listed on the exchange. It is usually produced from the annual reports and certain key financial indicators are highlighted in the facts books that provide opportunities to view the financial position of the companies at a glance. Some narrations on the companies as well as numerical data are provided the same way the annual report provide some narrations to support the numerical data. But the annual reports provide more detailed narrations than the facts book. Based on these features, this study employs data from these annual reports of listed companies on the Nigeria stock exchange and the facts book published by the Nigerian Stock exchange.

3.3.1 Sector distribution of listed companies in Nigeria

Table 3 below shows the sector classification and number of listed firms on the Nigerian Stock Exchange. This classification is based on the Nigeria Stock Exchange (NSE) new classifications as at 2012. The table indicated that the surveyed firms are in 13 different sectors of

the Nigerian economy. The financial services have the highest number of firms listed on NSE. Data used to test hypotheses of this study were collected largely from the annual reports of the companies and the facts books of the Nigerian Stock Exchange. The study uses an unbalanced panel data consisting of 115 Nigerian out of 184 non-financial firms listed on the NSE from the period of 1998-2012. Data availability is the main criteria employ in selecting the sample. Every non-financial firm with three or more years of consecutive observation was included therefore 67 non-financial firms that do meet the criteria were excluded.

Table 3 Firms distribution of companies listed on the Nigerian Stock Exchange

Industry Classification	Number of firms
Agriculture	8
Services	28
Consumer goods	43
Alternative Securities Market (ASEM)	15
Healthcare	16
Industrial Goods	30
Oil and Gas	10
Natural Resources	9
ICT	10
Construction and Real Estates	9
Conglomerates	6
Financial Services	97
Memorandum Quotation	27
Total Companies listed on the Nigerian Stock Exchange as at 2012	305
Exclude: Financial services companies	97
Memorandum companies (Investment companies)	27
Actual Working population of the study	184
Exclude companies without data point for at least three years	69
Actual sample firms for the study	115

3.4 Estimation Approach

The Generalized method of moments (GMM) was used to estimate the specified model. The estimated results were used to establish the impact of capital structure on firm performance in the Nigeria context. This was done with the intention to establish whether postulation and predictions of the agency cost posited in the capital structure theory that was developed with firms in developed economies in mind hold in a developing country context like Nigeria. The “STATA 12” econometrics software with “XTABOND2 command developed by Roodman (2006) was employed to estimate the specified models in this chapter.

3.4.1 Dynamic Panel Estimator: Two Step system Generalized method of Moment

According to Hsiao (1985) OLS estimation is biased when individual specific effect is assumed to be unobservable and the covariance between the explanatory variables and the unobservable individual specific effect (V_i) are non-zero. In this kind of condition, an instrumental variable estimation method can be used to generate consistent estimates particularly when the error terms U_{it} are serially uncorrelated. Based on this assumption that U_{it} are serially uncorrelated, the Generalized method of moments estimator that instruments the differenced variables that are not strictly exogenous with all their available lags in level as proposed by Arellano and Bond (1991) can be use to estimate the dynamic panel data model among the instrumental variable estimators (Honore and Hu, 2003). Arellano and Bond also developed an appropriate test for autocorrelation, which if present in the model would render some lags to be valid as instruments (Roodman, 2009). But the problem with the Arellano and Bond estimator is that the lagged levels are poor instruments for first differences if the variables are close to a random walk.

The Arellano-Bond estimator formed moment conditions using lagged-levels of the dependent variable and the predetermined variables with first-differences of the disturbances.

Arellano and Bover (1995) and Blundell and Bond (1998) found that if the autoregressive process is too persistent, then the lagged-levels are weak instruments. These authors proposed using additional moment conditions in which lagged differences of the dependent variable are orthogonal to levels of the disturbances. To get these additional moment conditions, they assumed that panel-level effect is unrelated to the first observable first-difference of the dependent variable.

Blundell and Bond (1998) show that an additional mild stationarity restriction on the initial conditions process allows the use of an extended system generalized method of moments (GMM) estimator that uses lagged differences of the dependent variable as instruments for equations at levels in addition to lagged level of the dependent variable as instruments for equation in first differences (Baltagi, 2008). This increases the efficiency of the Blundell and Bond (1998) dynamic panel estimator over Arellano and Bond (1991) difference GMM estimator and the Arellano and Bover (1995) system GMM. The Blundell and Bond (1998) system GMM has both one step and two step variants. The two-step is asymptotically more efficient. Although, the reported two-step standard error tend to be severely downward biased (Arellano and Bond 1991; Blundell and Bond 1998). But the Windmeijer (2005) derived a finite-sample correction to the two-step covariance matrix to make two-step more efficient than one step robust for system GMM. The two-step system GMM would be valid under certain conditions. One is the absence of second order serial autocorrelation. The second is the validity of instruments used in the estimated model. The third is that the number of instrument should be equal or less than number of groups in the estimated model. The Arellano and Bond test of absence of second order serial correlation is appropriate to ascertain second serial correlation. The values of the Arellano and Bond should be less than 0.05 to accept the null of absence of second order serial correlation. The Hansen test is more robust and appropriate to determine the validity of instruments employ in a dynamic model estimated with two-step GMM. The

probability value of Hansen is expected not to be less than 0.1. Hansen value less than 0.1 signals problem with the validity of instruments employed in the model. A tell-tale sign is a perfect Hansen statistic of 1.000. Based on the robustness and efficiency of the two step system GMM estimator by Blundell and Bond (1998) the study employed this dynamic estimator as the main estimator for the models employed in this chapter.

CHAPTER FOUR

PRESENTATION OF EMPIRICAL RESULTS ON CAPITAL STRUCTURE AND FIRM PERFORMANCE

4.0 Preamble

This is the first empirical chapter of the thesis and it examines the impact of capital structure on firm performance. The chapter provides introduction to the subject and test two hypotheses specified in chapter three on the relationship between capital structure and firm performance. The results of the estimated models and findings were discussed in the context of outcomes from previous studies and the predictions of the agency cost theoretical model embedded in the trade-off theory of capital structure.

4.1 Descriptive Statistics

The data employed in this study is hereby presented below:

Table 4: Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Total leverage ratio	0.5052	1.1999	3.308	30.892
Long term leverage ratio	0.1953	0.8668	0	21.017
Short term leverage ratio	1.009	11.233	0	216.62
Age	33.81	17.375	0	89
Growth Opportunities	0.2688	2.7715	28.790	33.16
Asset Tangibility	0.1927	0.3623	0	10.44
Profitability	7.6004	5.4619	4.2929	0.621
Size	6.8590	58.489	7.99	20.059
Dividend	18.8021	16.526	0	15.493
Return on equity	7.5837	04.006	7.99	558.6
Inflation	72.25	34.699	29.6	141.1
Interest rates	12.56	3.614	6.13	19
Growth rates of GDP	5.887	1.975	1.19	9.56
Cps_GDP	18.326	10.090	7.9	36.7
Indiv_Own	52.05	26.575	0	100
Corp_own	23.030	26.780	0	92.1
Foreign_own	28.736	27.046	0	78.64
Risk	0.177	1.035	2.56	30.89
Institution	2.2608	4.2628	1.24	12.24

The above table 4 represents the number of observations, minimum, maximum, standard deviation for all variables used in the study from 1998 to 2012. During the entire period, the mean of total leverage ratio is 0.50 for the entire sample firms. This is greater than the mean of long term leverage ratio of 0.19 but less than the mean of short term leverage of 1.00. This indicates that on the average the sample firms employ more short term debt than long term debt as a proportion of total asset. The standard deviation for the total leverage ratio of the sample firms is 1.19. This suggests that total leverage ratio of sample firms has high variability. Long term leverage ratio has standard deviation of 0.86. This indicates that total leverage ratio has higher variability than long term leverage ratio. Short term leverage ratio has the highest standard deviation (11.23) than total leverage and long term leverage ratios. The range of total leverage ratio is between 3.30 and 30.89 for the sample firms from 1998 to 2012. Long term leverage ratio of the sample firms ranges between 0 and 21.01 while the range of short term leverage ratio for the sample firms is between 0 and 216.62.

The average age of sample firms is 33 years. The oldest firms have been existence for 89 years. The variability of the age of the sample firms is 17.37 as shown by the standard deviation. The average growth opportunities of the sample firms are 0.26. The standard deviation of growth opportunities for the sample firms between 1998 and 2012 is 2.77. This indicates high degree of variability of growth opportunities of the sample firms. The firm with the smallest growth opportunities has growth opportunities of 28.79 and firm with the largest growth opportunities has 33.16 has growth opportunities. The average fixed asset as a percentage of total asset (Asset tangibility) of the sample firms is 0.40. The standard deviation is 0.43. The minimum is 0 and maximum is 10.44. The average size of sample firms from 1998-2012 is 10.02. The minimum size is 4.2 and maximum size is 20.9. The standard deviation of the size of sample firm is 3.92. This indicates that there is high variability of size of sample firms. The average return on equity of sample firms is 7.58. The standard deviation is 64.00. This signifies that

variability of return on equity is high. The range of return on equity for the sample firms is between 7.99 and 1558.6.

The average profitability of the sample firms is 0.071 while standard deviation is 0.1023. The minimum profitability of the sample firms is 0.102 and the maximum is 0.621. The mean dividend paid out by the sample firm from 1998-2012 is 0.355 while the standard deviation is 1.470. The minimum dividend paid by the sample firms is 2.24 while the maximum is 15.49.

The average inflation rate for the sample period is 72% with standard deviation of 34%. The minimum for the period is 29.6% and the maximum is 141%. The average interest rate for the sample period is 12%. The minimum is 6% and the maximum is 19%. The growth rate of GDP for the sample period is 5.8% on average with standard deviation of 1.9 indicating high level of variability of the growth in GDP. The minimum growth rate of GDP for the sample period is 1.19 while the maximum is 9.5. The average credit to private sector for the sample period is 18.32 with standard deviation of 10.09. The range is from 7.9 to 36.7.

The ownership variables indicate that the average individual shareholding in the sample firms within the sample period is 52% with standard deviation of 26.57%. The maximum individual shareholding is 100%. The average corporate shareholding of the sample firms is 23% with variability of around 27%. The maximum shareholding of corporate owners is 92%. Foreign owners have on the average 28% of shareholdings in the firm with standard deviation of 27%. The maximum shareholding of foreigners in the sample firms during the sample period is 78%.

The mean risk of firms during the sample period is around 0.17 with variability of 1.03 which suggest that most of the firms have high risk. The minimum risk of the sample firms is 2.56 and the maximum is 30.89. In terms of institutional quality, the average institutional quality

during the sample period is 2.26 with standard deviation of 4.26. The minimum during the sample period is 1.24 while the maximum is 12.24.

4.2 Empirical Results on leverage and firm performance

The estimated two step GMM results of model 1 is hereby presented below:

Table 5: Two step dynamic GMM estimated results of short term leverage ratio and return on equity

Dependent Variable (Return on equity)

Independent Variables	Coefficients
First lag of return on equity	0.4238 (0.000)***
Short term leverage ratio	0.6157 (0.000)***
Square of short term leverage ratio	-0.0030 (0.000)***
Asset Tangibility	-1.0153 (0.165)
Size	-0.0739 (0.021)
Age	-0.0566 (0.001)
Growth opportunities	-0.0022 (0.875)
Risk	0.0006 (0.575)
Ownership	-0.0617 (0.008)
Number of instruments	28
Arellano and Bond AR(2)	0.310
Hansen Prob	0.002

Note: Significance level *10% **5% ***1%

The result in table 5 above shows positive significant relationship between leverage measure by short term leverage ratio and performance (Return on equity). The estimated result produced coefficient of 0.61 (P value of 0.000). The result indicates that short term leverage ratio is statistically significant at 1 percent significance level. The Arellano and Bond test of autocorrelation show (AR2) value of 0.31. This indicates that there is no problem of second order

autocorrelation. This suggests that the model is correctly specified as the values is greater than 0.005. The Hansen test of instrument validity and orthogonal condition shows probability value of 0.026 which is not less than 0.1. This indicates that the instruments used in the specified estimated model are valid instruments. The estimated model maintained the rule of the thumb as regard instruments and groups. The number of instrument is expected to be less or equal to the number of groups. The estimated result shows that the number of instruments is less than number of groups.

The implication of the estimated positive significant results between short term leverage ratio and firm performance (ROE) is that short term leverage ratio has been effectively use as a disciplinary device to reduce managerial cash flow waste and mitigate the opportunistic behaviours of shareholders-managers through short term debt repayment obligations (Grossman and Hart,1982). The result suggests that shareholders- managers have been able to use short term debt to enhance the performance of firms in a way that equity investments of outside equity investors are protected and enhanced. The result supports the theoretical prediction of the agency cost theoretical model by Jensen and Meckling (1976) that high debts ratios serve as a disciplinary device which may help reduce the waste of cash flow due to the debt repayment obligation which makes managers strive to ensure they generate sufficient cash flow that can prevent liquidation.

In order to examine the position of the agency cost theoretical prediction that conflict of interests exist between debt holders and equity investors which arise as a result of risk of default and create under investment or debt overhang problem (Myers, 1977). The inclusion of the square term of short term leverage ratio is meant to capture this in the model. The result shows a negative significant relationship between the square term of leverage ratio and return on equity. This finding conforms with the negative theoretical prediction of the agency cost model that debt financing may aggravate the underinvestment problem (stulz,1990). The result indicates that

short term debt may be excessively employed by firms in a bid to use debt as a disciplinary device to reduce managerial cash flows. The excess short term debt may be employed for suboptimal investment which increases the default risk which may make debt repayment very difficult and eventually can result to debt overhang problem which may be inimical to firm performance. In this kind of case, debt may not be able to produce the desirable beneficial better performance that outside equity participants expect from the use of debt through the reduction of agency problem to ensure better performance. The negative significant results between square of short term leverage ratio and return on equity reflect the true state of how firm debt financing affect shareholder's investment of firms in Nigeria. **This study therefore accepts hypothesis Hi15 that there is statistical significant non-monotonic (positive relationship for small values and negative for large values of leverage ratios) relationship between leverage and firm performance.**

Apart from the use of unconventional measure of capital structure (short term leverage ratio) in model 1 as a result of the fact that majority of non-financial firms in the study setting (Nigeria) use more short term debt than long term debt (see table 4 on descriptive statistics), the study equally include the conventional and common measure of capital structure (long term leverage ratio and total leverage ratio) employ in most of the capital structure literature (see, Psillaki and Margaritis,2010;Fosu, 2013).The study therefore employ long term leverage ratio in model 1 as measure of capital structure to analyse the impact of capital structure on firm performance by testing the portability of the theoretical predictions of the agency cost model theory by Jensen and Meckling (1976) in the Nigerian context. The empirical results are presented below in table 6:

Table 6: Two step dynamic GMM estimated results of long term leverage ratio and return on equity

Dependent Variable (Return on equity)

Independent Variables	Coefficients
First lag of return on equity	0.4225 (0.000)***
Long term leverage ratio	1.2585 (0.175)
Square of long term leverage ratio	-0.0509 (0.253)
Asset Tangibility	-0.0247 (0.974)
Size	-0.0653 (0.038)
Age	-0.0292 (0.057)
Growth opportunities	-0.0063 (0.563)
Risk	0.0001 (0.895)
Ownership	-0.0142 (0.414)
Number of instruments	28
Arrelano and Bond AR(2)	0.305
Hansen prob	0.929

Note: Significance level *10% **5% ***1%.

The estimated result from table2 indicates positive insignificant relationship between capital structure (long term leverage ratio) and firm performance (ROE).The estimated results produced coefficient of 1.2585(P value of 0.175).The results indicates that total leverage ratio is not statistical significant at any of the conventional levels. The Arellano and Bond tests of autocorrelation show (AR2) probability value of 0.30.The autocorrelation value is greater than 0.005 which suggest that there is no problem of second order autocorrelation. The study therefore concludes that models were correctly specified. The Hansen test of instrument validity and orthogonal condition shows probability value of 0.92.The probability value of the Hansen test is not less than 0.1.The study therefore concludes that the instruments used in the estimated model are valid instruments. Similarly, the estimated model indicates that the number of

instruments is less than the number of groups. This connotes that the model satisfied the rule of thumb that the number of instrument should be less or equal to the number of groups.

The positive insignificant relationship finding between long term leverage ratio and firm performance (ROE) suggests that long term debt may not be available sufficiently to be employed as a disciplinary device to reduce cash flow waste of shareholder-managers (Grossman and Hart, 1982) and enhance firm performance. The negative insignificant results between square of long term leverage ratio and return on equity indicate some level of under investment problem which may not be very importantly related to default risk that arises from long term debt repayment obligations. The insignificant relationship is expected because of low mean of long term leverage ratio of listed non-financial firms in Nigeria (See table 4 on descriptive statistics). **The study therefore accept Hi15 that there is statistical significant non-monotonic (positive relationship for small values and negative for large values of leverage ratios) relationship between leverage and firm performance.**

Table 7: Two step dynamic GMM estimated results of total leverage and return on equity

Dependent Variable (Return on equity)

Independent Variables	Coefficients
First lag of return on equity	0.4396 (0.000)***
Total leverage ratio	8.5413 (0.000)***
Square of total leverage ratio	-0.2781 (0.000)***
Asset Tangibility	-0.8307 (0.000)***
Size	-0.1856 (0.000)***
Age	-0.05136 (0.000)***
Growth opportunities	-0.0067 (0.490)
Risk	-0.0031 (0.000)
Ownership	-0.0842 (0.000)
Number of instruments	64
Arrelano and Bond AR(2)	0.329
Hansen prob	0.001

Note: Significance level *10% **5% ***1%.

The study advanced further for the purpose of robustness employed another traditional conventional measure of leverage (total leverage ratio) to assess the impact of capital structure on firm performance. The estimated result of model 3 above indicate positive significant relationship between capital structure (total leverage ratio) and firm performance (ROE). The estimated result produced coefficient of 8.5413 (P value of 0.000). The result indicates that total leverage ratio is statistical significant at any of the conventional levels. The Arellano and Bond tests of autocorrelation show (AR2) value of 0.329. This autocorrelation value is greater than 0.005. This indicates that there is no problem of second order autocorrelation and the model is correctly specified. The Hansen test of instrument validity and orthogonal condition shows probability value that is not less than 0.1. This suggests that the instruments used in the estimated models are

valid instruments. The estimated model indicates that the number of instruments is less than the number of groups thereby satisfied the rule of the thumb that the number of instrument should be less or equal to the number of groups.

The implication of the positive significant relationship found between capital structure (total leverage ratio) and firm performance (ROE) is that the leverage may have help to reduce the agency problems at the firm level thereby assist in ensuring managers strive to achieve better performance(ROE) through optimal use of debts to create value for shareholders. This results support the theoretical position of the agency cost theoretical hypothesis that high debt ratios may use be able to prevent the opportunistic behaviour of shareholders-managers and ensure the protection of interest of outside equity investors. Debt may serve as disciplinary device that ensure shareholders-managers generate cash flows and do not waste the cash flows. This is possible because of the repayment obligations associated with debt. The negative findings between the square of total leverage ratio and firm performance (ROE) suggests that excessive use of debt financing may aggravate under investment problem which may impinge firm performance. Based on the positive significant findings between total leverage ratio and firm performance (ROE), and the negative significant findings between square of total leverage ratio and firm performance (ROE)the study therefore **accepts hypothesis Hi15: there is statistical significant non-monotonic (positive relationship for small values and negative for large values of leverage ratios) relationship between leverage and firm performance.**

The positive findings between leverage and firm performance conforms to the findings in the study of Margaritis and Psillaki (2007) that reported positive relationship between leverage and firm performance of New Zealand companies.The finding is also in line with similar positive finding in the study carried out by Margaritis and Psillaki (2010) using sample of French firms where they reported positive relationship between leverage and performance thereby supports the agency cost hypothesis that higher leverage is related to improved performance. The positive

relationship between leverage and performance reveal in this study equally supports the positive findings in the works of Sen and Heng (2011) for Malaysian firms and Majumdar and Sen (2010) for Indian firms. Similar positive finding between leverage and firm performance was reported in the study of Abor (2005) that document positive relationship between leverage and performance of firms in Ghana. The findings of these studies suggests that disciplinary measures embodied in debt contracts can be used to mitigate agency problem which in turn reduce moral hazards of the managers thereby make them strive to achieve better firm performance. However, the negative relationship between capital structure and firm performance conforms with the negative relationship reported between leverage and firm performance by other studies such as Armen et al.,(2004), Zeitun and Tian (2007), Bhagat and Bolton (2008) King and Santor (2008), Ghosh (2008); Ebaid (2009), Asimakopoulos et al.,(2009), Liew (2010), Majumdar and Sen (2010), Salim and Yadav (2012) on the relationship between leverage and firm performance. The work of Ebaid (2009) on Egyptian firm shows negative relationship between leverage and firm performance. Similar negative result was documented in the study of Salam and Yadav (2012) that reported negative relationship between leverage and firm performance of listed firms in Malaysia. Similar negative result was documented in the work of Zeitun and Tian (2007) on Jordanian listed firms. These studies found support for the underinvestment problem of firms that arises due to default risk that occur due to conflict of interest between debt holders and shareholders and the excessive use of debt impinging firm performance.

Generally, the empirical findings from the estimated model1 using short term, long term and total leverage ratios and their square term as main variables in model 1 indicate that the relationship between capital structure and firm performance in Nigeria generally provide support for the agency cost theoretical model of capital structure as posits by Jensen and Meckling (1976) and Stulz (1990). Stulz (1990) posits that debt can have positive effect on firm performance when it is moderately employed and negative effect when it excessively used on firm

performance. Both effects are presumed to be present in all firms. This study therefore supports the portability of the agency cost theoretical model in the Nigerian context but calls for some modifications to accommodate the short term financing environment of Nigeria and several market imperfections variables (High default risk, high transaction costs, information asymmetries, risk shifting behaviour, poor contract enforcement and weak investor protection, weak legal institutions, unsound corporate governance etc) that characterise an emerging market like Nigeria.

Apart from analysing the impact of leverage on firm performance, the study also examine the leverage ratio that maximizes firm performance (ROE). This is computed by dividing the linear coefficient of the leverage ratios by twice their quadratic coefficient contained in the result Tables 5, 6 and 7. The estimated results show that the leverage short term ratio, long term ratio and total leverage ratio that maximizes return on equity for listed firms in Nigeria is approximately 102.6 for the “optimal” short-term leverage ratio, approximately 12.4 for the long-term and approximately 15.4 for the total leverage ratio.

Table 8: List of hypotheses accepted based on their significance

	Hypotheses	Accepted
Hi15	There is statistical significant positive relationship between leverage and firm performance:	
	(a) Total leverage ratio and return on equity (ROE) (b) short term leverage ratio and return on equity (ROE)	X X
Hi15	There is statistical significant negative relationship between leverage and firm performance:	
	(a) Square of short term leverage ratio and return on asset(ROE) (b) Square of total leverage ratio and return on equity(ROE)	X X

Apart from the direct relationship between capital structure and firm performance as embodied in the agency cost theoretical model developed by Jensen and Meckling (1976) and Stulz (1990). This study also examines empirically the plausibility of the efficiency risk and franchise-value hypotheses in the Nigerian case. In the same vein, the study examines the possibility of non-monotonicity between firm performance and leverage of firms. The empirical results are presented in the next chapter.

CHAPTER FIVE

PRESENTATION OF EMPIRICAL RESULTS ON FIRM PERFORMANCE AND CAPITAL STRUCTURE

5.0 Preamble

This is the second empirical chapter of the thesis. The chapter examines the possibility of reverse causality from performance to leverage of firms. The chapter provides an introduction to the subject and tested three hypotheses specified in chapter three on reverse causality between firm performance and capital structure. It reports the results of the hypotheses tested and discusses the findings in the context of outcome from previous studies and predictions of efficiency risk and franchise value hypotheses. Section 5.2 provide the results and this is discussed in section 5.3.

5.1 Empirical Results on firm performance and leverage

The estimated model 2 employs first lag of return on equity as main variable and firm specific factors including current return on equity as control variables in the model. Current return on equity is included in the model to capture the impact of current return on equity as a performance indicator that influence leverage of firm. This is meant to corroborate the use of past performance variable (lagged return on equity) as posit in the franchise value and risk efficiency hypotheses of reverse causality. It is expected that current financial performance of firms may be an important factor that influences their leverage apart from past financial performance as predicted by theories. The results are hereby presented below:

Table 9: Two step dynamic GMM estimated results of return on equity and total leverage ratio

Dependent Variable: Total Leverage ratio.

Variables	Coefficient
TLR t-1	0.8162(0.000)***
ROE	0.0012(0.000)***
ROE t-1	-0.0012(0.000)***
Growth opportunities	0.0015(0.417)
Tangibility	-0.0835(0.000)***
Size	-0.0183(0.000)***
Age	-0.0006(0.000)***
Arellano and Bond (2) Pr>Z	0.287
Hansen test (Robust Probability)	0.67

Note: 10%*5%**1%***

The estimated result show negative relationship between first lag of return on equity and total leverage ratio. The estimated result produced coefficient of 0.0021 (P value of 0.000). This result indicates that statistical significant relationship exists between return on equity and total leverage ratio. The Arellano and Bond test of autocorrelation shows (AR2) value of 0.287 for the estimated model. The autocorrelation value is greater than 0.005 thereby indicates that there is no problem of second order autocorrelation therefore the model was correctly specified. The Hansen test of instrument validity and orthogonal condition shows probability value of 0.67. The probability value of the Hansen test was not less than 0.1. The results suggest that the instruments used in the estimated model are valid instruments. The estimated model indicates that the number of instrument are less than the number of groups thereby satisfied the rule of the thumb that the number of instrument should be less or equal to the number of groups.

The negative significant result found between return on equity and total leverage ratio supported the franchise value hypothesis and refuted the efficiency-risk hypothesis in the Nigerian case. This indicates that as firm record improved performance over time in terms of return on equity the less debt financing they tend to employ in their capital structure. They may prefer to employ more equity financing over debt financing to prevent the taken over of value they have created over time by debt holders. This implies that apart from the direct prediction suggested in the agency cost theory between capital structure and firm performance, this finding suggests that there exist a reverse causality between leverage and firm performance i.e. leverage choice of firm is influence by their past performance. **The study therefore accepts hypothesis Hi16b based on the estimated results that there is statistical significant negative relationship between firm performance and leverage (Total leverage ratio).**

The study examines further whether the result would change or remain the same with the use of other measures of leverage. The estimated results are presented below:

Table 10: Two step dynamic GMM estimated results of return on equity and short term leverage ratio

Variable	Coefficient
STLR t-1	0.7972(0.000)***
ROE	-0.0017(0.000)***
ROEt-1	-0.0022(0.000)***
Growth opportunities	-0.0062(0.030)
Tangibility	-0.4960(0.000)***
Size	-0.4960(0.000)***
Age	-0.0155(0.000)***
Arellano and Bond(AR2)	0.323
Hansen test (Robust) probability	0.22

Note: 10%*5%**1%***

The estimated result indicates negative relationship between lag of return on equity and short term leverage ratio in the estimated model two. The estimated result produced coefficient of 0.0022(P value of 0.000). This result indicates that statistical significant relationship exists between return on equity and short term leverage ratio. The Arellano and Bond test of autocorrelation shows (AR2) value of 0.323 for the estimated model. The autocorrelation value is greater than 0.005 thereby indicates that there is no problem of second order autocorrelation therefore the model was correctly specified. The Hansen test of instrument validity and orthogonal condition shows probability value of 0.22. The probability value of Hansen test was not less than 0.1. The results suggest that the instruments used in the estimated model are valid instruments. The estimated model indicates that the number of instrument are less than the number of groups thereby satisfied the rule of the thumb that the number of instrument should be less or equal to the number of groups.

The negative significant result found between return on equity and short term leverage ratio supported the franchise value hypothesis and refuted the efficiency-risk hypothesis in the Nigerian case. This indicates that as firms record improved performance over time in terms of return on equity the less debt financing their tend to employ in their capital structure. They may prefer to employ more equity financing over debt financing to prevent the taken over of their firms by debt holders in the event of bankruptcy. This implies that capital structure choice of firms is influence by their past performance rather than capital structure influencing performance i.e evidence of reverse causality from performance to capital structure. Based on the estimated results the study accepts **hypothesis (H16b) that negative relationship exist between firm performance and capital structure (short term leverage ratio).**

Table 11: Two step dynamic GMM estimated results of return on equity and long term leverage ratio

Dependent Variable: return on equity

Variable	Coefficient
LTLR t-1	0.6809(0.000)***
ROE	-0.0086(0.000)***
ROEt-1	-0.004(0.000)***
Growth opportunities	-0.1344(0.000)***
Tangibility	-0.0084(0.237)
Size	0.0017(0.000)***
Age	-0.0035(0.000)***
Arellano and Bond(AR2)	0.215
Hansen test (Robust) probability	0.14

Note: 10%*5%**1%***

The estimated result in table 10 above reveals that negative relationship exist between lag of return on equity and long term leverage ratio. The estimated result produced coefficient of 0.004(P value of 0.000). This result indicates that statistical significant relationship exists between return on equity and total leverage ratio. The Arellano and Bond test of autocorrelation shows (AR2) value of 0.215 for the estimated model. The autocorrelation value found was greater than 0.005 thereby indicated that there is no problem of second order autocorrelation therefore the model was correctly specified. The Hansen test of instrument validity and orthogonal condition shows probability value of 0.14. The probability value of the Hansen test was not less than 0.1. The results suggest that the instruments used in the two estimated models were valid instruments. The estimated model indicated that the number of instruments were less than the number of groups thereby satisfied the rule of the thumb that the number of instrument should be less or equal to the number of groups.

The negative significant result found between return on equity and long term leverage ratio supports the franchise value hypothesis and refuted the efficiency-risk hypothesis in the Nigerian case. This indicates that as firm record improved performance over time in terms of return on equity the less debt financing (long term leverage) they tend to employ. They may prefer to employ more equity financing over debt financing to prevent the taken over of their firms by debt holders to protect the value they have created over time through better performance. This implies that leverage choice of firms is influence by their past performance rather than leverage influencing performance directly i.e. evidence of reverse causality from performance to leverage. Based on the estimated result that produced negative sign between return on equity and long term leverage ratio, **the study therefore accepts hypothesis H16b based on the estimated results that there is statistical significant negative relationship between firm performance and leverage (long term leverage ratio).**

Generally, the negative relationship found between firm performance and leverage supports the findings in the work of Margaritis and Psillaki (2007) for firms in New Zealand. The reported negative relationship found between firm performance and capital structure suggests that past performance drive firms to employ higher equity capital ratio in a bid to protect the value created over time as posits in the franchise-value hypothesis. The negative findings reported in this study ran contrary to the findings of Berger and Udell (2006) on banks in the United States, Margaritis and Psillaki (2010) for French firms and Yeh (2010) for Taiwanese firms that found positive relationship between performance and capital structure as posits in the efficiency-risk hypothesis (better performance is related to higher leverage ratio).

Based on the non- monotonicity prediction in the agency cost theory regarding leverage and firm performance. This study take cue from the non-monotonicity prediction of the agency cost theory to explore the possibility of non-monotonicity between performance and leverage.

Although, non-monotonicity prediction is not part of the prediction of the reverse causality hypotheses: franchise value and efficiency risk hypotheses. The non-monotonicity between firm performance and leverage implies the responsiveness of leverage to change in ROE. The expected non-monotonic relationship suggest that the relationship between firm performance and leverage would be positive when firm performance is low and would turn negative at high performance level. The empirical findings from the different leverage ratio (long term leverage ratio, short term leverage ratio and total leverage ratio) measures are hereby presented below:

Table 12: Two step dynamic GMM estimated results of return on equity and long term leverage ratio.

Variable	Coefficient
LTLR t-1	0.4889(0.000)***
ROE	0.0014(0.000)***
ROEt-1	-0.0002(0.000)***
ROE SQUARE	-1.0600(0.000)***
Growth opportunities	-0.0223(0.001)***
Tangibility	-0.0379 (0.010)
Size	0.0001(0.790)***
Age	-0.0016(0.000)***
Arellano and Bond(AR2)	0.331
Hansen test (Robust) probability	0.001

Note: 10%*5%**1%***

The empirical findings from table 12 above suggest that there is non-monotonic relationship between performance and leverage. This is indicated in the positive statistical relationship between return on equity (ROE) and long term leverage ratio and the negative statistical relationship between square of return on equity and leverage. The positive findings suggest that at low level of performance (ROE) firms in Nigeria tend to employ more debt. The negative result between square of return on equity and long term leverage ratio suggest that as performance level of firm improves the less debt financing they tend to employ. The positive

relationship may suggest that the efficiency- risk hypothesis holds in the Nigerian context when the performance of firm is still low. This signifies that as much as the firm is still generating returns for equity holders, even the return may be low, the firm tends to employ more debt financing to mitigate agency problem. This supports the efficiency risk hypothesis. The negative relationship between square of return on equity and long term leverage ratio indicates that as firm performance improves in terms of returns that the firm is able to generate for equity holders, the less debt financing firm tends to employ to mitigate agency problem. There is possibility that they use more equity rather than debt in order to protect the value they have created over time from being taken over by debt holders. This supports the theoretical position of the franchise value hypothesis that firms with better performance tends to employ more equity financing than debt financing in a bid to protect the value they have created over time.

Table 13: Two step dynamic GMM estimated results of return on equity and short term leverage ratio

Dependent Variable: return on equity

Variable	Coefficient
STLR t-1	0.6097(0.000)***
ROE	0.0013(0.000)***
ROEt-1	-0.0002(0.000)***
ROE SQUARE	-1.1300(0.000)***
Growth opportunities	-0.0011(0.044)
Size	0.0077(0.000)***
Age	-0.0059(0.000)***
Arellano and Bond(AR2)	0.173
Hansen test (Robust) probability	0.01

Note: 10%*5%**1%***

The empirical findings from table 13 above suggests that there is non-monotonic relationship between performance and leverage (short term leverage ratio).This is indicated in the positive statistical significant relationship between return on equity (ROE) and short term leverage ratio

and the negative statistical significant relationship between square of return on equity and short term leverage. The positive findings suggest that at low level of performance (ROE), firms in Nigeria tend to employ more short term debt financing. The negative result between square of return on equity and short term leverage ratio suggests that as performance level of firm improves, the less short term debt financing firms tend to employ.

The positive finding between return on equity and short term leverage ratio lend credence that the efficiency- risk hypothesis holds in the Nigerian context. This signifies that as much as the firm is still generating returns for equity holders, even the return may be low, this may create opportunities for firms to access more debt financing to mitigate agency problem. This supports the efficiency risk hypothesis. The negative relationship between square of return on equity and short term leverage ratio indicates that as firm performance improves in terms of returns that the firm is able to generate for equity holders, the less short term debt financing firm tends to employ to mitigate agency problem. This indicates that firm tends to use more equity rather than debt in order to protect the value they have created over time from being taken over by debt holders. This supports the theoretical position of the franchise value hypothesis that firms with better performance tends to employ more equity financing than debt financing in a bid to protect the value they have created over time.

Table 14: Two step dynamic GMM estimated results of return on equity and long term leverage ratio

Variable	Coefficient
TLR t-1	-0.1613(0.000)***
ROE	0.0065(0.000)***
ROEt-1	-0.0002(0.000)***
ROE SQUARE	-3.7100(0.000)***
Growth opportunities	-0.0026(0.116)
Tangibility	-0.1185 (0.004)
Size	0.0005(0.819)***
Age	-0.0045(0.004)***
Arellano and Bond(AR2)	0.160
Hansen test (Robust) probability	0.055

Note: 10%*5%**1%***

The empirical findings from table 14 above suggests that there is non-monotonic relationship between performance and leverage (total leverage ratio). This is indicated in the positive statistical significant relationship between return on equity (ROE) and total leverage ratio and the negative statistical significant relationship between square of return on equity and total leverage ratio. The positive findings suggest that at low level of performance (ROE), firms in Nigeria tend to employ more short term and long term debt financing. The negative result between square of return on equity and total leverage ratio suggests that as performance level of firm improves, the less short term and long term debt financing firms tend to employ. The positive finding between return on equity and total leverage ratio lend support for the efficiency- risk hypothesis in the Nigerian context. This signifies that as much as the firm is still generating returns for equity holders, even the return may be low, there are opportunities for firms to access more debt financing to mitigate agency problem. This supports the efficiency risk hypothesis. The negative relationship between square of return on equity and total leverage ratio indicates that as firm performance improves in terms of returns that the firm is able to generate for equity holders, the less short term and long term debt financing firm tends to employ to mitigate agency problem.

This indicates that firm tends to use more equity rather than debt in order to protect the value they have created over time from being taken over by debt holders. This supports the theoretical position of the franchise value hypothesis that firms with better performance tends to employ more equity financing than debt financing in a bid to protect the value they have created over time.

Generally, the findings indicate that apart from the reverse causality between performance and leverage, the relationship between firm performance (ROE) and leverage (short term, long term and total leverage ratios) is also non-monotonic. Based on this finding, the study accepts **H_{i17}** that there is statistical significant non-monotonic (positive relationship for small values and negative for large values of return on equity) relationship between performance and leverage.

Table 15: List of hypotheses accepted based on significance of results.

	Hypotheses	Accepted
H ₀₁₆	There is negative statistical significant relationship between firm performance (ROE) and leverage (Short term, long term and total leverage ratios)	X
H _{i17}	There is non-monotonic relationship between performance (ROE) and leverage (short term, long term and total leverage ratios).	X

CHAPTER SIX

PRESENTATION OF EMPIRICAL RESULTS ON DETERMINANTS OF CAPITAL STRUCTURE

6.0 Preamble

This is the third empirical chapter of the thesis. It examines the determinants of capital structure of firms. The chapter provides introduction to the subject and test a number of hypotheses specified in chapter three on firm specific and country specific determinants of capital structure. It reports the results of the hypotheses tested and discusses the findings in the context of outcome from previous studies and predictions of the agency cost theoretical model. The chapter is structures as follows: Section 6.2 provides the results and this is discussed in section 6.3 while section 6.4 provides a summary of the chapter.

6.1 Empirical results on determinants of leverage

The estimated result of determinants of capital structure is presented below:

Table 16: Two step Dynamic GMM Results of determinants of leverage.

Short term leverage ratio		Long term leverage ratio		Total leverage ratio	
Stlrt-1	0.6888 (0.000)***	Ltlr t-1	1.3321 (0.000)***	Tlr t-1	0.5008 (0.000)***
Roe	-0.1281 (0.000)***		-0.0042 (0.003)**		-0.0030 (0.098)
Roet-1	-0.2165 (0.000)***		-4.6200 (0.995)***		0.0011 (0.447)
Risk	-2.2778 (0.001)***		-0.0174 (0.513)***		-0.1417 (0.001)***
Age	0.0483 (0.000)***		-0.0040 (0.000)***		0.0079 (0.000)***
Size	0.7925 (0.000)***		0.0056 (0.003)***		0.0070 (0.006)
Growth opportunities	-0.0045 (0.000)***		0.0028 (0.000)***		-0.0036 (0.000)***
Dividend	0.0378(0.00))***		0.0892 (0.064)		0.0926 (0.000)***
Individual ownership	-0.1030 (0.000)***		0.0007 (0.054)		0.0007 (0.296)
Corporate ownership	-0.0786 (0.000)***		0.0002 (0.351)		0.0017 (0.008)*
Foreign ownership	-0.0699 (0.000)***		0.0021 (0.001)***		-0.0015 (0.0061)
Tangibility	-0.0073 (0.000)***		-0.0930 (0.128)		-0.2067 (0.026)
Inflation	-1.7328 (0.000)***		-0.0064 (0.000)***		-0.0039 (0.000)***
Institutions	-0.0928 (0.000)***		-0.0064 (0.000)***		0.0057 (0.183)***
Interest rates	-1.7328 (0.000)***		-0.01290 (0.000)**		0.0072 (0.024)
Growth rate of gross domestic product	-11.1692 (0.313)		-0.0410 (0.0001)***		0.0181 (0.020)
Credit to private sector as percentage of gross domestic product	0.4234 (0.000)***		0.0175 (0.000)***		-0.0286 (0.000)***
Profitability	0.4280 (0.000)***		-0.4502 (0.000)		-0.8819 (0.022)***
AR(2)	0.324		0.451		0.578
Hansen test	1.000		0.649		0.482

Note: Significant level 10* 5%**1%*** Number in Parentheses represent probability Z values. Numbers without parentheses represent the coefficient of the variables. Stlr (short term leverage ratio); Ltlr(long term leverage);Tlr (total leverage ratio)

Table 16 above shows that the relationships between the first lag leverage ratio (short term, long term and total leverage) and current leverage is positive and significant for all three measures of leverage. This indicates that immediate year financing choice of firms influences the current leverage choice of firms. The results in Table 16 shows that listed firms on the Nigerian Stock exchange close on average (1-coefficient of the leverage ratios) 32% of the gap between previous year's short term leverage and the target short term leverage for the current year. Firms close on average 33% of the gap between previous year's long term leverage and the target long term leverage for the current year while 50% of the gap between previous year's total leverage and the target total leverage for the current year would be close by the firm. These results signify that the speed of adjustment of firms towards optimal debt target is relatively fast and the cost of adjustment is low. This finding supports the theoretical inverse relationship that is expected between cost of adjustment and speed of adjustment of firms. The findings connotes that the adjustment costs for short term, long term and total leverage of firms to achieve optimal debt target in Nigeria is low and the speed of adjustment is relatively high.

The relative high speed of adjustment signifies that firms in Nigeria do adjust swiftly towards achieving their optimal leverage position. This is expected because of the facts that financial markets for long term public debt and equity are still not well undeveloped in Nigeria. Most firms rely on private debt particularly short term debt from commercial banks as major source of debt financing which is cheaper and easy to access in Nigeria when compare to public debt and equity. The findings contradicts most of the reported findings by previous studies on cost and speed of adjustment in developed economies such as US, UK France, Germany and Japan. The adjustment costs in most of these economies is around 74% and the speed is approximately around 25% (Antonia et al, 2008). Other studies such as Fama and French (2002); Flannery and Rajan (2005); Lemmon et al (2008) have reported speed of adjustment of between 15%-34% for US firms. Arioughu and Tuan (2014) and Getzmann et al (2010) reported speed of

adjustment between 29%-39% for Turkish firms. Based on the reported speed of adjustment in the developed economies, the study contend that that the speed of adjustment of firms in Nigeria may be term to be relatively faster than that of developed economies. This relatively fast speed of adjustment of Nigerian firms conforms to the findings reported in several studies in emerging economies. Studies such as Haron et al (2013) reported speed of adjustment of 57% for Malaysian firms, Ramjee and Gwartidzo (2012) reported 66% to 80% for South African firms. A more recent finding of 43% for African firms by Mukhtar and Ahmad (2015) signals the high speed of adjustment for listed African firms thereby implies that the cost of adjustment is low when compared to firms in several developed markets. One important reason adduced by these studies on emerging market firms is that the low adjustment costs and the high speed of adjustment of firms may be as a result of underdeveloped bond markets in emerging countries. This makes firms in emerging markets to rely on private debt which is a major source of debt financing especially in Africa (Ncube,2007).This equally connotes that Banks in emerging markets provide lower transaction cost than public debt and equity markets.

The estimated results for short term leverage ratio indicate that profitability is statistically and positively related to leverage. This suggests that as firms become more profitable, they tend to employ more debt financing to mitigate opportunistic behaviour of firms. The positive result supports the theoretical positive prediction between profitability and leverage posit by the agency cost theory. The agency cost theoretical model is hinged on the fact that debt is used by firms as a measure to prevent managers to have access to excess cash flow that can enhance their opportunistic behaviours. As firms become more profitable they have the capacity to obtain more debt at cheaper cost as profitability signals that they may have repayment capacity. In view of this,**the study therefore accepts hypothesis (H2) that statistically significant positive relationship exist between profitability and leverage of firm.** The positive relationship documented between profitability and short term leverage ratio supports the positive findings of

previous empirical studies such as the works of Salawu and Agboola (2008), Chandrasekharan (2011), Barine (2012) that equally reported positive relationship between profitability and leverage. The statistical significant negative relationship between profitability and leverage (long term and total leverage ratios) suggests that despite the fact that firms are profitable, they do not long term debt financing to mitigate agency problem at the firm level. The negative relationship between profitability and leverage finding in this study supports the empirical negative finding reported in the studies of Al-Sakran (2001), Chen(2004), Deesomsak et al.,(2004), Xiao(2006), Salawu (2007), Qian et al.,(2008), Qian and Wirjanto (2009), Chakraborty (2010), Sheik and Wang (2011) and Akinlo (2011).

The study found statistical significant positive relationship between size and leverage (short term and long term leverage ratios). The same positive relationship is found between total leverage ratio and size but it is insignificant. The statistically significant positive relationship between leverage and size signifies that as firm size increases opportunities to use debt financing to mitigate opportunistic behaviour of firm also increase. This suggest that bigger firms may employ more debt financing than small firms to mitigate agency problem as agency problem is expected to be more pronounced in bigger firms than small firms.

This finding indicates that the agency cost theoretical model as conceived by Jensen and Meckling (1976) with the assumption of capital structure as only long term debt and equity may stand incomplete and may not be generalizable and portable to all context without modification to account for short term leverage. Short term debt financing is usually employed by most firms in developing and emerging markets like Nigeria due to their underdeveloped financial markets and poor contracts enforcements that make long term debt expensive and difficult to access by most firms. Although, the results indicates that firms especially bigger firms may employ long term debt financing apart from short term debt financing to mitigate opportunistic behaviour of managers.

Based on the findings, the study accepts hypothesis **(Hi1) that statistical significant positive relationship exists between firm size and leverage(short term and long term leverage ratio)**.The positive relationship between size and leverage conforms with the findings of Titman and Wessels (1988), Rajan and Zingales (1988), Wiwattanakantang (1999), Al-Sakran (2001), Green and Mutenheri (2002), Deesomsak et al. (2004), Boteng (2004), Hovakimian et al. (2004), Zou and Xiao (2006), Salawu (2007), Karadeniz et al. (2008), Haung and Song (2008), Salawu and Agboola (2008), Qian et al. (2008), Abor and Biekpe (2009), Qian and Wirjanto (2009), Sheik and Wang (2011), Akinlo (2011) and Michalca (2011) that have reported positive relationship between size and leverage.

The relationship between tangibility and leverage (short term leverage ratio) is found to be negative and statistically significant. Tangibility is also found to be negatively related to long term and total leverage ratios but not statistically significant. The results indicate that as firms have more tangible assets the less debt financing they may employ to prevent monitoring and reduce opportunistic behaviours. This contradicted the positive theoretical prediction of the agency cost theoretical model that firms with more tangible assets tend to employ more debt financing. The tangible asset can serve as collateral to secure the debt in the event of bankruptcy. Managers would then strive to ensure debt repayment to prevent bankruptcy which may affect their reputation and could result into job loose. **The study therefore rejects hypothesis (Hi3) that positive relationship exist between asset tangibility and leverage.**

The negative relationship between tangibility and leverage documented in this study supports the works of Alderson and Betker (1995), Vilasuso and Minkler(2001), Karadeniz et al.(2008), Sheik and Wang(2011), Michalca (2011), Akinlo (2011) and Joeveer (2013) that found negative relationship between asset tangibility and leverage. However, the finding contradicted the positive result that supported the agency cost theory documented in the works of Bradley et al.,(1984), Hovakimian et al.,(2004), Korajczyk and Levy(2003), Chen(2004), Haung and Song

(2006), Zou and Xiao(2006), Salawu (2007), Qian and Wirjanto (2009), Shehu (2011), Chandrasekharan (2012) and Drobetz et al. (2013).

In the same vein, the estimated results show that negative significant relationship exists between growth opportunities and leverage (short term and total leverage) but the relationship is positive and significant between growth opportunities and long term leverage ratio. The results support the dual relationship predicted by the agency cost theory that positive and negative relationship can occur between growth opportunities and leverage. The results indicate that as firms have more opportunities to grow, the less debt financing they employ in terms of short term and total debt. The use of less short term debt may be to prevent restrictions that can arise from the debt covenants which can hinder them from exploring future growth opportunities. However, the more opportunities for growth that the firm have the more long term debt firms employ. More long term debt may be used to prevent the exploitation of future growth opportunities of firms through managers' opportunistic behaviours. The positive relationship between growth opportunities and leverage documented in this study conforms to the studies of De Miguel and Pindado (2001), Salawu (2007), Karadeniz (2008), Shehu (2011) and Chandrasekharan (2012). The negative relationship supports the works of Al-Sakran (2001), Hovakimian (2004), Salawu and Agboola (2008) and Akinlo (2011). **The study accepted hypothesis (Hi4) that positive statistical significant relationship exists between growth opportunities and leverage.** The estimated results indicate positive significant relationship between dividend and short term leverage as well as long term leverage. Although, the relationship between dividend and total leverage was found to be positive but it was insignificant. These results show that as firms have obligations to pay more dividends the more their leverage ratio. They tend to employ more debt financing to generate more returns so that they can pay dividend to shareholders. **The study accepts hypothesis (Hi7) that positive relationship exist between dividend and leverage.**

The estimated result shows that foreign ownership is negative and statistically significantly related to short term leverage ratio. The relationship between foreign ownership and long term leverage ratio is found to be positive and statistically significantly related to long term leverage ratio. The relationship between foreign ownership and leverage (total term leverage ratio) is found to be negatively related to total leverage ratio but insignificant. Individual ownership was found to be negative and significantly related to short term leverage, but the relationship between total leverage ratio and individual ownership is found to be positive and statistically significant. The relationship between individual ownership and long term leverage ratio is found to be positive but insignificant. Corporate ownership was found to be negative and statistically significantly related to short term leverage ratio. However, the relationship between corporate ownership is found to be positive and statistically significant related to total leverage ratio. The result shows positive insignificant relationship between long term leverage ratio and corporate ownership. **Based on the findings, the study accepts hypothesis (Hi6) that statistically significant positive relationship exist between ownership and leverage.**

The agency cost theory predicts dual relationship between ownership and leverage. Positive relationship is expected between ownership and leverage when ownership interest of managers is low. The firms may be able to employ more debt to mitigate agency problem. This prediction is supported by the positive relationship found between ownership (individual, corporate and foreign ownership) and leverage (long term and total leverage ratios). This suggests that firms may tend to employ more long term debt to prevent opportunistic behaviours of managers. But ownership (individual, corporate and foreign) is found to be statistically significantly negatively related to short term leverage ratio. This supports the negative prediction of the agency cost theory that firms that have managers have high amount of ownership are more likely to have less debt financing. This is because the managers may not want to lose control, ownership and opportunities to utilize free cash flow. The negative results

reported between the different ownership measures and short term leverage ratio indicate that firms tend to employ less short term debt financing as a mechanism to prevent opportunistic behaviour of managers

The use of less short term debt by the managers may be to ensure that they continue to exert control and enjoy perks and perquisites that may be difficult if they employ more short term debt because of the monitoring and other short time repayment obligations associated with the short term debt financing. The positive relationship between ownership and leverage conforms with the findings of Bradley et al. (1984), Wiwattanakantang (1999), Li et al. (2007), Qian et al. (2008), Qian and Wirjanto (2009). The negative relationship documented in this study between individual, corporate and foreign ownerships and leverage (short term ratio) supports the findings reported in the works of Zou and Xiao (2006).

The study result reveals that the relationship between age and leverage (short term and total leverage ratios) is positive and statistically significant. But the relationship between age and long term leverage ratio is found to be statistically significant and negatively related. The positive relationship between age and leverage indicates that old firms have opportunities to employ more short term debt financing to mitigate agency problem. The negative relationship between age and long term leverage suggests that firms employ less long term debt financing as they get older. This indicates that firms in Nigeria may not have opportunities to employ long term debt financing to mitigate agency problem despite their long years of existence. Based on the positive relationship findings between age and leverage, **the study accepts H8 that statistical significant positive relationship exists between age and leverage.**

The findings equally reveal that there is statistically significant negative relationship between risk and leverage (short term, long term and total leverage ratios). These findings indicate that as firms become riskier, the less debt financing they may employ to mitigate agency

problem. These findings suggest that opportunities to use debt financing to mitigate opportunistic behaviours of managers reduce as firms become riskier. The high level of risk of firms may imply that the firms may have low repayment capacity. Creditors and other debt financier may not be willing to provide financing for firms whether short term or long term basis because of poor creditor enforcement and weak institutional quality in Nigeria. Apart from low repayment capacity of firms, poor enforcement and weak institutional quality may also serve as disincentives for the creditors and debt holders to provide financing for risky firms. Based on the negative findings between leverage and risk of firm, the study **accepts Hi5 that statistically significant negative relationship exists between risk and leverage.**

In the same vein, the result findings reveal statistically significant negative relationship between return on equity and leverage (short term, long term and total leverage ratios). The same statistically significant negative relationship is found between leverage (short term and long term leverage ratios) and first lag of return on equity. These findings indicate that firms use less debt financing to mitigate agency problem when they have better current and immediate past performance (return on equity). **The study therefore rejects Hi9 that statistically significant positive relationship exists between return on equity and leverage.**

Apart from firm specific theoretical factors employed as determinants of capital structure of firms derived directly from the agency cost theoretical model, the role of country specific factors such as macroeconomic and financial variables are equally captured in the estimated model of determinants of capital structure of firms in Nigeria. This follows from the fact that firms operate in different environment and the peculiarities of each environment in terms of macroeconomic conditions and financial development can influence their capital structure choice apart from internal firm specific factors (Rajan and Zingales, 2003; Kyaw 2004; Bokpin, 2009). In view of this fact, macroeconomic and financial variables were included in the capital structure determinants model aside from firm specific factors.

The estimated results reveal statistically significant negative relationship between interest rates and leverage (short term and long term debt). However, the estimated results show that the relationship between interest rates and total leverage is positive and statistically significant. The negative statistically significant results reported between interest rates and leverage conforms to expectation and reflects reality on ground in Nigeria. The negative significant relationship documented between interest rates and leverage ratios (short term and long term leverage) indicates the high cost of debts in an emerging market like Nigeria. This suggests that debts whether short or long term may be very unattractive as a device to mitigate agency problem at the firm level because of the high cost of fund in Nigeria. The poor institutional quality in most of the developing countries that does not guarantee contract enforcement and protection of rights of creditors could be attributed to account for the high interest rates as creditors especially financial institutions strive to mitigate against default risk thereby provide debt as very high rates. The issue of poor institutional quality is further buttressed by the negative statistically significant relationship reported between institutional quality variable and leverage (short term and long term leverage ratios). The findings support the acceptance **Hi14 that negative statistically significant relationship exist between institutional quality and leverage.**

Furthermore, the negative statistical significant relationship between leverage and interest rates produced from the estimated results contradicted the positive relationship reported in most studies that have employed samples of firms from developed economies including the works of Nejadmalayeri (2001), Drobetz and Nanzenried (2006), Gonzalez et al. (2007), Sinha and Ghosh (2010), Cook and Tang(2010), Hatzinikolaous et al. (2002), Hackbarth et al. (2006). In developed economies, debt financing is very attractive to most firms because of the low cost and abundant availability of both short term and long term debt from the developed financial markets. The study therefore accepts hypothesis **(Hi11) that negative relationship exists between interest rates and leverage of firms.**

The study reported negative statistically significant relationship between macroeconomic condition and leverage. Most emerging economies including Nigeria have experienced poor macroeconomic economic conditions and are susceptible to fluctuations in the international macroeconomic environment. This makes raising debt financing from financial institutions and bond market for the purpose of reducing agency problem very difficult. Based on the negative findings between macroeconomic conditions and leverage, this study accepts hypothesis **(Hi12) that statistically significant negative relationship exists between macroeconomic conditions and leverage of firms.** The study findings support the work of Hackbarth et al. (2006) and contradicted the findings of Korajczyk and Levy (2003) and Gonzalez et al. (2007).

The study found positive significant relationship between financial development and leverage. This indicates that as the financial sector develops, firms employ more leverage to mitigate opportunistic behaviours of managers. The explanation for this kind of relationship in the Nigerian context may be that as the financial sector especially stock market develops more firms particularly old firms approach the stock market to raise funds while a good number of firms also approach the banks for debt financing to mitigate agency problem at the firm level. The positive significant relationship supports the findings in previous studies such as Demirguc-Kunt(1996) Giananetti(2003), Kyaw (2004) and Bokpin (2009) that documents positive relationship between financial development and leverage. The positive relationship found between financial development and leverage informed the rejection of **hypothesis (Hi13) that negative relationship exists between financial development and leverage.** However, the positive relationship contradicts the negative findings between financial development and leverage reported in the works of Schmukler and Vesperoni(2006) and Ameer(2010).

The estimated negative statistically significant relationship found between inflation and leverage (total leverage ratio, long term and short term leverage ratio) suggests that during period of high inflation, firms tend to employ less debt financing as a disciplinary device to mitigate

agency problem. The reported negative relationship contradicts the findings in the works of Kim and Wu (1988), Cebenoyan, Fisher and Papaioannou (1995), Sinha and Ghosh (2010), Ali (2011).

The study therefore reject hypothesis (Hi10) that positive relationship exist between inflation and leverage of firms. This finding supports the works of Korajczyk and Levy (2003), Kyaw (2004) De Angelo and Masulis (1980) that found negative relationship between inflation and leverage.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.0 Preamble

This part of the thesis concludes the study by synthesising the previous chapters, bringing out their major aspects and how they have helped to achieve the stated objectives of the study. The major findings of the thesis are then discussed in the context of the immediate investigation, then in the broader picture and overview of the subject matter of the thesis. The theoretical implications of the findings are examined. The researcher then provides personal reflections on the process and highlights some of the challenges and limitations encountered in the study. Finally, the researcher provides a pathway for future research and presents some policy recommendations.

The main concerns of this study are presented in the following goals. The first purpose is to investigate the direct relationship between capital structure and firm performance. The second purpose is to examine the possibility of reverse causality from performance to capital structure. The third purpose of this study is to determine the portability of the agency cost theoretical model of capital structure in an emerging country context thereby identify factors that drive capital structure of firms in a setting like Nigeria that is very different from firms that operate in western economies such as the U.S, UK etc where the theory was postulated based on experiences of firms in the developed western economies. The study result in an enhanced understanding of the interaction between capital structure and firm performance. In the same vein, it also result into enhance understanding of the relationships between performance and capital structure as well as the portability of the agency cost theoretical model of capital structure in the Nigerian context. Based on the research objectives and expected outcomes, four research questions and seventeen hypotheses tested by this study were based on the agency cost theory of capital structure, efficiency-risk and franchise value hypotheses.

In order to accomplish the objectives of the study, the research process involved a series of interrelated and coordinated activities. These correspond to the first six chapters of the thesis. These are now summarised with the activities and processes involved in each stage. The first chapter focuses on the general introduction on capital structure and firm performance with specific discussion on background to the study, statement of the problem, significance of the study, objectives of the study, research questions, scope of the study and organisation of the thesis. The second chapter is devoted to the review of theoretical and empirical literature. A thematic approach that centre the review on several themes related to the objectives of the study was employed: capital structure and firm performance, firm performance and capital structure, determinants of capital structure.

The agency cost theoretical model of capital structure form the core theoretical underpinning of this study. The franchise value and efficiency risk theories were also discussed. Several empirical studies conducted using samples of firms from developed and developing countries were reviewed and appraised. The study found that there is dearth of empirical studies on dynamic analysis of the relationship between capital structure and firm performance from the perspective of Nigeria using specifically the agency cost theoretical framework and testing for possibility of reverse causality from performance to capital using the franchise-value and efficiency risk hypotheses. In the same vein, the study observed that there is dearth of empirical studies that have employed dynamic analysis in testing the portability of the agency cost theory in Nigeria. At best, the empirical studies employed static analysis which stands inappropriate because capital structure is more of a dynamic phenomenon rather than a static phenomenon. The third chapter focuses on the methodology of the study. The methodological framework in terms of hypotheses formulation, model specification, estimation method, sample and sample size as well as sources of data were discussed in this chapter. Results and findings were

extensively analysed and discussed in chapter four, five and six. These chapters formed the empirical chapters of the thesis.

7.1 Summary of major findings

The major findings were discussed based on the research questions of the study.

7.1.1 Capital structure and firm performance

Agency cost theorists have argued that leverage can have non-monotonic effect (positive for small values and negative for large values of leverage) impact on firm performance. This depends on how debt is use to resolve conflict of interest between shareholders and managers on one hand and between debt holders and shareholders on the other hand. The study found evidence that show leverage ratios are directly related to firm performance (return on equity). The implication being that the more short term and long term debt employed by firms in Nigeria the better the returns to shareholders. The use of debt may push majority shareholders to exert more control and monitoring to ensure those they have appointed to manage the firm on day to day strive to achieve better performance to meet up with debt repayment obligations and employ debt to finance positive net present value projects such that they can obtain better returns on their equity. The practical implication of this in reducing agency problems in a setting where the majority shareholders dominates the minority shareholders is that greater use of both short term and long term debt may mean better protection of financial interest of minority shareholders in Nigeria firms.

7.1.2 Firm performance and capital structure

Both efficiency-risk and franchise value hypotheses have argued that the capital structure of firms may not have impact on firm performance. These two hypotheses portend that it is past performance of firms that impact their capital structure choice. These theories may case for possibility of reverse causality from performance to capital structure.

The study found evidence of inverse relationship between return on equity and short term leverage, long term leverage and total leverage ratios. The implication of these kinds of results is that firms' debt financing choice is influence largely by their return on equity. The returns attributable to shareholders in previous years have strong influence on their debt financing choice whether short term or long term or combination of both. The firms tend to protect their present and future wealth by using less debt financing and more equity in their capital structure thereby supports the franchise-value hypothesis. The study findings also indicate that there is non-monotonic relationship between performance and leverage.

7.1.3 Determinants of capital structure of firms

The agency cost theoretical model makes case for optimal debt target position. They asserted that firms behave as if they have optimal target debt level they strive to achieve. Therefore there is an expected rate at which they are expected to vary their capital structure choice in order to achieve this target. The faster and closer the rate to 1, the lower the transaction costs of adjustments and the easier as well as faster to achieve the optimal target debt level.

Firstly, the result shows that listed firms on the Nigerian Stock exchange close on average (1-coefficient of the leverage ratios) 32% of the gap between previous year's short term leverage and the target short term leverage for the current year. Firms close on average 33% of the gap between previous year's long term leverage and the target long term leverage for the current year while 50% of the gap between previous year's total leverage and the target total leverage for the current year would be close by the firm. These results signify that the speed of adjustment of firms towards optimal debt target is relatively fast and the cost of adjustment is low. This finding supports the theoretical inverse relationship that is expected between cost of adjustment and speed of adjustment of firms. The findings connotes that the adjustment costs for short term,

long term and total leverage of firms to achieve optimal debt target in Nigeria is low and the speed of adjustment is relatively high.

The relative high speed of adjustment signifies that firms in Nigeria do adjust swiftly towards achieving their optimal leverage position. This is expected because of the facts that financial markets for long term public debt and equity are still not well undeveloped in Nigeria. Most firms rely on private debt particularly short term debt from commercial banks as major source of debt financing which is cheaper and easy to access in Nigeria when compare to public debt and equity.

Secondly, the study results indicates that profitability, return on equity, firm size, risk, age growth opportunities, dividend, ownership and asset tangibility are important firm specific determinants of capital structure of firms in Nigeria. Country factors such as inflation, financial development, macroeconomic conditions and interest rates and institutional quality are important variables that drive capital choice of firms in Nigeria. This implies that firm specific and country factors are important factors that determine capital structure choice of firms in Nigeria.

7.2 Conclusion

This section basically explains how well the theoretical underpinnings have been explained by the findings from the thesis. The results of this study suggest that the insights from agency cost theoretical model and franchise value are relevant but may not be fully portable in the Nigerian context because of institutional differences between Nigeria and the western countries. The fundamental institutional assumptions underpinning the western model of agency cost theory may not be fully valid in the Nigerian context because of institutional differences in terms of corporate governance structure of listed firms in Nigeria, nature of agency problem between shareholders-managers and other outside equity investors particularly minority

shareholders, high macroeconomic imbalances and volatilities, underdeveloped financial market that causes financial constraints in the financial sector that make firms in Nigeria use more expensive short term debt and substantially lower amount of long term debt. These factors may limit the full portability of the agency cost theoretical model of capital structure in a context like Nigeria.

However, results still confirms the relevance of the agency cost theoretical model to explain relationship between capital structure and firm performance in the Nigerian context. The relevance of franchise value hypothesis was equally confirmed by the results of this study. In the same vein, certain firm specific factors that affected capital choice of firms in western countries were also found to affect firms in Nigeria. But the way and manner they affect capital choice of firms in Nigeria take into account the peculiarities of operating environment. The relevance of the agency cost theoretical model and franchise value hypothesis suggest that firms in Nigeria have followed the basic rules of market economy like profit orientation, protection of owners interest despite differences in fundamental institutional assumptions (Chen 2004).

It is against this backdrop that this study concludes that the capital structure matters for firm performance. Also, the study concludes that reverse causality exist between firm performance and capital structure of firms in Nigeria. In the same vein, the study submitted that firm specific and country factors are important determinants of capital choice of firms in Nigeria. Equally, the study came to the conclusion that firms adjust relatively fast to meet up with their target debt level.

7.3 Limitations of the study and suggestion for future studies

This study cannot claim to have covered all issues on capital structure in Nigeria. As with most empirical studies, this research has some limitations, this does not invalidate the relevance of the findings. However, the findings from this study should be used with caution to the extent of the following limitations.

First, the sample size in this study may be adjudged to be small, this is because the study employed 115 firms based on the number of 308 listed firms on the Nigerian stock Exchange as at 2012. The exclusion of firms in the financial sector due to peculiarities of capital structure of financial firms that is determine by regulation and regulatory bodies and exclusion of firms with irregular data set account for the small sample size. But relative to the actual population after exclusion of financial firms the sample size may not be adjudged to be too small for a study of the nature. To this extent the results from the study may be seen to suffer from small sample bias but this may not be a serious problem in the Nigerian context considering the fact that number of listed firms in Nigeria are still less than 350. Future studies may use larger sample that consist of both listed and unlisted firms and may provide more robust results.

Second, the study employed a number of proxy variables such as return on equity, leverage ratios, market capitalization as a percentage of GDP, risk, asset tangibility etc. These are proxies and may not be the actual measures of these phenomena. They may contain bias as they are representation rather than actual measures and may affect the findings. Future research should develop better proxies that can result to better understanding of these phenomena.

Third, most of the firm specific and leverage data used in this investigation were extracted manually from annual reports of companies and Nigerian stock exchange facts books. Although, all necessary precautions to ensure accuracy were taken, however, the issue of human

error cannot be totally ruled out. Moreover some of the variables were defined based on previous studies and the decision of the researcher. These may create some bias.

Fourth, the study employed the dynamic two step generalized method of moments by Blundell and Bond (1998). This dynamic estimator does not test for panel unit root and account for cointegration among the variables. It assumes the variables does not have unit root and they cointegrate. This may not be the case at all times. Future studies may therefore employ panel cointegration methods in their analysis of capital structure choice of firms.

Finally, future studies should consider conducting qualitative studies using focus group, structure questionnaire, and multilevel interviews with board members, financial managers, minority shareholders etc. This may improve our understanding of the reality behind firms' capital structure decisions and how these decisions affect their performance as opposed to just the academic perspectives.

7.4 Policy Recommendations

The design of the study enhanced contributions to both knowledge and practice. The findings have important relevance to government, regulators and the general public.

Government need to create enabling environment for businesses to thrive. They need to strengthen institutions especially economic, political and legal institutions in Nigeria such that contract enforcement can be effective to protect creditors, macroeconomic imbalances corrected such that conducive business environment can avail firms opportunities for growth and survival such that high interest rates, and huge transactions costs currently incurred by firms operating in Nigeria can then be reduced to the barest minimum.

The regulators need to create fair rules and regulations that can empower and protect shareholders of companies especially the minority shareholders who often times have minute diluted shares in firms and do not have the capacity and resources to monitor as well as sue the

majority shareholders who may engage in opportunistic activities that may be detrimental to the interest of the minority shareholders. In view of this, there is need for urgent regulations and enforcements that can protect and give more powers to the minority shareholders so that their interest can be more protected.

There is urgent need to develop the financial markets in Nigeria. The current thin trading state and inefficiencies that characterise the stock market coupled with the underdevelopment of the bond market especially for private sector players need to be tackled. Developing the capital market would provide better financing opportunities for firms to access the markets for long term fund rather than relying on banks for high cost short term funds that is militating against their performance.

The banks need to be persuaded by the government and the organised private sector to provide more financing supports to the firms at reduce cost. The banks overbearing excess profit goals need to be mitigated by regulators such as the Central bank and the Nigerian deposit and insurance commission. These regulators could provide more incentives to these commercial banks to reduce their cost of operation and give preference to borrowing to firms at reduced costs. Other banks apart from the commercial banks such as development banks like the bank of industry, Agriculture banks need to be strengthen with more funds and intervention capabilities and capacity such that they can provide long term funding for firms in the private sector at cost far lesser than that of the commercial banks.

Alternative financing models and practices such as interest free financial institutions that are at still at their infant stage in Nigeria should be supported and nurture to grow rapidly by various players and stakeholders in the Nigerian economy especially stakeholders in the financial sector. These interest free banks and non-bank financial institutions can help reduce the financing challenges in terms of high interest cost of short term fund being faced by most firms in Nigeria that is inhibiting their growth and survival. The interest free financing model would

help firm achieve better performance and help protect the interest of shareholders, since the business model is based on profit sharing rather than interest based model of the conventional financial institutions. The profit sharing business model of the alternative interest free financing models would help reduce the agency related problems at the firm level. It would also help promote transparency and avoid risk shifting as well as problem of debt overhang that do happen with the use of conventional financing models.

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