University of Twente

Faculty: Behavioural, Management and Social sciences

DOES CORPORATE GOVERNANCE MODERATE THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND FIRM PERFORMANCE? EVIDENCE FROM THE NETHERLANDS.

Master Thesis

Master: Business Administration

Track: Financial Management

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ACKNOWLEDGMENT

I would like to express my deep gratitude to Professor Dr. Rezaul Kabir, my first supervisor, for his patient guidance, enthusiastic encouragement and useful critiques of this research work which would not be progressed without his supervision and help. I would also like to thank Dr. Henry van Beusichem, my second supervisor, for his support and assistance in keeping my progress on schedule. My grateful thanks are also extended to Mr. Taufiq Arifin, Ph.D. researcher in the University of Twente, for his help in doing the statistical data analysis.

Finally, I would also like to extend my thanks to my family for their patience, support, and encouragement throughout my study.

ABSTRACT

This study examines the moderating effect of corporate governance on the relationship between capital structure and firm performance for 133 listed firms in The Netherlands during the period 2013-2017. The data was collected from ORBIS data base, while some other data were manually collected from annual reports of the companies. The study used OLS Ordinary Least squares regression technique in addition to Panel data regression, to estimate and predict the related results.

The results of both OLS and panel data regressions revealed a weak evidence about the significant negative relationship between capital structure and firm performance as well as they provided a weak evidence about the positive moderating effect of corporate governance, hence the results cannot be generalized.

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1. INTRODUCTION

1.1 Background

According to Baker and Powell (2005, p.4), financial management is "an integrated decision-making process concerned with acquiring, financing, and managing assets to accomplish some overall goal within a business entity.". Maximizing firm value is deemed to be the criterion for evaluating firm performance and deciding between alternative sources and investment choices. As Jensen, (2001) indicates, maximizing firm value is consistent with maximizing shareholders wealth.

One major aspect of financial management is how capital structure and financing decisions can maximize the value of the firm and what are the factors that enforce this association. Capital structure refers to financing sources employed by the firm. These sources contain debt, equity, and hybrid securities that a firm uses to finance its assets, operations, and future growth. Debt financing has the lowest cost among capital structure sources, which might increase firm's earnings and raise its value. However, increasing debt leverage may also increase financial risk of default and potential bankruptcy.

Among the factors which might affect the relationship between capital structure and firm performance is corporate governance. Corporate governance refers to the mechanisms, processes and relations by which corporations are controlled and directed (Becht et .al, 2003). Maximizing firm's value is the goal of shareholders who own the firm. However, the relationships between interested parties of the corporation might be influenced by asymmetric information and moral hazard problems which might have effects on the performance of the firm. Here comes up the role of corporate governance which is often seen as a mechanism to ensure that the corporation acts in the interest of its shareholders.

Interestingly, capital structure might play an important role as an influential control mechanism of corporate governance which helps mitigate the conflicts between managers and shareholders, hence, reducing agency costs resulted from those conflicts (Harris and

Raviv, 1991). Moreover, the level of capital structure can be determined by corporate governance mechanisms such as, features of the board of directors and ownership structures as Chang et al, (2014) and Wen et al (2002) indicated. However, strong corporate governance tools help increase firm performance and might reduce the debt leverage level (Berger et al, 1997).

1.2 Research problem and objectives

This study investigates the moderating effect of corporate governance mechanisms (particularly, board size, ownership concentration) on the relationship between capital structure and firm performance. The research question can be formulated as: Does corporate governance moderate the relationship between capital structure and firm performance? This research question can be divided to three sub-questions: a)- Is there a relationship between capital structure and firm performance? b)- If so, does the board size moderate this relationship? c)- Does the ownership concentration moderate this relationship?

These questions are answered by examining a sample of 133 listed non-financial companies in The Netherlands over the period 2013-2017. The objectives of this study are to identify the if Dutch listed firms use their external debt funds efficiently in improving their financial performance, besides investigating if board size and large shareholders have impact in raising these funds.

The modern theory of capital structure and its correlation with firm value started with the seminal work of Modigliani and Miller (1958) who suggest that capital structure and firm value are irrelevant. In their preposition they propose that under stringent conditions of perfect, and frictionless markets, the value of the firm is independent from capital structure, and the business risk alone determines the cost of capital. However, the real market conditions contradict with most irrelevance assumptions.

The extended research asserts that managers seek risk-return trade-off of capital structure (optimal capital structure), some economists argue that firm's value does not correlate with financing resources, hence the optimal capital structure does not exist.

Other researchers contend that managers can theoretically determine a firm's optimal capital structure. Thus, they relaxed the restrictive assumptions imposed by irrelevance theory and introduced many capital market frictions into their models, such as, taxes, bankruptcy costs, and asymmetric information.

Consequently, various capital structure theories have been developed, such as, trade-off theory (Kraus and Litzenberger, 1973), pecking order theory (Myers 1984; Myers and Majluf 1984), signaling theory (Ross, 1977), and market timing theory (Baker and Wurgler, 2002) in order to explain the relevance of capital structure and firm value. These theories associate directly with taxes, asymmetric information, agency problems, and bankruptcy costs. There is no theory that can separately explain all related issues of the relationship between capital structure and firm performance.

The relationship between capital structure and firm performance has been subject to a lot of research. Yet, there is no consensus about the results of this relation, that is because these findings are basically resulted from various firms, markets, and country's characteristics and attributes. Academic and empirical research has reported conflicting results regarding this relationship. Some empirical research reports positive relationship between capital structure and firm performance as a result of the impact of debt tax benefits (Kraus and Litzenberger 1973; Myers 1989). Other research provides negative association between capital structure and firm performance explained as more leverage may produce financial distress and bankruptcy costs (Gonzalez,2013; Shleifer&Vishny,1992; Opler&Titman,1994). Whilst, Connelly et al (2012) find no relationship between capital structure and firm performance.

Previous studies have examined the impact of corporate governance on capital structure and firm performance separately in two models; one model studies the effect of corporate governance on capital structure like Berger et al. (1997); Jensen (1986); Close et al (2008); Wiwattanakantang (1999) and (Agrawal and Knoeber, 1996). Whereas, the other model examines the effect of corporate governance on firm performance like Yermack (1996); (Agrawal and Knoeber, 1996). Those studies and others provided contradictory findings about the direct impact of corporate governance on both capital structure and firm performance. Whereas, this study examines whether corporate governance strengthens the impact of capital structure on firm performance or weakens it or does not affect at all. Consequently, the first model is concerned about estimating

the effect of capital structure on firm performance, while the second model measures the moderating effect of corporate governance.

1.3 Importance and contribution of the study

This study is important for many reasons, as it contributes to the general research area of corporate finance, capital structure, and corporate governance. Additionally, this study can be useful for Dutch listed market and banks since it estimates and predicts the real effect of capital structure on firm performance, thus helping make financial decisions regarding this issue, it also points out how this relation is moderated by some corporate governance mechanisms, thus helping firms to have strong structure of corporate governance devices. Moreover, it displays some factors which influence the capital structure and the value of these firms.

To the best of my knowledge, the author found no evidence or similar study from prior research which investigated the interacting (moderating) effect of corporate governance on the relationship between capital structure and firm performance. Moreover, this study is the first attempt to be conducted on Dutch listed firms.

The remaining sections of this study are organized as follows: The second and third chapters cover theoretical and empirical review of associated literature. The fourth chapter develops some hypotheses, while chapter five presents the research methodology and data sample. Chapter six and seven explain the results and present the conclusion.

2. LITERATURE REVIEW

2.1 Capital structure theories

Capital structure is defined as the mix of debt and equity maintained by the firm (Gitman and Zutter, 2012, p.508). It could refer to the mix of resources of financing that appear in the balance sheet (Keown et al, 1985). The researchers classify many categories for resources of capital structure, the most important category is of Frank and Goyal (2005) which suggests three sources for firms financing: retained earnings, debt, and equity.

The traditional theory of capital structure-firm value relationship demonstrates that an increase of specific amount of debt will increase the value of the firm equity since the cost of debt is less expensive than equity, which imply a U-shaped cost for capital function of leverage.

2.1.1 Irrelevance Theory

The modern theory of capital structure was initiated by Modigliani and Miller (1958) (MM hereafter). The idea behind the theorem of MM is that capital structure does not adjust the total cash flows generated by a firm's assets, or their riskiness, and that financial securities can only redistribute the value not to create it.

The theorem of MM states the perfection of market under some restrictions as follows:

- Perfect competition and no transaction costs
- No asymmetric information among investors
- No taxes
- No bankruptcy costs
- Contracts are easily enforced
- No arbitrage opportunities

Later, MM (1963) developed their theory and entered corporate taxes in their model. Relaxing the tax assumption, produces relevance between capital structure and firm value and increases firm value. MM (1963) confirmed that increasing debt amount in capital structure is not the direct reason of the increase in firm's value, but that is caused by benefits of tax shield associated with debt used.

Miller (1977) introduced personal taxes into the model. According to Miller (1977), firms use more debt until the marginal investor's personal tax equals the corporate tax rate. This is because increasing supply of debt may increase interest rates to the point that tax advantages of interest deduction is equalized by higher interest rates.

However, DeAngelo and Masulis (1980) introduced accounting non-debt tax shields benefits like accounting depreciation and investment tax credits by comparing with Miller (1977) personal tax theory. They asserted that non- debt tax shields may lead to the market equilibrium as firms without profit would be unable to be benefited through tax advantage.

2.1.2 Pecking order theory

Mayers and Majluf (1984) extended MM theory to propose that firms use its internal funds as a main source of finance in the startup phase of the business. Firms that provide less information to outside stakeholders usually rely less on debt capital as they encounter the problem of asymmetric information and possess high earnings. Durand et al. (1989) objected the theory of market perfection (Modigliani and Miller, 1963). They asserted the effect of market's imperfection, transaction costs and institutional restriction, on capital structure and firm's value

Pecking order theory was at first initiated by Donaldson (1961), who assured that owner-managers prefer using retained earnings to finance business activities instead of external sources regardless of the size of the firm. If retained earnings exceed investment needs, the debt would be repaid. However, if the external funds are needed, the equity capital will be the last option chosen by the firm after safest securities and debt.

Myers (1977,1984) developed a hierarchical pecking order of capital sources of firm finance. As, retained earnings are the preferred source, debt as a second source which will be used if the retained earnings are insufficient to finance investment needs, equity as last choice which will be used in special conditions in the firm. Using equity finance produce the problem of asymmetric information which lead to shares illusion and decrease the price of share, hence, affecting the interests of old shareholders. The debt tax shields give an advantage to the firm to use debt capital as opposed to equity financing (Kemsley and Nissim, 2002).

The theory contends that applying financing hierarchy will maximize firm's value (Myers, 1977, 1984; Myers and Majluf, 1984). The theory suggests that there is no optimal debt-to-equity ratio. Firms will invest all available internal funds before choosing an external finance, especially equity finance, in order to avoid dilution of control of firm (Holmes and Kent, 1991). However, some companies issue equity even when other sources are not fully exhausted (Baker and Wurgler, 2002).

According to the theory, growth firms need external funds only if internal funds are insufficient. The findings of Hutchinson (2003) affirmed that those firms with lower level of earnings will make use of external funds. According to Hutchinson (2003), obviously smaller firms will need to borrow more than larger firms when they face investment opportunities. However, Cowling, Liu, and Ledger, (2012) find that owners who are reluctant to use external equity under any conditions will not move down the picking order to that point.

The problem of information asymmetry is inter-related with the hierarchical system of pecking order theory (Newman et al., 2011). Myers and Majluf (1984) considered the issue of information asymmetry when developing the pecking order model. They assumed that the problem of asymmetric information drives the capital structure of firms. Myers and Majluf (1984) indicated that the common stocks would be undervalued by the market since the owner-managers hold more information about the firm performance than outside investors. Leverage as alternative source for equity would increase with greater discrepancy in information asymmetry and greater risk. According to Lopez and Andujar (2007), businesses will start financing their projects using the internal source of financing as there was no capital costs and no asymmetric information costs. The second choice is debt leverage, and final choice is external equity, which has the highest information costs.

Most of studies conducted on Dutch firms provided significant results regarding the role of pecking order theory in determining capital structure. De Haan and Hinloopen (2003), find that financing behavior of Dutch firms prefer internal financing to external financing consisting with financing hierarchy of pecking order theory. Brounen, De Jong and Koedijk., (2006), reported that pecking order theory is the most important theory in determining capital structure in European countries. Scholars used several

proxies to explain the pecking order theory. Such as, Profitability, information asymmetry, liquidity and free cash flow

2.1.3 Trade off theory

The trade-off theory suggests that capital structure reflects a trade-off between the tax benefits and expected bankruptcy costs (Kraus and Lizenberger, 1973; Myers, 1989). Interests paid on debt reduce firm's taxable income. Debt also increase the probability of bankruptcy. Thus, firm increases the debt to take advantage of tax deductibles until it gets the marginal points where the costs of financial distress start to increase (Myers, 1984).

In contrast to pecking order theory, trade off theory assumes that firm has a target to get optimal capital structure. Firms set the target debt ratio and move towards achieving it and more profitable firms has higher target level of debt ratio, this because higher profitable firms have lower probability of bankruptcy, higher tax savings from debt and higher growth. Scott (1976) assert that the trade-off between bankruptcy costs and tax advantage of debt determines the optimal debt ratio of a firm. However, this effect can be delusive due to the existence of other non-debt tax shields (DeAngelo and Masulis, 1980) and personal taxes (Miller, 1977). on the other hand, Eriotis et al. (2007) found a significant association between target debt ratio and leverage.

Fischer, Heinkel, and Zechner (1989) initiated the dynamic trade-off theory. This theory address that the firm deviates from target debt ratio when the costs of adjusting the debt ratio are higher than the costs of preserving sub-optimal capital structure. According to Titman et. al (2001) there is a negative association between profitability and leverage, since firms accumulate loss and profits and let the debt ratios deviate from the target. However, there are many studies prove that firms have a target debt ratio (e.g. Bhaduri, 2002; Bancel and Mittoo, 2004; Gaud et al., 2005; Goodarce and Thomson, 2006).

2.1.4 Agency theory

Jensen and Meckling (1976) developed the agency theory, building on the work of Fama and Miller (1972) where they examined different utility functions of shareholders and managers, and the work of Modigliani and Miller (1958). This theory address that agency costs result from conflict of interests between shareholders and managers (i.e.

agency costs of equity) and a conflict of interests between debtholders and shareholders (i.e. agency costs of debt).

The problem of agency cost of equity just appears when the managers are motivated to invest funds in high risky projects for shareholders (Harris and Raviv, 1991), aiming to achieve high profits, since mangers have great number of equity shares from one side, and to achieve high remunerations from another side, hence, exposing shareholders interest to the risk of loss.

Debtholders and lenders most likely bear the costs of investment failure due to risky businesses, thus they can play an important role of monitoring or reducing the conflicts between shareholders and managers (Jensen, 1986). Issuing new debt may reduce the free cash flow of owner-managers due to serving interest and principal payments.

Meantime, the problem of agency cost of debt appears when the borrowings funds are invested sub-optimally by equity-holders. Equity-holders have the incentive to increase leverage, so that they shift the wealth from bondholders to equity-holders (Fama and Miller, 1972; Jensen and Meckling, 1976). While equity-holders expect to gain high returns from the investment, bondholders gain only the fixed payments of interest and principal. However, having excessive debt may increase the likelihood of financial distress (Jensen and Meckling, 1976). The agency costs of debt may increase with more conflicts between debtholders and shareholders, as debtholders prefer less risky projects, while equity-holders prefer the opposite.

2.1.5 Life cycle theory

Life cycle theory initiated by Penrose, (1952) in the economics literature. The theory interested in the development of the firm through growth phases. Timmons, (2004) confirms that life cycle model has been advanced in explaining the development of financing needs and capital structure of the firm. The model poses that the firm in its initial stage of development depends basically on the internal funds. As the firm develops, it becomes more eligible to obtain external finance due to less information asymmetries. However, firms will reduce relying on debt in the later stages of development since they use the internal generated earnings to finance new investments.

Berger and Udell, (1998) investigated firm's financing changes over time using dataset of US firms. They address that financing choices and needs change as firm grows, gains

more experience and becomes more transparent. However, Gregory et al. (2005) demonstrate that involving life cycle of firms in one model is not possible as Berger and Udell (1998) implied. In addition to that, the model is unable to present a full scenario concerning the relationship between firm characteristics and capital structure.

2.1.6 Signaling theory

Signaling theory (Ross, 1977) is developed based on the view that capital structure of the firm might signal some information to the outside investors. The theory presumes that insiders such as the owner-managers know the exact state of the firm, unlike the outsiders. The owner-manager prefer equity over debt since an excessive usage of debt may cause managers to lose their job if the firm goes into liquidation or insolvency. In contrast, outsiders view outstanding debt levels in firms favorably since high levels of debt may signal to outsiders that firms are of high quality.

Signaling theory concern with information asymmetry. Ross (1977) assures that when there are information asymmetries between owner-managers of the firm and outside investors, debt will be represented as a signaling means. Asymmetric information between owner-managers and investors is a driver to signaling games where the amount of debt and the timing of new issues are viewed as a sign of the performance of the firm. This problem may also lead to moral hazard and adverse selection problems (Akerlof, 1970).

As many studies confirmed the significance of signaling problem on capital structure, some studies found different findings. For example, Bhaduri, (2002); Baker and Wurgler, (2002) found that signaling problem is insignificant in determining capital structure.

2.1.7 Free cash flow problem

Free cash flow is the excess of cash required for financing business operations and activities besides new investment opportunities. Jensen (1986) address that managers prefer to undertake non-optimal activities when the free cash flows are large. If the opportunities of new returned investment are few and the firm has excess in operating cash flows, high levels of debt leverage will increase firm's value. Furthermore, conflicts between shareholders and managers over payout policies are severe when the firm generates large free cash flows, since managers may use it for their own benefits and

based on that they take some decisions that do not meet shareholders' interests, such as, investing these cash flows in low return investments below the cost of capital.

Debt capital may play an important role in monitoring and discipline of managers to meet the firm liabilities instead of spending excess cash flows in their benefits. As Jensen and Meckling, (1976) demonstrated that when the firm is mainly equity financed, managers tend to use cash flows for their interest. The excess cash flow will be used to repay debts where indirectly reducing management control over cash flows. Debt can also substitute dividends since it forces owner-managers to pay out principals and interests for future cash flow (Jensen, 1986).

2.2. Theory of corporate governance

2.2.1 Meaning and definition

Due to the global financial and accounting scandals that occurred in the beginning of 2000s decade, for example, the fraud at Enron, Worldcom, Parmalat and Royal Ahold, and due to the increasing need for stable and productive business conditions which assure the protection for the rights and interests of internal and external stakeholders, the corporate governance has become important and prevalent issue. Demirag et al. (2000) asserted that there is a need of an accountable system which controls scandals arising from problems between shareholders and managers in corporations. The Cadbury report in the UK affords significant role to corporate governance, as Mintz (2005) refers to corporate governance as an influential tool in constructing business ethics.

There is no universally definition of corporate governance that all countries agree upon due to the difference in economic, legal, political and cultural systems. Consequently, different definitions can demonstrate corporate governance depending upon the associated power of interested stakeholders like, owners, managers, shareholders and suppliers (Craig, 2005).

The relationship between owners and managers is the core topic of corporate governance. Shareholders finance the new investments in the business and management is responsible for achieving the highest returns for them. Bodaghi et al. (2010) indicated that the main objective of corporate governance particularly to assure the interests of shareholders(owners) from the opportunism of managers.

Denis (2001) suggested that corporate governance was generated from the potential problems associated with the parting of ownership and control which distinguishes the modern theory of corporate. Thereby, corporate governance can be described as a set of devices and market and institutional mechanisms that persuade managers (controllers) to maximize the value of firm in the best interests of shareholders (owners).

Corporate governance points out how corporations are governed. Moreover, it improves firm performance through organizing the relations between all stakeholders in and outside the firm. The relationship between managers and shareholders is the most important part for corporate governance. Baker et al. (2004) reported that shareholders believe that managers rationally respond to factors like better recompence contracts, corporate control, shareholders activism, board oversight, and third-party monitoring.

Cadbury (2000) report defined corporate governance as the balance between economic and social goals and between individual and communal goals to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The purpose is to align the interests of individuals, corporations and society. Consisting with this, Bodaghi et al. (2010) defined corporate governance as philosophy and mechanism that entails processes and structure which facilitate the creation of shareholder value and protect the interests of all stakeholders. Cornelius (2005), defined corporate governance as a set of goals and strategies issued by corporate directors and their implementations. Whereas, Shleifer and Vishny (1997) defined it as the ways in which suppliers of finance to corporations assure themselves in getting a return on their investment. Corporate governance broadly refers to the mechanisms, processes and relations by which corporations are controlled and directed (Becht, Belton and Bell, 2003).

2.2.2 Corporate governance models

Since there is no consensus definition for corporate governance, different theoretical backgrounds have been used by scholars to analyze and explain corporate governance. According to Hawley & Williams (1996), there are four general models of corporate control.

2.2.2.1 The simple finance model

The critical problem in the corporate governance from the finance view is to set rules and incentives that efficiently align the behavior of managers (agents) with the interests of principles (owners). The view of finance interacts with the agency theory which assumes that managers' discretion allow them to expropriate the wealth of shareholders to their interests, hence the value of the firm cannot be maximized. Ideally, managers should sign a contract that defines their responsibilities and which decisions they should make under all financial situations. However, the future contingencies are hard to be predicted, thus the complete effective contracts are impractical (Shleifer & Vishny, 1996).

2.2.2.2 The stewardship model

In the stewardship model, managers are motivated by achievement and responsibility needs, thus they serve the firm to attain the best returns for shareholders. This theory refer to the managers as the best stewards of the corporation and confirms that giving them the independency and freedom in work enables them to achieve the best performance and maximize the value of the firm.

2.2.2.3 The stakeholder model

The stakeholders model proposes that the firm related interested parties like, high employees, customers, suppliers, and others should be included in the corporate governance and provide them ownership-like incentives in addition to aligning their interests with the interests of shareholders since those stakeholders contribute to the maximization of the firm. It is recommended to encourage long-term employee ownership and to motivate the significant customers, suppliers' financial advisors and employees to be represented on the board of directors.

2.2.2.4 The political model

The political model indicates that constituencies of stakeholders, owners, and managers influence the allocation of the power, privileges and profits between them. Institutional investors for example, can influence the management decisions through mechanisms like, shareholders committee, director nominating committee. Active shareholders can run informal and ongoing control on management through pooling their resources and

voting power. Another example is the labor unions with large pension funds that can also use their ownership position to put pressure on management to do some corporate governance reforms aligning with their interests.

2.2.3 Corporate governance mechanisms

According to Hart (1995), the mechanisms of corporate governance can be generated from monitoring and voting control of shareholders or the board of directors on management and financial structure device represented by debt leverage. These devices organize a corporation's ownership structure, relationships with stakeholders, financial transparency and information disclosure as well as the figure of the board of directors.

2.2.3.1 Board of directors

Shareholders elect the board of directors to act on their behalf in monitoring the top management and ratifying the important decisions. The board of directors has the power to replace the executive manager or other management members. The board is mix of executives (members of the management team) and non-executive directors (outsiders). However, the board structure has some critical problems. On the one hand, it is not possible that executive directors monitor themselves. On the other hand, the non-executive directors may conduct inefficient monitoring for some reasons. First, they may not have financial interest in the firm, so improving the performance would be insignificant for them. Second, non-executive directors may work on the board of many companies, so they do not have much time to focus in detail on the interesting affairs of the firm. Finally, non-executive directors may owe their position to the management, they may want to stay on the board to benefit from rewards and fees, thus the do not oppose with the management. However, the Cadbury Committee set some suggestion for changing the structure of the board for example, the chief of the board is recommended to be independent, there should be a formal selection procedure for non-executive directors, and the majority of audit and remuneration committees' members should be from non-executive directors.

2.2.3.2 Proxy Fights

When the board of directors does not monitor the management well, the shareholders can replace them through a proxy fight: a dissident shareholder set a slate of candidates against management's slate and tries to encourage other shareholders to vote for his

candidates. However, the problem of free rider makes this mechanism inefficient since the dissident will bear the cost of monitoring alone especially when the shareholders are dispersed.

2.2.3.3 Large Shareholders

Large shareholders play an important role in corporate governance on the contrary to the small shareholders. Yet, when a large shareholder own less than 100 % of the firm, the agency problem will rise up. Furthermore, a large shareholder may use his voting power to obtain some interests on the account of small shareholders. For example, the large shareholder might connive with the management to obtain some interests for both of them, like to persuade the management to transfer the profits to himself through selling goods to a company owned by the large shareholders at a low price or buying goods at a high price.

2.2.3.4 Hostile Takeovers

Hostile takeover is considered as powerful external mechanism of corporate governance. The costs of the applied aforementioned internal mechanisms are high related to the gains that shareholders get from improving the management performance. Whereas, a hostile takeover can improve management disciplining since it allows someone to gain large reward from identifying an underperforming company. There are different scenarios which the firm management can take for defense against hostile takeovers. First, if small shareholders hold their shares since they feel that their provisions are negligible and do not affect the success of the bid, thus they do not response to the raider tender consisting with the corporate laws that prevent expropriating small shareholders. This might increase the capital gain for those shareholders and lead to loss for the raider due to the high costs of bidding and identifying the target besides the increase in share price. Second, another strategy is the competition from other bidders as well as from minority shareholders. The raider bid for the company may attract the attention of other competitors that the company is undervalued, or they might be invited by the management of the company, Hence, a bidding war may arise, and the share price may increase to the level that the raider wish to obtain. This competition reduce the raider's intended profit or may result in loss if the ex-ante bidding costs are included (Grossman and Hart, 1980). Finally, the raider may face a competition from the current management of the company. For example, if the

company suffer from slow growth and is running inefficiently, after the bid is announced, the management can take new strategies like to sell off unprofitable assets or to raise debt capital to finance new investments. These steps increase the stock value if the bid fails and may deter the raider from bidding since he has to pay more to get control (Bradley et al., 1988). However, the takeover market is more important disciplinary mechanism in the US and the UK. Whereas, ownership concentration and supervisory board are more important mechanisms in the Netherlands (Kabir, Cantrijn and Jeunink, 1997).

2.2.3.5 Financial structure

The mechanisms discussed so far are based on monitoring or voting by shareholders or their representatives. Corporate capital structure (financial debt) is another critical tool of discipline on managers. Financial debt reduces the entrenchment and discretion of the management to expand its empire by reinvesting the profits in inefficient projects. Debt increase the commitment of the management at least to repay the interest and principles (Grossman and Hart, 1982). However, the discipline role of debt may be not effective if it was not companied with proper bankruptcy procedure in the case of default. The effect of financial debt to put discipline on management to avoid default is more effective than the incentive rewards, since the shareholders can force the management to give up control if it cannot fulfill the liabilities of claimholders (Hart and Moore, 1992).

2.3 Corporate governance in The Netherlands

Corporate governance codes are sets of business best practices. Theses codes were flourished since the publication of Cadbury Report in 1992, the objective of corporate governance codes is to improve the quality and transparency of management, hence progressing the company's performance and constructing investors' confidence (Werder et al., 2005). Corporate governance codes are active devices of self-regulation, outlining best practice requirements regarding management, supervision, disclosure and auditing (Wymeersch, 2005). The Dutch corporate governance code (known as Tabaksblat) was published in 2003 (Akkermans et al., 2007). Since 2004, listed companies are required to display a separate corporate governance chapter in their annual reports. This chapter shows the compliance of the company with the provisions of Tabaksblat code, yet it is not mandatory to disclose compliance to all provisions, but the firm must justify its

noncommitment. The first initiated debate on corporate governance in the Netherlands was by the Peters Committee, 1997 (De Jong et al., 2005). The Peters Committee issued forty recommendations intended to improve the effectiveness of management, supervision and accountability to investors of Dutch companies. A study made by (De Jong and Roosenboom, 2002; De Jong et al, 2005) evaluated the compliance of Dutch listed companies with the Peters Committee recommendations, the results showed the weak and poor compliance of companies which resulted in insignificant effect on corporate activity and value. The lack of success of the Peters Committee procured a new corporate governance committee in 2003. The implementation of corporate governance in Dutch companies has improved after 2004. According to the study of (Akkermans et al., 2007) which examined the compliance of 150 Dutch listed companies in 2007 with corporate governance provisions of Tabaksblat code, 93% of companies had high compliance with the provisions and the influence of corporate governance characteristics on corporate performance was significantly positive.

Kabir, Cantrijn and Jeunink, (1997), indicated that Dutch companies have strong control mechanisms which protect them from hostile takeovers through undermining the power of common shareholders. Some of these mechanisms are for example, supervisory board, limited voting power, preferred defense shares, priority shares, Binding appointments, and depository receipts.

Structured companies must establish a supervisory board (consisting of outsiders and different interest group representatives). This board has the responsibility to appoint the management board which run the daily activities in the firm. Management board must have approval from supervisory board regarding some decisions related to annual accounts, investment plans and company restructuring.

Priority shares are usually issued to a friendly institution which keeps the right to accord on any adjustment of a company's charter. Thus, the power of the general meeting of common shareholders is undermined. Important changes in the company like hiring or firing management directors or issuing new common shares require the approval of priority shares. Depository receipts is a special type of shares that is issued by a legal foundation. The holder of the depository receipt has the same right on profits as shareholders and he can sell and buy, but the foundation remains the voting rights and ownership of the original shares of these receipts, hence the holders of these receipts

cannot make changes in the company. Binding appointments of new directors are made by the management board, which strengthens the control of management, therefore shareholders cannot assign their own directors unless a two-third majority at the shareholders meeting is agreed to annul the appointment. Limited voting power mechanism delimit the maximum number of votes that can be collected by one shareholder, irrespective of number of shares held.

The issue of preferred defense shares is the most widespread mechanism used in Dutch companies. These shares have strong control function; therefore, they are issued in the name of the holder to friendly entities. Preferred shares have the same voting rights as common shares. In the event of hostile takeover, the common stockholders permit the management to issue preferred shares to grant large voting rights to friendly parties.

2.4 Corporate governance and capital structure

Maximizing the value of the firm is the main objective for the shareholders. However, the relations between related parties is often engaged with information asymmetries and moral hazard. Corporate governance is often a set of mechanisms to ensure that corporations maintain the interests of their shareholders.

The idea of agency theory-based explanation of capital structure is derived from the seminal works of Fama and Miller (1972) and Jensen and Meckling (1976). According to Harris and Raviv, (1991), the agency costs that are generated by the conflict of interests determine firm's capital structure decisions (Agency theory). Agency conflict involves the conflict between shareholders and managers from one hand, and the conflict between shareholders and creditors from another hand (Jensen and Meckling (1976). Whereas, Shleifer and Vishny (1997) propose another type of conflict between top controlling shareholders and minority shareholders, arguing that large shareholders can directly or indirectly exploit the minority shareholders as well as employees' rights causing with that immense agency problems.

Corporate debt policy is generally observed as a significant corporate governance device in alleviating the agency conflicts between shareholders and managers (Harris and Raviv, 1991). Debt finance can settle agency problems by decreasing free cash flow and increasing the likelihood of bankruptcy risks and job losses (Jensen, 1986; Morellec et al., 2012). In other words, the commitment of meeting the principles of debt and its

interests reduce the free cash flow and cease managers from using these cash flows for nonoptimal activities. As Grossman and Hart (1982) find that debt finance increases the probability of costly bankruptcy and thereby job loss, consequently, fosters managers to work optimally and expend less perquisites and make better investment decisions. Mitigating agency problems can also be through top shareholders, because of their interest to gather information and monitor management (Jensen and Meckling, 1976; Shleifer and Vishny, 1997).

Consisting with Gompers et. al (2003) and Drobetz et al., (2004), the other assumption of agency theory is that advanced corporate governance and related strong shareholders rights will minimize agency costs and increase the confidence of investors in a firm's future cash flow, thus reducing the cost of equity capital to the firm and boosting the potential of the firm to acquire equity finance, simultaneously, reducing firm preference(dependence) for debt finance. While research studies like (La Porta et al., 1997; Shleifer and Vishny, 1997) suggest that improved corporate governance and strong shareholders rights enhance the ability of the firm to gain access to external finance. On the other hand, controlling large shareholders in poorly governed firms probably prefer debt finance liability, while keeping ultimate ownership and control rights over the firm (Jiraporn and Gleason, 2005; Haque et al, 2011).

According to Fama and Jensen (1983) and Suto (2003), disclosing information regularly of firm's activities results will reduce agency costs- of- debt (e.g. positive impact on debt finance), Whereas, Rajan and Zingales, (1995) indicate that lesser information asymmetry between insiders and outside shareholders might have a negative effect on debt leverage as a result of the lower agency cost of equity financing.

Several capital structure studies focus on testing the association between the main characteristics of corporate governance and capital structure, such as, board size, board composition, board independence, ownership structure, CEO tenure, CEO duality, management compensation, disclosure, auditing and other mechanisms (Friend and Lang, 1988; Berger et al, 1997; Wen et al., 2002). This study investigates the association of board size and ownership concentration as two devices of corporate governance and their effect on capital structure and firm performance.

2.4.1 Board size and capital structure

The board structure refers to the management board which is controlled by the supervisory board (Fama and Jensen, 1983). Board of directors is very important mechanism of corporate governance in screening and overlooking the performance of organization. It plays an influential role in alleviating the failure of the company. Furthermore, it is responsible for control and monitoring key activities and supporting strategic decisions (Chancharat et al., 2012).

Despite the important role of board of directors, there is no clear evidence about the appropriate size of board. Some studies argued that the optimal board size relies on firm's attributes, monitoring costs and organizational complexity (Uchida, 2011). Dutch corporate governance code of 2003 and its amended versions of 2008, 2016 appointed the number of two-tier board size maximum 21 members and focused on the diversity of the board related to the firm's activities. De Jong et al., (2001), indicated that Dutch firms have a two-tier board system, the executive board and supervisory board. Hence, conflicts may rise, and Dutch shareholders are less likely to control their managers' behavior (De Jong & Veld, 1999). According to Kabir et al., (1997), supervisory board has very critical role in controlling the management decisions. The supervisory board is characterized with co-option. Co-option means that incumbent members of supervisory board, choose the new members. Further, supervisory board appoint and fire the members of managerial board. Supervisory board also must accord the managerial decisions and provide annual statements of the organization (de Jong, 2002; de Jong, Mertens and Roosenboom, 2006; Kabir et al., 1997). Management board is responsible for monitoring management decisions, the average size of this board is three members (Van Ees et al., 2003). The independence of supervisory board members is very critical. Moreover, the supervisory board committees must be independent and only one member may be dependent (Bekkum et al., 2009). Further, the percentage of outsiders on the board of Dutch firms is high, so that, more actively control and monitoring will be conducted on managers. Hence, managers pursue lower leverage to avoid financial distress (Ganzeboom, 2014). The characteristics of board structure in Dutch firms is special and different from firms' boards in other countries like US firms. For example, boards of US firms have less independence due to the duality problem of CEO, which

is rarely existed in Dutch firms and CEO cannot be the chairman of the board (Thomsen and Conyon, 2012).

Capital structure decisions made by managers sometimes do not maximize shareholders wealth. Thus, conflicts between shareholders and managers as mentioned in the agency theory might be important determinants for capital structure decisions. Managers confronted with board of directors and governed by good mechanisms and rules, rely less on financial leverage as a source of financing (Wen et al., 2002). However, the corporate governance devices of a firm and the incentives put pressure on managers to pursue more debt leverage(de Jong, 2002). Previous studies provided diverse results regarding the relationship between board size and financial leverage. Berger et al. (1997) find that board size has negative effect on financial leverage. That is consistent with the prediction that entrenched CEOs pursue lower leverage due to the superior monitoring of these boards. Whereas, Jensen (1986) finds that firms with larger board size have higher financial leverage than firms with smaller board size, moreover, firms with large board size is more likely to use debt financing than equity financing. These results can be explained according to the notion that firms with larger boards have diverse experiences and large networks which facilitate better access to external financing.

2.4.2 Ownership concentration and capital structure

Ownership is defined as a set of rights and obligations about assets, profit rights, disposal rights and control rights (Thomsen and Conyon, 2012). Ownership concentration in public listed firms refer to the top block-holders of shares. De Jong et al (1998) run a study on Netherlands listed firms and report that the average ownership stakes of the largest and the three largest shareholders are 27% and 41%, respectively. Whilst the average ownership stakes of banks, insurance companies and other financial institutions are relatively low. Kabir et al., (1997), referred to the critical role of ownership concentration in The Netherlands, in protecting organizations from hostile takeovers bids. According to (de Jong, Mertens and Roosenboom, 2006), most Dutch firms have at least one block holder.

Firms with Ownership concentration prefer to raise debt in their capital structure for many reasons according to theoretical and empirical research. Controlling shareholders have a voting power which enable them to use debt for their own interests and to avoid

share dilution (Harris and Aviv, 1988; Stultz, 1988). Top shareholders prefer to raise leverage as a monitoring device to mitigate agency problems and increasing their value (Jensen, 1986; Hart and Moore, 1995; Harvey et al, 2004). Top shareholders also merit the advantage of interest tax shields and mitigating risk in their portfolio through diversifying their financial assets

According to agency theory, ownership concentration of the firm plays an important role in the monitoring management activities. Ownership concentration alleviates the dispute of interest between managers and owners (Suto, 2003). Due to agency relationships, concentrated ownership can influence the capital structure within the firm (Cespedes et al., 2009; Claessens and Fan, 2002; Wiwattanakantang, 1999). However, there might be another type of agency problem in concentrated-ownership firm, such as conflicts between majority shareholders and minority shareholders. For example, large shareholders might connive with to protect inefficient managers to expropriate the wealth of shareholders for their interests (Becht and Röell, 1999).

2.5 Corporate governance and firm performance

The agency theory is the framework that conceptualize the relationship between corporate governance and firm performance. The objective of corporate governance is the maximization of shareholders' value through mitigating agency problems. Mitigating agency problems, results in less agency conflicts, hence increasing shareholders return and improving firm performance (Fama and Jensen 1983, Jensen and Meckling 1976).

The principle-agent problem is a conflict of interest in the relationship between shareholders and managers (Agrawal and Knoeber, 1996). This conflict might cause agency costs which directly or indirectly influence the wealth of shareholders. The agency theory assumes that agents (managers) are naturally oriented towards maximization their own interest rather than principals' interests, hence some mechanisms such as control and incentives are needed to align the interests of counterparties (Eisenhardt, 1989).

The separation of ownership between the fund suppliers (shareholders) and the agents (managers) who employ these funds and have the control on the firm, is the core of agency problem in modern corporations (Berle and Means, 1932). The relationship

between shareholders and managers is marked with information asymmetry, where managers hold the vital information about the real value of the firm and the allocations of capital which might result in the best outcomes of shareholders, whilst the shareholders have weak access to this superior information.

The contradiction between the objectives of counterparties in the firm might cause problems that result in inefficient investment decisions. The objective of rationale shareholders who bear risk to achieve it, is concerned with high dividends and higher stock prices, Whereas managers may prefer growth investments to profitable projects (so-called "empire building"), may employ costly labor and products, or they may be lazy or fraudulent("shirk") or even guided by conceit (Aguilera and Jackson, 2003).

The relationship between counterparties of the firm is organized by nexus of contracts, in which all the tasks and obligations are formalized. The contract that forms the relationship between shareholders and managers is assumed to determine how the managers employ the funds and how returns are allocated. Moreover, it should elaborate the duties and roles of managers in every situation and how-to response in contingencies. Unluckily, actual contracts are imperfect and uncompleted (Schleifer and Vishny, 1997). Departing from the lack in design of contracts, a problem of how to allocate residual rights (making decisions regarding contingent situations which are not formalized in contract) will arise between shareholders and managers. Unfortunately, shareholders are not prepared and well-informed to take the responsibility to make such decisions, which is the reason why the delegate managers in the first place. This information asymmetry enables managers to control residual rights and manage the corporation in all conditions. The problem of incompleteness of contracts that created the entrenchment of managers to control the residual rights and to extract the rents of shareholders, is solved by the implementation of governance systems which seek to mitigate the agency problem.

Monitoring and bonding managers to act in the best interest of firm owners generates some costs(agency costs) as Jensen and Meckling (1976) defined. Agency costs emerged from conflicts between managers and shareholders might be costs of moral hazard, costs of earnings retention, time horizon costs, and risk aversion costs (Lei, 2007). Corporate governance mechanisms can reduce the conflict of interest that derives from division of ownership and control while minimizing the associated agency costs

that afforded by shareholders (Lei, 2007). Here we shed light on some of these mechanisms that influence managers behavior so that they align their interests with the owners of the firm.

2.5.1 Board size and firm performance

Due to the costly activity and lack of well-knowledge entitled for monitoring the management decisions, stockholders appoint the board of directors to act in their behalf in order to monitor and control the decision-making activity of the managers to ensure that they work in the best of their interest (Fama and Jensen, 1983). Managers must report frequently to the Board of Directors, and the latter must evaluate and approve them. Board of Directors is an important device of corporate governance with full legal authority to reward, hire and fire managers (Williamson, 1984). The goal of Board of Directors is to safeguard the interests of shareholders against the misusing of management, and to provide knowledge, advice, and business networks to assist managers (Pugliese et al., 2009; Zahra and Pearce, 1989).

Identifying an optimal board size of a corporate has been debated in several studies (Lipton and Lorsch, 1992; Jensen, 1993; Yermack, 1996; Dalton et al., 1999; Hermalin and Weisbach, 2003; Neville, 2011). Some scholars favored smaller boards, for example, Lipton and Lorsch (1992); Jensen (1993) and Yermack (1993), while some others have supported large boards, since it can supply a better monitoring and efficient decision-making (Pfeffer, 1972; Klein, 1998; Adams and Mehran, 2003; Anderson and Reeb, 2003; Coles et al., 2008). The argument behind supporting small boards, is that larger boards might be faced with the problem of social loafing and free riding (Lipton and Lorsch (1992). The larger the board is, the more the problem of free-riding and the less is the efficiency of the board. This was corroborated by Jensen (1993), who supported small boards since they have better coordination between their members and less communication problem, hence resulting in better decision-making whereas larger boards are more likely to be controlled by CEO. Yermack (1996) and Eisenberg et al., (1998) have also presented findings that smaller boards are correlating to higher firm value. The larger boards are characterized with the problem of communication and coherency, which may result in conflicts (O'Reilly et al., 1989). On the other hand, Klein (1998) contend that the complexity, size and diversification of the firm, entail the CEO to acquire more advice and help from the board. For instance, the diversified firms

investing in various sectors might require more consultancy and discussion and, thus larger boards are appropriated with such firms (Herman and Weisbach, 1988; Yermack, 1996). The size of board of directors affects the aptitude of directors to supervise and control managers (Anderson et al., 2004). A large board of directors more probable to deliver better access to several resources than a small board. A board with varied experience and knowledge would more likely produce better processes and make efficient decisions resulting in better performance.

2.5.2 Ownership concentration and firm performance

Maury (2006) contends that ownership concentration can reduce agency problem between owners and managers. The alignment between ownership concentration and managerial monitoring can improve firm performance (Agrawal and Knoeber, 1996). Moreover, Managers opportunisms decrease in the presence of top block holders. However, Bhaumik and Selaeka (2012), investigated post M&A performance and found that ownership concentration reduces owner-manager agency conflict, but it may persuade principle-principle conflicts. Shleifer and Vishny (1986) argue that ownership concentration can improve firm performance by mitigating the free-rider problem in takeovers. On the other hand, the excessive monitoring of blockholders on managers may have counterproductive results and potential costs if managerial initiatives are suppressed (Burkart et al., 1997).

The blockholders have a greater inducement and ability to monitor management activities due to their large share investment, consequently, the agency problem between managers and shareholders is mitigated (La Porta et al., 1999). The voting power of blockholders enables them to influence the management decisions directly, then, an agency problem rise between large and small shareholders, as a result of the associated control that blockholders run on the corporate. Minority shareholders have the likelihood to "free-ride" on the control that the blockholders conduct on managers. However, the objectives of blockholders may deviate from the corporate objectives, hence, minority shareholders may bear the risk of losses caused by inefficiency of investments (Jensen and Meckling 1976). The agency problem between large shareholders(agents) and minority shareholders is characterized by the influence of large shareholders on management and their power to moderate the investment decisions of the company and to deploy minority shareholders resources.

3. EMPIRICAL RESEARCH

3.1 Capital structure and firm performance

In contrast to Modigliani and Miller (1958), most debt theories correspond that in an imperfect market in the real world, debt can associate with firm value(or performance) in several ways. However, the relationship between capital structure and firm performance has been subjected to a lot of empirical research, presenting mix results and interpretations.

A study conducted on Dutch firms by De Bie and de Haan (2007), find that the profitable firms prefer to use retained earnings to finance their operating activities and use less debt. De Jong, Kabir and Nguyen (2008), find that in 25 of the 42 countries they examined, future projects are finance by internal profit (retained earnings). Furthermore, De Haan et al., (1994) investigated a sample of Dutch firms and found that 54% of all firms prefer internal funds, 18% of all firms prefer debt and 3% of all firms prefer equity issuance. Their findings were confirmed by Cools (1993) who conducted a questionnaire on Dutch firms regarding the reasons for such preference, the major determinants for that were the profitability and the cost of finance, both reasons lead to information asymmetry (Chen et al. 1998).

Vithessonthi and Tongurai (2015) find that financial leverage negatively correlates to firm performance for a sample firms in Thailand. Riddiough and Steiner (2014) conducted an important study on a sample of international listed real estate investment firms from the US and a selection of European countries, including Franc, Germany, UK and The Netherlands to test the impact of capital structure on firm performance measured as Tobin's Q. Their results provide negative relationship between capital structure and firm performance underlying European countries, and positive association for capital structure with firm performance underling US firms. Riddiough & Steiner (2014), explained that capital structure in European firms is weakly adjusted to the variation of capital structure characteristics, thus investors penalize firms with sub-optimal capital structure, and there might be other factors, such as relative cost of different types of capital which get influenced by the variation in institutional environment, which have a stronger impact on firm value in Europe than they do in US.

Antoniou et al., (2008) find that financial leverage is negatively associated with firm performance. Cai and Zhang (2011) report that a change in financial leverage negatively influence stock price. Tian and Zeitun (2007) indicate that debt leverage negatively associate with firm performance, using the market-based measurement of firm performance and the accounting-based measurement. Several other studies provide the same negative association between debt leverage and firm performance such as, (Kester, 1986; Titman and Wessels, 1988; Rajan and Zingales, 1995;Wiwattanakantang, 1999; Booth et al, 2001; Chen, 2004). This evidence is consistent with the view of Pecking order theory that the costs of financial distress and bankruptcy outweigh the financing benefits. On the other hand, Margaritis and Psillaki (2010) find that financial leverage positively correlates to firm performance. Further, Berger and Bonaccorsi di Patti (2006), using a sample data on the US banking industry, report that higher financial leverage or lower equity capital ratio positively influence firm performance represented by profit efficiency. Particularly, 1% increase in debt ratio result in 6% increase in profit proficiency, even at the high level of leverage, the relation is still positively significant. Ross (1977) indicated that the firm with better prospects issue more debt since that enhances the market perception of the firm's situation, hence increasing the firm value. Abor (2005), investigated the relationship between capital structure and profitability on listed firm of Ghana Exchange between 1998-2002, using correlations and regression analysis, he found a positive significant effect of debt leverage measured by the ratio of short-term debt to total assets and total debt to total assets ratio on return on equity. Gill et al., (2011); Long and Malitz (1985); find a positive effect for capital structure on firm performance. Roden and Lewellen (1995), examined the effect of capital structure on firm performance for 48 US based firms with a leveraged buyout between 1981 and 1990, using multi nominal logit models. Their findings provide a positive relationship between debt policy and firm performance based on tax considerations and consistent with the view of trade-off theory. Ghosh et al., (2000), have found a positive significant relationship between debt leverage and firm performance. They contend that using more financial debt reduce agency cost of equity and promotes managers to act better in the interest of shareholders, hence increasing firm value. However, Danis et al., (2014) suggest that the effect of financial debt on profitability is positive when firms at or near their optimal leverage, and a negative effect when firms are not adjusting their capital

structures. Nevertheless, Connelly et al.,(2012) find no relationship between capital structure and firm performance.

The empirical studies regarding Dutch listed companies provided contradicted outcomes about the role of trade-off theory in explaining the determinants of capital structure in The Netherlands and its effect on firm performance. For example, De Jong & Van Dijk (2007) confirmed the importance of trade-off theory in shaping the capital structure of Dutch companies. Their findings provide a significant positive relationship between marginal tax rates and financial leverage. De Jong, Kabir and Nguyen (2008); De Jong & Van Dijk (2007) find that firm risk (proxy of financial distress and default) is negatively associated with capital structure. Additionally, De Jong (2002), reported that trade-off theory explains the determinants of capital structure for most Dutch companies. For instance, the findings provide significant positive relationship between tangibility and financial leverage. On the other hand, Chen et al., (1998), argue that Dutch tax system can only partially explain capital structure choice of Dutch firms. Their findings are derived from the study of De Haan et al., (1994) which indicate that the major Dutch firms prefer internal earnings to debt and equity finance. Thus, other theories are needed to analyse the Dutch case.

Regarding the role of capital structure as a device to mitigate the conflicts between managers-shareholders in Dutch firms, Jong (2002), indicates that the discipline role of debt is not significant. Concerning the conflicts between shareholders-bondholders in Dutch firms, De Jong & Van Dijk (2007) conducted a study on Dutch firms, they regressed the financial leverage on four agency problems (overinvestment, underinvestment, assets substitution and wealth transfer), they find no relationships between all studied agency problems and financial leverage. Instead, they refer to the role of institution settings, specifically the major role of banks as a strong instrument in monitoring the management(from creditors' perspective), since the Dutch firms depend particularly on banks as a main source of finance. these findings are consistent with the findings of Chen et al ., (1998), which emphasize that the traditional agency problems are irrelevant with capital structure of Dutch firms. De Jong (2002), investigated the agency cost theory of Dutch listed firms, using free cash flow as one of the proxies. His findings provide a positive relationship between free cash flow and financial leverage. Firms with the problem of overinvestment i.e., when managers use the free cash flow in

non-profitable projects that simultaneously maximize the wealth of managers, they obtain more debt to solve such problems and therefore reducing agency costs.

3.2 Board size and capital structure

The board size has been identified as the significant determinant of corporate governance effectiveness in theoretical research (Lipton and Lorsch, 1992; Jensen, 1993). Prior empirical research has provided mixed results regarding the relationship between board size and capital structure. As stated by Pfeffer and Salancick (1978) and Lipton and Lorsch (1992), board size is significantly positive associated with capital structure. Their findings propose that the monitoring responsibility of large board size as a regulatory entrenched device in the firm enable him to pursue higher financial leverage to increase firm value. According to Jensen (1986), firms with higher leverage have a larger board size. Coles et al., (2008) identified a positive relationship between board size and debt ratio in a study on US firms. According to Coles et al., (2008), firms with higher debt ratio may have greater advising requirements. Consisting with that, Anderson et al., (2004) confirm that firms with larger boards have lower costs of debt. On the other hand, Rödel, (2013), conducted a study on 77 listed Dutch firms to investigate the determinants of capital structure in Netherlands, he found a negative relationship between board size and financial leverage. Berger et al., (1997), find a negative effect of board size on capital structure, leverage is lower when the board size is larger due to the strong pressure of the corporate board on managers to make them pursue lower leverage to get good performance. In line with that, Abor and Biekpe (2007), investigated the relationship between board size and capital structure on a sample of Ghanaian small and medium enterprises using multivariate regression analysis, the findings provided negative relationship between board size and financial leverage. A third group of studies found no significant relationship between board size and capital structure. Ganzeboom, (2014), examined the influence of board size on the capital structure of Dutch firms, he found no significant effect of board size on capital structure. According to Wen et al., (2002), using data on 60 Chinese listed firms studied between 1996 and 1998, there is no relationship between board size and capital structure. Wiwattanakantang (1999) finds no relationship between board size and capital structure.

3.3 Ownership concentration and capital structure

Single-family owned firms seem to have a significantly higher level of debt leverage. For example, Wiwattanakantang (1999) found a positive relationship between ownership concentration and capital structure. Cespedes et al., (2009) address in a study on Latin America that firms with high level of ownership concentration have more leverage than other firms consistent with control arguments and since these firms avoid issuing equity because they do not want to share control rights. Paligorova and Xu (2012) also found positive effect for ownership concentration on capital structure , they suggest that top shareholders can force managers to increase financial leverage in order to mitigate managerial opportunism.

However, Rajan and Zingales (1995) assert that the effect of ownership concentration on capital structure is far from obvious. They argued that top shareholders being on the board of directors reduce the extent of agency costs between managers and shareholders and ease issuances of equity. Moreover, the shareholders would be undiversified, increasing their aversion to debt. On the other hand, if some of those shareholders are banks, they might force the firm to borrow from them.

3.4 Board size and firm performance

The empirical research findings about the relationship between board size and firm performance are contradicted. For example, Close et al., (2008) find positive association between board size and firm performance for a complex of firms. Jackling and Johl (2009), find positive effect for board size on firm performance for a sample of firms in India. However, Yermack (1996) addresses a negative relationship between board size and firm performance studying a sample of 452 large U.S industrial firms over the period 1984-1991. Eisenberg et al. (1998) show a negative relation between board size and firm performance in a sample of firms in Finland. Similarly, Mak and kusnadi (2005) report also a negative relationship between board size and firm value for a sample of firms in Malaysia and Singapore. Generally, the findings of negative effect can be explained as that large boards lack to good communications between their members, inferior decisions and vain harmonization and these firms more likely subject to the control of CEO, thereby resulting in lower performance.

3.5 Ownership concentration and firm performance

Prior studies found mixed results on the relationship between ownership concentration and firm performance. (e.g. Earle et .al, 2005; Nguyen, 2011; Wiwattanakantang , 2001) find that ownership concentration is positively associated with firm performance. Thomsen & Pedersen (2000), find a positive and a negative influence of ownership concentration on firm performance. They argued that firstly the effect of large shareholders on firm performance is positive, when the concentration level is large, the effect of large shareholders will become negative due to the entrenchment with management and expropriating small shareholders to maximize their own wealth. Regarding the Netherlands firms, Chirinko et al. (2003), have investigated the influence of investor protection, and concentrated ownership structures on firm performance, they found no significant effect for ownership concentration on firm performance. On the other hand, Prowse (1992) finds no relationship between concentration and performance on a sample of Japanese firms. Mak and Kusnadi (2005) show a similar result for Malaysian and Singapore firms. As such, Demsetz and Lehn (1985) find no effect of concentration on accounting profits for a sample of US firms, and McConnell and Servaes (1990) find no impact of concentration on the ratio of market value to replacement cost of assets (Tobin's Q).

4. Hypotheses development

4.1 Capital structure and firm performance

The empirical research has provided mixed results regarding the relationship between capital structure and firm performance. As regard to Dutch firms, most empirical studies provided outcomes consistent with pecking order theory (De Haan and Hinloopen, 2003; De Bie and De Haan, 2007; Chen et al., 1999; De Jong and Veld, 2001; Chen and Jian, 2001; Brounen et al., 2006). In line with these findings, it is expected that the relationship between capital structure and firm performance is significantly negative:

Hypothesis 1: Capital structure is negatively associated with firm performance

4.2 The moderating effect of board size

Control mechanisms of corporate governance play an important role in protecting shareholders rights from management entrenchment and mitigating the associated conflicts. The board of directors is one of these mechanisms which monitor the management decisions to be conducted in the best interest of shareholders. Empirical research has provided mixed results regarding the effect of board size on the relationship between capital structure and firm performance (Pfeffer and Salancick 1978; Lipton and Lorsch (1992); Jensen, 1986; Berger et al., 1997; Abor and Biekpe, 2007; Wiwattanakantang, 1999; Jackling and Johl 2009; Mak and kusnadi, 2005). Respecting Dutch firms, a few studies have examined the influence of board size on the relationship between capital structure and firm performance. Rödel, (2013) indicated that board size is negatively associated with capital structure due to the miscoordination in large boards which reduce the monitoring efficiency of management decisions especially that managers prefer less leverage in order to keep away from discipline and financial distress. Ganzeboom (2014) and De Jong (2002) find no significant relationship between board size and capital structure. From a point of view that traditional banks are particularly the main resources that provide debt for Dutch companies to finance their operating activities, obtaining that debt entitles strong relations and communications with supervisory and management board members (Chen et al., 1998; Pfeffer, 1972; Klein, 1998; Adams and Mehran, 2003; Anderson and Reeb, 2003; Coles et al., 2008; Jensen, 1993). In line with these findings, it is expected that board size of Dutch listed

firms has a positive influence on the relationship between capital structure and firm performance.

Hypothesis 2: board size strengthens the relationship between capital structure and firm performance.

4.3 The moderating effect of ownership concentration

Ownership concentration mitigates the agency costs resulted from the separation between ownership and control in the firm (Jensen and Meckling, 1976). Share blockholders have the power and incentive to monitor the management activities and align the interests of shareholders with those of management. Hence, maximizing their wealth as a result of improving firm performance (Shleifer and Vishny, 1986). Managers pursue short-term investments which maximize their rewards and remunerations. Moreover, they engage in empire-building activities, which focus on the growth of the firm and improving the prestige of management regardless of firm performance improvement (Gedaljovic and Shapiro, 1998). On the other hand, large shareholders have an incentive to keep their voting power and control the important decisions of management. Thus, they prefer to raise debt leverage in the capital structure in order to avoid share dilution (Harris and Aviv, 1988; Stulz, 1988). From another view, large shareholders prefer to use debt as a monitoring device to mitigate agency costs resulted from low discipline of managers. Additionally, blockholders prefer to raise debt, so that they benefit from tax deductible merits of capital structure which increases their value (Hart and Moore, 1995; Jensen, 1986; Harvey et al., 2004). Building on these arguments and consisting with empirical research of (Wiwattanakantang ,1999; Cespedes et al., 2009; Paligorova and Xu, 2012; Coenen, 2015; Ganzeboom, 2014; Earle et al., 2005; Nguyen, 2011; Thomsen and Pederson, 2000), it is expected that ownership concentration will have a positive influence on the relationship between capital structure and firm performance:

Hypothesis 3: ownership concentration strengthens the relationship between capital structure and firm performance.

5. RESEARCH METHODOLOGY and DATA

5.1 Research Design

This chapter discusses the methods used to test the hypotheses of this study. Recall that the main research question of this study is to investigate whether corporate governance moderate the relationship between capital structure and firm performance. Testing the effect of capital structure on firm performance comes first, then investigating whether the corporate governance moderate the relationship between capital structure and firm performance comes in the second place.

After reviewing prior research that has investigated the relationship between capital structure and firm performance, it is concluded that most of studies have used OLS regression models. Le & Phan (2017) conducted a study on the Vietnamese listed firms over the period 2007-2012, to examine the effect of capital structure on firm performance. They utilized pool OLS regression method and found significant negative relationship between total leverage ratio and firm performance represented by ROA,ROE, Tobin's Q. Roden and Lewellen (1995) examined the effect of the total debt (as a percentage of the total buyout-financing package) on profitability by using 107 leveraged buyout companies of US for the period 1981-1990. They used regression analysis and found a positive relationship between total debt and profitability. Wald (1999) collected data on 3300 firms from 40 countries using the 1993 Worldscope data set. Through regression analysis, Wald (1999), found a negative association between leverage and profitability. Berger and Bonaccorsi di Patti (2006) investigated the relationship between the leverage and firm performance under the view of agency costs theory for a sample of US commercial banks from 1990 to 1995. They used the profit efficacy as a measure of firm performance and the lower equity ratio as a proxy of leverage. They conducted (2SLS) regression analysis and found that increasing leverage with 1% - point lead to reduce agency costs, hence increasing profit efficacy with 16% point.

Consisting with previous literature, this study uses OLS regression method in order to test the effect of capital structure on firm performance (Haque et al. 2011; Detthamrong et al, 2007; Opler & Titman, 1994). Ordinary least squares regression is the most prevailing technique which is used to measure the relationship between two sets of

variables. OLS regression investigates if there is a relationship between the independent variables and the dependent variables. Furthermore, OLS regression measures the influence size of the independent variables on the dependent variables (Alisson, 1998). The significance level of the coefficients determines if the result of a variable can be generalized. Moreover, OLS regression can give accurate estimators results. Also, OLS is easy to use and it can be extended to include interaction between leverage and corporate governance and estimates its effect on firm value (Verbeek, 2008). However, OLS model has some problems, Wooldridge (2009) argues that due to endogeneity problem, OLS produce inconsistent estimators. Endogeneity problem emerges from the correlation of the explanatory variables with the error term of equation. Consequently, the quality of model is disturbed and causes the looping causality problem between explanatory and responds variables. Issues like, Measurement error, auto-correlation, heteroscedasticity, and omitting key explanatory variables are the most common reasons that cause the problem of endogeneity. Generally, there are some assumptions that must be fulfilled before using OLS regression: 1. Linearity of observed predicted values: predicted observed values should be distributed as a plot graph along 45-degree line. 2. The homoscedasticity of errors: errors are heteroscedastic, when the variances of errors are not constant, then standard errors of the OLS estimates will be untrusted and the confidence intervals will be too narrow or to wide. 3. Independence (no auto correlation): the error term should be independent and identically distributed. If the variances of error terms are not constant, then the linear regression model has heteroscedastic errors and most likely to give incorrect estimates. However, if there is autocorrelation between observations. It is better to lag the independent variables to correct for the trend component, otherwise the reliability of OLS estimates get weak. 4. Normality of errors: error terms of data should be normally distributed, otherwise OLS estimates will be less reliable and the confidence intervals will be too narrow or too wide. 5. No Multicollinearity: it should be no linear relationship between independent variables or perfect correlation between them since that disturbs the OLS coefficients and influences the respond variable. Usually, through the correlation matrix it can be checked if there is multicollinearity problem, hence dropping the correlated independent variables can fix the problem (Hutcheson, 2011).

In line with (Le & Phan, 2017; Detthamrong et al, 2017; Berg et al, 2006) The following regression model is estimated to test hypothesis 1

$$PERF_{it} = a_0 + a_1 LEV_{it-1} + a_x Controls_{it-1} + \acute{\varepsilon}_{it} \quad \textbf{(1)}$$

Where:

$PERF_{it}$ = firm performance in year t;

LEV_{it-1} = financial leverage in year t-1;

$Controls_{it-1}$ = Size, Firm age, industry, , growth opportunities, tangibility, taxes, Non-debt tax shield, free cash flows in Year t-1. $\acute{\varepsilon}_{it}$ = firm specific errors.

The author uses firm-level control variables as well as industry-level control variable and year fixed effects to control for the variability of capital structure across different industries and long different years. To avoid the reversed causality problem between capital structure and firm performance, the right-hand side variables is lagged by one period in line with (Detthamrong et al, 2017; Kabir & Thai, 2017). As mentioned previously, many studies provided that profitability is more influential determinants of capital structure according to the pecking order theory (the retained earnings is the main source of financing), which means that profitability is negatively associated with financial debt leverage. Another reason for the need to lag the independent and control variables is the mechanical correlation between some variables in the model.

Regarding the methodology used to test the moderating effect of corporate governance on the relationship between capital structure and firm performance, it is rational to review the methods utilized in prior research to test the moderating effect. First, the topic of this study is rarely investigated through other scholars, hence the evidence is very scarce. Kabir and Thai (2017), examined the moderating effect of corporate governance on the relationship between CSR and firm performance, using data sample of 524 listed firms of Vietnam between 2008 and 2013. They used the dynamic OLS regression model to test their hypotheses, the moderating variable is identified as the interaction between corporate governance variables (Board characteristics, foreign ownership) and CSR. Juma (2010), examined the moderating effect of corporate governance on the relationship between capital structure and firm value for a data sample of Nairobi from 2005 to 2009. He employed the basic ordinary least square

(OLS) regression and found that board independence, CEO duality, Audit committee independence and equity blockholders have positive influence on the relationship between capital structure and firm value (Tobin Q). Le, et al., (2004), examined the moderating effects of external monitors on the relationship between R&D spending and firm performance for a sample of largest public firms in Technology and medical sectors of US, they followed Sharma et al., (1981), and used hierarchical regression models. They distinguish between two effects of external governance monitors, the form effect (direct) and the strength effect (indirect), they suggested framework as follows: step1: use moderated regression analysis to examine the significance interaction of the moderator, if a significant interaction exist, go to step 2. Otherwise, go to step 3. Step2: determine whether the moderator variable is a quasi or pure moderator by testing if it is significantly correlated with the criterion variable. If it is, then it is a quasi-moderator. If not, it is a pure moderator. Both quasi and pure moderators impact the form of the predictor-criterion relationship. Step 3: determine whether the moderator is significantly related to either the dependent or explanatory variables. If it is, it is not a moderator, if it is not, go to step 4. Step 4: split the total sample into subgroups based on the suspected moderator and test for the significance of predictive validity across subgroups. If significant differences are found, the variable is a homologizer. Otherwise, it is not a moderator.

According to Cohen et al., (2003), the moderating variable is identified statistically as an interaction, which means a qualitative or quantitative variable that influence the trend and/or the strength of the relationship between explanatory variable and respond variable. According to Baron & Keny (1986), the moderating effect is identified when the moderating variable Z influence the relationship's strength between the independent variable X and the dependent variable Y.

Following (Kabir and Thai, 2017; Chaganti, 1991; Mallin et al, 2009; Hui and Chang, 2013; Le et al, 2006; Harrisons & Coombs, 2012; Kun & Chung, 2012, Clercq et al, 2010), this study uses OLS regression method to estimate the moderating effect of corporate governance (board size and ownership concentration) on the relationship between capital structure and corporate performance as follows:

$$PERF_{it} = a_0 + a_1 LEV_{it-1} + a_2 CG_{it-1} + a_3 LEV_{it-1}\, CG_{it-1} + a_x\, Controls_{it-1} + \dot{\varepsilon}_{it} \quad (2)$$

Where:

$PERF_{it}$ = firm performance in year t;

LEV_{it-1} = financial leverage in year t_{-1};

CG_{it-1} = corporate governance variables in year t_{-1};

CONTROLS = Size, Firm age, industry return, , Sales growth, Free cash flows, Liquidity inn year t_{-1};

$\acute{\varepsilon}_{it}$ = firm specific errors

According to Le et al., (2006), if the moderator interacts with the explanatory variable, the regression coefficient a3 of the interactive variable (LEV_{it-1}*CG_{it-1}) will prove significant. If the interaction proves significant, the suspected moderator must be significantly related to the independent variable and /or the dependent variable. If so, the Pearson correlation coefficient between them is significant.

5.2 Research Variables

5.2.1 Dependent variables

Previous studies used two types of measurement in order to measure firm performance; accounting-based measurement which relies on financial statements (i.e. Balance sheet, Income statements); market- based measurement (relies on investor perception)

This study employs both measurements, accounting-based measurement represented by ROE return on equity following some studies such as, (Kabir &Thai, 2018; Chen et al, 2005; Barbara, 2007; Liu et al., 2015; Peng and Yang, 2014). ROE is defined as the net income after extraordinary items divided by the book value of common equity. ROE identify the efficiency of the firm performance in employing the equity capital to generate free cash flows. Financial leverage increases ROE as long as the cost of liabilities is less than the return from investing these funds. However, ROE weighs net income only against owners' equity, thus it does not show much how well the company uses its financial leverage. The company might disclose a high ROE without using effectively the shareholders' equity to grow the company. Hence, it is more reasonable for the company to use ROA, return on assets which is defined as the operating income divided by total assets (Berger et al, 2006; Kabir &Thai, 2017, Chiang et al, 2002; Peng and Yang, 2014; Liu et al., 2015). Total assets equal the sum of liabilities and equity,

ROA refers to the operating performance of the firm and measures how effectively the firm uses its assets(or how much euros the firm generates for every euro invested from equity and debt) to produce cash flows. ROA is an indicator for the effectiveness of the investment, so it helps the management and investors to make decisions about the investment, if the value of ROA is more than the capital costs then the investment has net positive value and can be run. Nevertheless, ROE and ROA provide a good picture together about the health of the company. The market-based measurement proxy of firm performance is defined by Tobin Q which address the market value of equity divided by the replacement value of total assets ((Mak and Kusnadi, 2005; Ruan et al., 2011; Ghoul et al., 2011; Riddiough and Steiner, 2014). Using Tobin's Q is useful to reflect the effect of capital structure on the market value of the firm and to assess future of firm performance, since the nominator of Tobin's Q measure which is the firm value, increases with the decrease of the cost of capital structure (Servaes and Tamayo, 2013), while ROA and ROE assess the management performance based on accounting measures.

5.2.2 Independent Variables

Capital structure refers to combination of debt and equity used by firms to finance their activities. Thus, the capital structure is the composition of firm's liabilities which is defined as debt leverage in the research scope (Brounen et al, 2006). According to (Rajan and Zingales, 1995; Frank and Goyal, 2009), total and long-term leverage are the most used variables in capital structure studies. However, short-term leverage is not prevalent measure for capital structure. Due to the different nature and composition of short-term leverage, such as, trade credits, there might be different determinants than long-term leverage (De Jong, Kabir and Nguyen, 2008). prior Dutch empirical research has basically used long-term leverage as a proxy of capital structure (Chen, Lensink and Sterken, 1999; De Jong, 2002; Jong and Van Dijk, 2007), whereas the short-term leverage was employed as a secondary role. Another debate over capital structure measurement is whether to use book or market leverage. Myers (1977), argued that debt is backed by concrete assets rather than growth opportunities, hence book value is more efficient measure. Whereas, market leverage has sometimes large fluctuations which disturb the reliability of the measurement. However, proponents of market leverage argue that book value is rigid backward-looking number on balance sheet with

functional role. Frank and Goyal (2009), confirm that market leverage provides higher consistency and explanatory power than book value. Nonetheless, Titman and Wessel (1988) suggested that market leverage causes pseudo relationship with the variable of growth opportunities.

Regarding Dutch evidence, previous studies prefer employing book value. De Bie and De Haan (2007), indicated that market value rises spurious relationship with MB ratio. Likewise, Chen et al, (1999), reported that market leverage is more fluctuated across time and firms in compare with book value. Furthermore, Cools (1993), concludes that market value is difficult to perceive and rarely used after a survey conducted by interviewing 50 Dutch CFOs.

Based on the prior arguments, this study uses long-term debt leverage to represent capital structure, which is the long-term debt divided by the total assets. For the sake of checking for the robustness of the analysis, the total debt ratio is used as alternative measure, which is the sum of long-term and short-term debts divided by total assets (Cespedes et al., 2010; Detthamrong et al, 2017; Margariti &Psillaki,2010, Vithessonthi &Tongurai,2015).

5.2.3 The moderating variables of corporate governance

The author employs two proxies for corporate governance; Board size (Boardsz), and ownership concentration (OWN-Top3).

5.2.3.1 Board size

According to Wen et al., (2002), the size of board is a crucial determinant of capital structure. The larger the supervisory board is, the more efficient monitoring they can exercise on the managers. Van Ees et al., (2003), examined the role of corporate governance in the Dutch settings. They used the composition of supervisory board and board size. Van Ees et al., (2003), de Jong (2002) and Wen et al., (2002), defined board size as the total number of members of managerial board and the supervisory board. Board size is defined as the natural logarithm of director's number on the board (McGuiness et al, 2016; Kabir &Thai, 2017; Detthamrong et al, 2017; Bhagat& Bolton, 2008). Prior research found appositive effect for board size on capital structure and firm performance. The number of board member in a specific year cover both supervisory board and executive board as the case of Dutch two-tier board.

5.2.3.2 Firm Ownership Concentration (TOP3-OWN)

Following Hu & Izumida, (2008) and Earle et al., (2005). Ownership concentration is defined as the proportion of common stock held by the top three shareholders. Ownership concentration represents ownership structure in the firm. It is expected that this variable will have a positive impact on capital structure and firm performance.

5.2.4 Control Variables

Based on the review of prior research on the relationship between corporate governance, capital structure and firm performance, different firm characteristics are employed as control variables (Chen et al, 2005; Garcia -Meca et al, 2015; Haque et al., 2011).

5.2.4.1 Firm size

According to trade-off theory, Kraus and Lizenberger, (1973) and Myers, (1989), reported that firm size is positively related to capital structure. Larger firms have more stable cash flows and more diversified activities. Hence, they are less likely to go bankrupt (Deesomsak et al., 2004; de Haan and Hinloopen, 2003; de Jong, 2002). According to the pecking order theory, large firms have lower information asymmetry. Thus, they have easier and better access to the external financing markets than small firms (Degryse et al., 2012; de Haan and Hinloopen, 2003). Moreover, larger firms can obtain cheaper loans due to the advantage of economies scale (Céspedes. et al., 2010). A positive effect of firm size on firm performance is expected by this study. Previous studies used different measures for investigating the effect of firm size; the natural logarithm of book value of total assets , this is used by scholars like (Chen, 2004; Deesomsak et al., 2004; Degryse et al., 2012; Frank and Goyal, 2008; de Haan and Hinloopen, 2003; de Jong et al., 2008). The second measure is the natural logarithm of total sales, this is used by (Titman & Wessels, 1988; Nijenhuis, 2013). The third part of scholars used the market capitalization value of the firm to control the size effect (Core et al., 1999; Chen et al., 2007; Riddiough and Steiner, 2014). This study uses the natural logarithm of total assets in line with like (Chen, 2004; Deesomsak et al., 2004; Degryse et al., 2012; Frank and Goyal, 2008; de Haan and Hinloopen, 2003; de Jong et al., 2008) .To rescale the data and indicate a better normal distribution of size variable, the logarithm has been used. The measure of total assts has been chosen to control for size effect in this study and to avoid the problem of multicollinearity between independent

variables such as growth of sales and logarithm of sales, while the capitalization value was used in the model to measure Tobin's Q.

5.2.4.2 Growth opportunities

Firms with high growth rate generate more profits. Hence, increasing firm value. Previous studies provided positive effect for growth opportunities on firm performance. Margaritis and Psillaki (2010) found positive significant effect between sales growth and firm efficiency. King and Santor (2008) reported positive association between growth rate measured by growth of sales and firm performance. Tian and Zeitun (2007), Gleason et al., (2000), and Jiraporn and Liu (2008) documented similar positive effect for growth of sales and firm performance. However, some studies measured the growth opportunity by the Market-To-Book ratio and provided a negative relationship between growth opportunities and firm performance (Baber et al, 1996; Gul, 1999; Frijns et al, 2008), indicating that growth opportunities may lead to retrenchment in managerial behavior. Following (Tian and Zeitun, 2007, Gleason et al, 2000 and Jiraporn and Liu, 2008), this study uses the annual ratio of sales growth to measure the effect of growth opportunity.

5.2.4.3 Free cash flows

Consisting with the agency theory, firms with high free cash flows could have conflicts between shareholders and managers, since managers have the incentive to invest in projects that increase their own wealth in contrast to shareholders interest. Debt can reduce these conflicts and mitigate agency costs. Thus, free cash flows and financial leverage are positively related under overinvestment problem (Jensen, 1986). From other hand, firms with high cash flows can employ their internal funds and save the high costs of obtaining external funds. Following (Chang et al., 2007; Greogry, 2005; de Jong, 2002), this study defines free cash flow as the ratio of operating income before depreciation minus taxes, interest expenditures and dividends to total assets.

5.2.4.4 Liquidity

According to the pecking order theory, firms with high cash and liquid assets, will not raise external funds with high costs (Haan and Hinloopen, 2003). According to Le & Phan (2017), firms with high liquid assets have more investment opportunities and can pay dividends. Furthermore, it reduces potential costs of financial distress problems.

Thus, liquidity is expected to associate positively with firm performance. In line with Haan and Hinloopen, (2003) and Rödel (2013), the measure used for liquidity is the current ratio, which is the ratio of current assets to current liabilities.

5.2.4.5 Industry effect

To check for the industry effect on the relationship between capital structure and firm performance, the control variable of industry has been used. The industries have been categorized in seven different industries based on NAICS code (2-digit North American Industry Classification System) as follows:

1- Code 11 – Agriculture, Forestry, Fishing and Hunting
2- Code 21 – Mining. Quarrying, and Oil and Gas Extraction
3- Code 23 – Construction
4- Code 31-32-33 Manufacturing
5- Code 42 – Wholesale Trade
6- Code 44 – 45 Retail trade
7- Code 48 – 49 Transportation and Warehousing

In line with (Kabir and Thai, 2017; Nijenhuis, 2013; Chen et al., 2007; Tang and Chang, 2013), dummy variables for industries have been developed. The industries associated with defined dummies get the value of one otherwise they get zero. Therefore, six dummy industry variables were developed.

Another control variable is firm age, which is measured as the natural logarithm of the number of years since the firm was established following (Isidro and Sobral, 2014, Kabir and Thai, 2017).

Table (1) gives an overview over the definition of the variables used in the study.

Table 1: Definition of variables

Variable	Abbreviation	Definition
Financial performance		
Return on assets	ROA	Operating income before extraordinary items / total assets
Return on equity	ROE	Net income after extraordinary items / book value of equity
Tobin's Q	Q	Market equity value / replacement value of total assets
Financial Leverage		
Long-term debt	LTDA	Ratio of long-term debt to total assets
Total debt	TDA	Ratio of total (short-term+ long-term) debt to total assets
Corporate governance		
Board size	Boardsz	Natural logarithm of the total number of management and supervisory board members
Ownership concentration	TOP3-OWN	Percentage of common stock held by the largest three shareholders
Control variables		
Firm size	SIZE	Natural logarithm of Total assets
Growth opportunities	GROW	The ratio of sales growth
Free Cash flows	FCF	The ratio of operating income before depreciation minus taxes, interest expenditures and dividends to total assets.
Liquidity	LIQ	The ratio of current assets / current liabilities
Firm age	AGE	The natural log of the number of years since the firm was established
Dummy Agriculture	DUM-AGRI	Agriculture, fostering, fishing firm is 1, other firms are 0
Dummy oil and gas, mining	DUM-OIL	Oil, mining, gas extraction is 1, otherwise 0
Dummy manufacturing	DUM-MANFC	Manufacturing firm is 1, otherwise 0
Dummy construction	CONSTRUCT	Construction firm is 1, otherwise 0
Dummy whole and retail sale	WHOL-RETAIL	Whole and retail sales firm is 1, otherwise 0
Dummy transportation	DUM-TRANS	Transportation, warehousing firm is 1, otherwise 0

5.3 Sample and data collection

This research study examines a sample of 133 Dutch listed non-financial companies over the period 2013-2017. ORBIS data base is the main source for collecting the financial data of this study. The financial firms such as, banks, pension funds, and insurance companies are not included. Furthermore, some other firms classified under the following industry categories are deleted: utilities (code 22), information (code 51), real estate and rental and leasing (code 53), professional, scientific, and technical services (code 54), management of companies and enterprises (code 55), administrative and support and waste management and remediation services (code 56), educational services (code 61), health care and social assistance (code 62), arts, entertainment, and recreation (code 71), accommodation and food services (code 72), other services and public administration (code 81,92).

6. Analysis and Results

6.1 Descriptive statistics

The descriptive statistics of the study variables over the period 2013-2017 are presented in Table 2. All variables data were winsorized at the level 5% in both sides of distribution to avoid the influence of outliers. To deal with the problem of heteroscedasticity, the standard errors were clustered at the firm level. The average ratio of ROA is 3.23%, which is similar to the average ratio 3% documented by Baveld (2012) on Dutch listed firms between 2008-2009, whereas the average value recorded at the level 75% is 8.49 which is close to the results reported by Wei (2014) who found an average of 10.1% during a study on Dutch listed firms over the period 2004-2012; Bie and De Haan (2007) also found an average value of 8.8%. Similarly, Rödel (2013), Duffhues and Kabir (2006), and De Jong, Kabir and Nguyen (2008) found comparable results. The mean value of ROE was 9.15%, which is higher than 5.19% reported by Boerkamp (2016) who conducted a study over the period 2012-2014 and similar to the results found by Van Ees et al., (2001) and Frijns et al., (2008). Tobin's Q has an average value of 1.17%, and median value of 0.94% which is comparable with the results found by De Bie and De Haan (2007), De Jong (2002), and Degryse and the Jong (2006).

As aforementioned, Dutch firms particularly employ the long-term debt as the second main resource of finance after retained earnings. Table 2 shows an average ratio of long-term debt to total assets of 17.7% and median value of 14.1%. While the average ratio of total debt to asset is around 30%, and median of 28.6%, which means that the study sample of publicly Dutch firms finance on average 30% of their assets through financial leverage. The mean value of LTDA is similar in comparing with previous Dutch evidence, for example, (Wei, 2014; De Jong, 2002; De Jong and van Dijk, 2007), where they reported the LTDA ratios at 13.8%, 13.2%, 12.9% respectively which are close to the median value of 14.1% . Similarly, the total debt leverage is higher in comparing with 20.9% observed by Wei (2014), and 23.2% reported by Jiraporn et al. (2012).

Regarding corporate governance variables, the average number of board of directors which involves the supervisory and the management boards is 8.66 and median number of 8, which is similar to the results of (Van Ees, Postma, and Sterken, 2003), who found an average board size of 7.9 and median of 8 members, and close to Overveld(2012)

who found an average of 7.4 and median of 7 members. The average value of the largest three shareholders ownership is 41.8%, which is close to an average ratio of 45% observed by Coenen (2015) and measured as the percentage share of the largest 5 shareholders for Dutch listed firms over the period 2011-2013, and the result is close to an average ratio of 45.07% documented by Boerkamp, (2016) which was measured as the percentage share of the largest two shareholders over the period 2012-2014. The maximum value of ownership concentration is 96.6 % which is close to 93.16% reported by Frijns et al., (2008)

Analyzing the statistics of control variables, the results report an average value of sales growth of 6.58%, which is higher than 4.75 % observed for Dutch firms over the period 2011-2013 by Coenen, (2015), and similar to the results reported by Frijns et al. al., (2008) who found an average of 6.51%. The average value of the firm size represented by the total assets is 5.900 million euro, and a median of 539 million euro, which is lower than the average of 14.100 and higher than the median of 365 million reported by Duffhues and Kabir (2006) over Dutch listed firms. The mean value of the ratio of cash flow to total assets was recorded at 6.6% in comparing with 1% and 3% reported by Wei (2014) and De Jong (2002) respectively. The average age value recorded for Dutch listed firms was 54.5 years, and the median is 35.5 years which is much higher than 23.2 and 21.9 reported by Mak and Kusnadi (2005) and Kabir and Thai (2017) in their studies over Malaysian and Vietnamese firms respectively, indicating that I did not find an evidence from Dutch studies about firm age to compare with. The average value of liquidity which was measured as the current ratio of current assets to current liabilities recorded at 1.71%, which is slightly lower than 2.58% and 2.67% reported by De Jong, Kabir and Nguyen (2008) and Rödel (2013) for Dutch listed firms respectively who used also the measure of current ratio. The descriptive statistics of this study might vary from previous studies of Dutch listed firms, that is concerned with differences of time period and samples, indicating that the financial terms are continuous variables whose values varies from point to point of time.

6.2 Correlation analysis

The correlation coefficients between variables are presented in Table 3. All data observations were winsorized at the 5% in both sides of distribution before correlation matrix is conducted. Financial performance variables (ROA, ROE) are highly and

significantly positive correlated at the significance level 1%, which indicates the alternativeness of these variables. The correlation coefficient between ROE and ROA was 0.869, Tobin's Q was significantly and positively correlated with ROA and ROE, which was 0.281 between Q and ROA, and 0.214 between Q and ROE. The independent variable of capital structure represented by LTDA is significantly and negatively correlated with only return of assets ROA with 0.17 at the 10% significance level and insignificantly correlated with ROE and Q. The total debt leverage TDA was insignificantly correlated with all financial performance variables in the negative side. Table 3 shows also a highly significant correlation between LTDA and TDA (financial leverage proxies) with coefficient of 0.853, which confirms the alternativeness between the two variables. Corporate governance variables provide different correlations with firm performance variables. While the board size Boardsz correlated positively and significantly with ROE at 0.247, it correlated insignificantly with ROA and Q. However, ownership concentration TOP3-OWN correlated negatively and significantly with firm performance variables. TOP3-OWN correlated insignificantly with ROA, ROE with positive coefficients and insignificantly related to Tobin's Q with a negative coefficient. Regarding the correlation between corporate governance and financial leverage, the results show that Boardsz had significant positive correlation with LTDA and TDA at 0.306 and 0.253 respectively at the 1% significance level. Whereas TOP3-OWN had insignificant correlation with capital structure variables LTDA and TDA. The relationship between control variables and firm performance presents different correlations. The sales' growth had significant positive correlation with ROA and Q at 0.158 and 0.243 respectively, while it was insignificantly correlated with ROE. Firm size had significant positive correlation with ROA and ROE at 0.164 and 0.320 separately, whilst it had significant negative correlation with Q at – 0.151. It was found that firm size had highly significant positive intercorrelation with board size at 0.821 and with LTDA and TDA at 0.270 and 0.244 respectively. Free cash flow had high positive correlation with ROA, ROE, and Q at 0.873, 0.743, and 0.296 separately. While, the liquidity ratio had significant positive correlation with ROA and Q at 0.170 and 0.316 separately, whereas it had insignificant correlation with ROE. Finally, the firm's age did not correlate significantly with financial performance variables as illustrated in Table 3.

To check the problem of multicollinearity among variables, the variance inflation factor (VIF) was calculated (Kabir and Thai, 2017). The value of VIF was found less than 2 for most independent variables and it was about 4 for the intercorrelation between ownership and leverage variables, and 3.65 for the correlation between firm size and board size, which is much lower than the threshold 10. However, board size and leverage variables (LTDA, TDA) have high VIF at 74 and 66 respectively. which means that multicollinearity problem is seriously existed , hence the analysis might be distorted. To resolve the problem of multicollinearity, the values of high correlated variables were centered by deducting their means from each value of their observations, which is known as variables standardization (Wooldridge, 2015). After doing that, the VIF was calculated again and all its values were less than 2 for all variables, in this way, the problem of multicollinearity is resolved.

Table 2: Descriptive statistics

Variables	N	Mean	St.Dev	min	p25	Median	p75	M
Financial Performance								
ROA	519	0.0323	0.1076	-0.2456	0.0035	0.0501	0.085	0.2277
ROE	481	0.0915	0.2714	-0.6591	0.0208	0.138	0.2149	0.5921
TOBIN Q	357	0.0117	0.009	0.0017	0.0053	0.0094	0.0149	0.0372
Financial Leverage								
LTDA	496	0.1765	0.1598	0	0.04	0.1409	0.2637	0.5385
TDA	455	0.2989	0.1751	0.0364	0.1587	0.2856	0.4047	0.6762
Corporate Governance								
TOP3-OWN	361	0.4184	0.3056	0.0378	0.15	0.355	0.68	0.9657
Boardsz	656	8.6616	3.5826	2	6	8	11	24
Control Variables								
AGE	618	54.7945	52.2014	1	17	35.5	90	252
GROW	378	0.0658	0.193	-0.2613	-0.0446	0.037	0.1247	0.5792
FCF	439	0.0659	0.1021	-0.203	0.0322	0.082	0.1188	0.2274
SIZE (million euro)	552	5,900	15,700	0.1024	97	539	3,830	114,000
LIQ	550	1.7094	1.3316	0.2106	0.9112	1.3637	1.862	5.5352
Industry Dummy	550	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	550	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: the financial variables are measured in millions of euros. All statistics are calculated after the data was winsorized at the 5% in both sides of distribution

Table 3: Correlation Matrix

Variables	ROA	ROE	TOBIN Q	LTDA	TDA	Boardsz	TOP3-OWN	AGE	GROW	FCF	SIZE	LIQ
ROA	1											
ROE	0.869***	1										
TOBIN Q	0.281***	0.214**	1									
LTDA	-0.170*	-0,094	0,005	1								
TDA	-0,148	-0,059	-0,071	0.853***	1							
Boardsz	0,12	0.247**	-0,005	0.306***	0.253***	1						
TOP3-OWN	0,009	0,089	-0,103	-0,05	-0,051	0,022	1					
AGE	0,022	0,016	-0,077	-0,141	-0,021	0,107	-0.165*	1				
GROW	0.158*	0,107	0.243**	-0,024	0,009	-0,108	0,018	-0,063	1			
FCF	0.873***	0.743***	0.296***	-0,125	-0,124	0,051	0,045	-0,013	0,09	1		
SIZE	0.164*	0.320***	-0.151*	0.270***	0.244***	0.821***	0,017	0,118	-0,134	0,11	1	
LIQ	0.170*	0,018	0.316***	-0.280***	-0.423***	-0.182*	-0.152*	-0.274***	0,142	0,103	-0.206**	1

P-values are in parenthesis, *** p<0.01, ** p<0.05, * p<0.1

6.3 Regression analysis results

6.3.1 The relationship between capital structure and firm performance

The OLS regression results of testing hypotheses 1, 2, and 3 are presented in Table 4, 5, 6, where the regression results of ROA, ROE and Tobin's Q on the independent and the moderating variables are illustrated respectively. Testing the hypothesis 1, the results in Table 5 indicate that the capital structure represented by the long-term debt (LTDA) has significant negative effect on firm ROA at five out of nine models, whereas capital structure is significantly and negatively associated with ROE at only three out of nine models in Table 4. LTDA has insignificant relationship with Tobin's Q in all models in Table 6. The significant results of the effect of capital structure (LTDA) on ROA and ROE are consistent with the view of pecking order theory which indicates that firms tend to increase their debt leverage when their internal funds or namely retained earnings are insufficient to fulfill the future investment needs of the firm. The result is consistent with the results of De Haan et al., (1994) who found that 54% of Dutch listed firms prefer internal finance (De Haan and Hinloopen, 2003; De Bie and De Haan, 2007; Chen et al., 1999; De Jong and Veld, 2001; Chen and Jian, 2001; Postma et al., 2001; Brounen et al., 2006). In addition, the significant results show that an increase 1% in LTDA lead to reduce ROA and ROE with 0.22 % and 0.54 % (model 8 of Table 4, 5) respectively. These results suggest that the costs of financial distress resulted from borrowed bank-loans and bonds are significantly larger than the benefits obtained from interest tax shields related to finance of debt leverage or the management employs the external funds inefficiently.

Regarding the effect of control variables on firm financial performance, the results suggest that the growth of sales (GROW) is significantly and negatively related to ROA (only at the model 6 of Table 4) and to ROE at only three out of six models (Table 5) at the 10% and 5% of significance level. Whilst it is insignificantly associated with Tobin's Q (Table 6). The significant negative effect of growth of sales is consistent with (Frijns et al, 2008; Baber et al, 1996; Gul, 1999) which may indicate that the management employs their funds in empire-building investments that are inefficiently managed and produce negative net value. Firm size measured by the natural logarithm of total assets is, as expected, significantly and positively associated with ROA (in all related models

included in Table 4) and significantly positively related to ROE (in all related models of Table 5) at the 1%, 5%, 10% significance level, which is in line with (Kabir and Thai 2017; Dethamrong et al., 2017; Chang et al., 2014). However, firm size relates significantly and negatively with Tobin's Q (in 5 out of 6 models of Table 6) at the 5% and 10% significance level. Larger firms have the advantage of economies scale which can reduce costs and directly improve the financial performance. On the other hand, firm size influences the financial performance negatively when the total operating investments are inefficiently managed. The negative effect of firm size might be resulted from the measurement of Tobin's Q since the denominator includes the replacement value of total assets which increases relatively with total assets. The free cash flows have strong positive association with firm financial performance ROA (models 3,6,9, Table 4) and ROE (models 3,6,9, Table 5) at the 1% level and has significantly positive effect on Tobin Q(models 3,6,9, Table 6) at the 5% and 10% significance level, this positive result is consistent with (Dethamrong et al., 2017; Le and Phan, 2017; Chang et al., 2007), which suggests that large amount of cash flows can be positively employed in net value investments which generate more profits and improves firm value. Moreover, stable cash flows can make less ambiguity and clearer predictions about the future returns, which may increase the firm value. Interestingly, the AGE has insignificant effect on financial performance variables in all models of all Tables. Liquidity was measured as the current ratio, has significant positive effect only with ROA (in model 9 of Table 4) at the 1% significance level and with Tobin's Q at 2 out of three models (Table 6) at the significance level 10%. Whereas, the liquidity has insignificant relationship with ROE in all models of Table 5. The positive effect result of liquidity is in line with (Le and Phan, 2017; Rödel, 2013; De Jong and Dijk, 2007). The liquidity is an important item of working capital which is needed for meeting current liabilities, hence avoiding financial distress costs. Yet. Too much uninvested liquidity gives counterproductive result. The industry and time effects were also included in the models.

6.3.2 The moderating effect of board size

The results show that board size was significantly and positively related to firm performance represented by ROA at only one model out of five models (model 4, Table4) at 5% significance level, and with ROE at one out of five models (model 4, Table 5) at the 1% significance level with coefficient, as with Tobin's Q at three out of five models (model 5,6,8, Table 6) at the 10% significance level and with small coefficients. The

significance of results is weak and does not support the hypothesis 2, this result is contradicted with Close et al., (2008) and Jackling and Johl (2009) who found positive relationship between board size and Tobin's Q, and contradicted with Van Ees, Postma, and Sterken., (2003) who found significant effect for board size on ROA and ROE regarding Dutch listed firms. This result rejects the view that the larger number of directors provide better access to resources than small boards. Furthermore, it rejects the view that say larger boards may have more communications and diverse experiences and knowledge and lead to efficient decisions besides more monitoring and control on management, hence better performance. After testing the moderating effect of board size on the relationship between capital structure and firm performance, the results show insignificant effect for the interaction of board size and long-term debt (Boardsz* LTDA) on firm performance variables ROA, ROE and Tobin's Q in all models of Tables 4,5,6, which is consistent with the results of De Jong (2002) and Ganzeboom (2014) on the relationship between board size and capital structure. Hence, the board size neither strengthens the effect of capital structure on firm performance, nor weakens that effect.

6.3.3 The moderating effect of ownership concentration

Ownership concentration is relatively high among Dutch listed firms, besides that there are many single firms which have 100% ownership concentration. Tables 4, 5, 6 present the OLS regression models results of financial performance on capital structure and the moderating effect of ownership concentration represented in the share percentage held by the largest three shareholders. The results show that ownership concentration (TOP3-OWN) has weak impact on firm performance ROE at only one model out of three (model 9, Table 5) at the level 5% which is insignificant. This result is contradicted with (Earle et al., 2005; Nguyen, 2011; Wiwattanakantang, 2001, Coenen, 2015, Frijns et al, 2008) who examined the effect of ownership concentration on firm performance. Similarly, the relationship between TOP3-OWN and ROA, Q is insignificant at all the related models of Tables 4 and 6, which is consistent with Chirinko et al. (2003) who found insignificant effect for ownership concentration on financial performance of Dutch listed firms. The result rejects the theory which indicates that the large shareholders play significant role in mitigating agency costs resulted from the conflicts between shareholders and managers and perform an important role in controlling the management. As for the moderating effect of ownership concentration represented in the interaction of (TOP3-OWN *

LTDA), the results show that it has insignificant effect on the relationship between capital structure and firm financial performance in all the related models of Tables 4, 5, and 6, which means that large shareholders have insignificant role in influencing managers' financing decisions to increase the debt leverage in the firm or decrease it. Regarding the explanatory power of the independent variables, Adjusted R-squared refers to that 53 % of variability in ROA (model 9 of Table 4) and 47% of ROE (model 9 of Table 5), are explained by the regression model of independent variables stated in this study. While, the adjusted R-squared of Tobin's Q models is 23.3 % (model 9 of Table 6).

Table 4: OLS Regressions of Firm performance ROE on LTDA and corporate governance and some firm-specific variables

		Regressions of ROE								
IND- variables	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LTDA	-	-0,123	-0,238	-0,129	-0,231	-0.267*	-0,14	-0.535***	-0.543**	-0,231
		(-0.837)	(-1.523)	(-0.789)	(-1.604)	(-1.773)	(-0.877)	(-2.760)	(-2.526)	(-0.793)
GROW	+		-0,229	-0.145*		-0,214	-0,125		-0.330**	-0.216*
			(-1.611)	(-1.892)		(-1.450)	(-1.566)		(-2.552)	(-1.968)
SIZE	+		0.030***	0.024***		0.044***	0.036***		0.046**	0.039*
			(-2.974)	(-3.111)		(-3.086)	(-3.331)		(-2.385)	(-1.986)
AGE	+			0,003			0,005			0,034
				(-0.192)			(-0.29)			(-1.352)
FCF	+			2.033***			1.976***			1.260***
				(-8.27)			(-8.365)			(-3.62)
LIQ	+			-0,014			-0,014			0,026
				(-0.787)			(-0.795)			(-0.938)
Boardsz	+				0.179***	-0,119	-0,107		-0,068	-0,081
					(-2.797)	(-1.145)	(-1.340)		(-0.476)	(-0.656)
Boardsz*LTDA	+				-0,071	-0,44	-0,541			
					(-0.194)	(-0.938)	(-1.398)			
TOP3-OWN	+							0,09	0,128	0.216**
								(-0.915)	(-1.26)	(-2.28)
TOP3-OWN*LTDA	+							0,514	0,828	1,026
								(-0.998)	(-1.184)	(-1.198)
Intercept		0,008	-0.494**	-0.521***	0,008	-0.783***	-0.765***	-0,291	-0.948**	-0.996***
		(-0.041)	(-2.366)	(-3.447)	(-0.042)	(-2.717)	(-3.617)	(-0.978)	(-2.344)	(-2.706)
Obs.		353	242	213	350	240	211	200	147	130
Adj-R-squared		0,028	0,097	0,464	0,066	0,116	0,465	0,115	0,241	0,408
F		3,067	3,924	10,177	3,671	3,543	9,475	4,428	1,628	2,023
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Table 5: OLS Regressions of Firm performance ROA on LTDA and corporate governance and some firm-specific variables

		Regression of ROA								
Ind-Variables	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LTDA	-	-0,097	-0.133**	-0,044	-0.130**	-0.135**	-0,037	-0.210***	-0.224***	-0,043
		(-1.588)	(-2.101)	(-1.062)	(-2.445)	(-2.239)	(-0.868)	(-3.128)	(-3.833)	(-0.704)
GROW	+		-0,08	-0,052		-0,079	-0.056*		-0,081	-0,036
			(-1.633)	(-1.597)		(-1.535)	(-1.699)		(-1.446)	(-1.188)
SIZE	+		0.013***	0.008***		0.015***	0.012***		0.015**	0.013*
			(-3.316)	(-3.384)		(-2.744)	(-2.809)		(-2.358)	(-1.929)
AGE	+			0,009			0.009*			0.024***
				(-1.596)			(-1.751)			(-3.396)
FCF	+			0.727***			0.708***			0.565***
				(-8.917)			(-8.82)			(-5.21)
LIQ	+			0,006			0,007			0.026***
				(-0.784)			(-0.861)			(-2.947)
Boardsz	+				0.071**	-0,008	-0,035		0,023	-0,02
					(-2.556)	(-0.180)	(-1.015)		(-0.448)	(-0.398)
Boardsz*LTDA	+				0,083	0,091	0,107			
					(-0.581)	(-0.452)	(-0.649)			
TOP3-OWN	+							-0,011	-0,003	0,031
								(-0.297)	(-0.064)	(-1.088)
TOP3-OWN*LTDA	+							-0,039	-0,066	-0,116
								(-0.232)	(-0.348)	(-0.569)
Intercept		-0,039	-0.297***	-0.229***	-0,017	-0.318**	-0.306***	-0,085	-0.346**	-0.432***
		(-0.420)	(-2.837)	(-3.432)	(-0.226)	(-2.513)	(-3.144)	(-1.331)	(-2.635)	(-3.329)
Obs.		383	263	230	380	261	228	222	163	143
Adj-R-squared		0,043	0,126	0,508	0,085	0,132	0,502	0,146	0,257	0,53
F		2,937	4,052	25,748	2,742	3,866	24,558	4,721	8,072	18,554
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Table 6: OLS Regressions of Firm performance Tobin's Q on LTDA and corporate governance and some firm-specific variables

		Regressions of Tobin's Q								
Ind- variables	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LTDA	-	0,004	0,004	0,007	0,003	0,002	0,006	0,003	0,002	0,009
		(-0.575)	(-0.457)	(-0.943)	(-0.466)	(-0.241)	(-0.805)	(-0.457)	(-0.333)	(-1.225)
GROW	+		0,003	0,001		0,003	0,002		0,001	0
			(-0.802)	(-0.321)		(-0.898)	(-0.403)		(-0.255)	(-0.073)
SIZE	+		-0,001	-0.001*		-0.001**	-0.002**		-0.002**	-0.002**
			(-1.490)	(-1.770)		(-2.279)	(-2.342)		(-2.386)	(-2.230)
AGE	+			0			0			0,001
				(-0.452)			(-0.391)			(-1.183)
FCF	+			0.023**			0.025**			0.019*
				(-2.443)			(-2.627)			(-1.993)
LIQ	+			0.001*			0.002*			0,001
				(-1.852)			(-1.825)			(-1.159)
Boardsz	+				0	0.008*	0.009*		0.013*	0,011
					(-0.104)	(-1.823)	(-1.754)		(-1.835)	(-1.389)
Boardsz*LTDA	+				-0,016	-0,017	-0,017			
					(-0.807)	(-0.823)	(-0.784)			
TOP3-OWN	+							0	-0,001	0
								(-0.02)	(-0.286)	(-0.102)
TOP3-OWN*LTDA	+							0,001	0,026	0,017
								(-0.05)	(-1.277)	(-0.805)
Intercept		0.007***	0.020**	0.020**	0.006*	0.036***	0.038**	0,006	0.052***	0.047**
		(-3.67)	(-2.308)	(-2.207)	(-1.671)	(-2.797)	(-2.541)	(-1.575)	(-2.685)	(-2.242)
Obs.		285	210	206	284	209	205	175	132	129
Adj-R-squared		0,043	0,058	0,168	0,041	0,08	0,197	0,098	0,176	0,233
F		3,353	2,308	3,741	2,982	2,302	6,857	2,849	2,641	4,97
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

6.4 Robustness tests results

To check for the robustness of the main findings, additional tests were conducted and the independent variable LTDA was replaced with the total debt TDA in order to test the relationship between capital structure and firm performance as well as testing the moderating effect of corporate governance variables on that relationship. The results are presented in Table7, Table 8, and Table 9. The robustness results regarding the effect of capital structure represented by TDA on firm performance (ROA) found to be almost the same as the results conducted previously with LTDA, which has a weak negative association in six out of nine models (Table7), holding other variables constant, this result is inconsistent with Postma et al. (2001). Checking the effect of board size on firm performance (ROA), the results were also the same as previously weakly significant at one out of five models (Table7) at the 1% significance level. inconsistently with hypothesis 2, the moderating effect of board size on the relationship between capital structure (TDA) and firm performance (ROA) has weak positive effect at two out of three models (Table7) at the 5% and 10% significance level. This result contradicts with the view that larger boards of directors provide the management with more facilities to obtain financial debt due to the communication power and experience they have. To support this idea, previous studies on Dutch listed firms indicated that financial institutions such as banks and insurance companies have very little representation on the supervisory boards of companies (Chen et al.,1998), hence this denies the argument which hypothesizes that the existence of banks representors on the board of company might be the reason behind the facilities of getting more capital structure. The robustness check showed also similar results as previously regarding the individual effect of ownership concentration on firm performance (ROA) and its moderating effect (TOP3-OWN*TDA) on the relationship between capital structure (TDA) and firm performance (ROA), which provided insignificant results. Furthermore, the robustness check results showed weakly negative results between (TDA) and (ROE) at only two out of 9 models of Table 8, as well as providing insignificant results for each of the moderating variables of board size (Boardsz*TDA) and ownership concentration (TOP3-OWN*TDA) on the relationship between (TDA) and (ROE) (Table 8). As for the relationship between (TDA) and Tobin's Q, the results showed insignificant results for all models (Table 9). Moreover, the moderating effects of board size and ownership concentration on the relationship between

(TDA) and Tobin's Q are insignificant (Table9). The Tables (8 and 9) are displayed in the Appendix section.

To check more for the robustness of the models, the tests were reconducted by using a panel data of Random Effect Regression. The time aspect is important in financial studies, especially if the study investigates variables individuals replicated over time (Wooldridge, 2015). In opposite to cross-sectional studies which analyze the observation at specific point of time, panel data represents the mix of time series and cross- sectional studies. The characteristics of panel data is similar to time series, which analyze the observations running over time. The difference is that panel data studies multiple variable models to investigate the change over time. Furthermore, panel data can give more accurate estimates of changes over time than cross-sectional data. The tests revealed insignificant relationship between long-term debt (LTDA) and ROE. similarly, the individual and moderating effects of Board size (Boardsz*LTDA) has insignificant effect on the relationship between capital structure (LTDA) and firm performance (ROE) as stated at (Table 10). Similarly, the moderating effect of ownership concentration has very weak impact on the relationship between long-term debt (LTDA) and ROE at only one out of three models (model7, Table 10) at the 10 % significance level. This insignificant result reject the view that large shareholders put pressure on managers to raise debt in order to reduce mangers' discretion and exploitation of the free cash flows in their best interests and increase their financial discipline to meet the repayments of debt and interest. This result is inconsistent with Wiwattanakantang (1999) and Paligorova and Xu (2012) who found that the firms with high ownership concentration have usually higher financial leverage in order to reduce mangers' opportunisms as well as keeping their control and voting power away from share dilution. However, the panel data estimation of the relationship between (LTDA) and (ROA) provided insignificant results in all models (Table 11). The results have also shown insignificant effect for the moderating variables of board size and ownership concentration on that relationship (Table 11, Appendix).

Table 7: OLS Regressions of Firm performance ROA on TDA and corporate governance and some firm-specific variables

		Regression of ROA								
Ind- variables	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TDA	-	-0.094*	-0.128**	0,002	-0.118**	-0.117**	0,004	-0.225***	-0.218***	0,019
		(-1.774)	(-2.420)	(-0.052)	(-2.604)	(-2.463)	(-0.094)	(-4.669)	(-4.368)	(-0.301)
GROW	+		-0,07	-0.057*		-0,075	-0.064*		-0,078	-0,037
			(-1.410)	(-1.709)		(-1.463)	(-1.863)		(-1.402)	(-1.261)
SIZE	+		0.013***	0.008***		0.016***	0.012***		0.016**	0.012*
			(-3.265)	(-3.196)		(-2.702)	(-2.711)		(-2.246)	(-1.952)
AGE	+			0.010*			0.011*			0.027***
				(-1.71)			(-1.95)			(-3.616)
FCF	+			0.733***			0.696***			0.582***
				(-8.832)			(-8.348)			(-4.942)
LIQ	+			0,007			0,007			0.029***
				(-0.838)			(-0.881)			(-3.106)
Boardsz	+				0.074***	-0,018	-0,038		0,004	-0,022
					(-2.704)	(-0.378)	(-1.127)		(-0.072)	(-0.439)
Boardsz*TDA	+				0.199*	0.345**	0,173			
					(-1.749)	(-2.243)	(-1.178)			
TOP3-OWN	+							-0,012	-0,002	0,032
								(-0.274)	(-0.041)	(-1.128)
TOP3-OWN * TDA	+							-0,076	-0,056	-0,088
								(-0.482)	(-0.302)	(-0.495)
Intercept		-0,042	-0.308***	-0.224***	-0,015	-0.323**	-0.301***	-0,091	-0.386**	-0.441***
		(-0.454)	(-2.923)	(-3.183)	(-0.217)	(-2.535)	(-2.960)	(-1.642)	(-2.573)	(-3.310)
Obs.		358	247	229	355	245	227	209	154	142
Adj-R-squared		0,044	0,129	0,504	0,102	0,167	0,503	0,175	0,276	0,527
F		3,385	3,523	23,517	3,671	4,705	24,918	6,505	7,985	18,46
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Panel data Regressions of Firm performance ROE on LTDA and corporate governance and some firm-specific variables

		Regresion of ROE								
Explanatory	Expected sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LTDA	-	0,008	-0,087	-0,15	0,063	-0,102	-0,118	-0,086	0,037	-0,103
		-0,057	(-0.470)	(-0.717)	(-0.427)	(-0.510)	(-0.549)	(-0.398)	(-0.152)	(-0.357)
GROW	+		-0,021	0,084		-0,03	0,072		-0.209*	-0,047
			(-0.260)	(-0.925)		(-0.365)	(-0.769)		(-1.993)	(-0.358)
SIZE	+		-0,061	-0.131*		-0,048	-0,126		0.285**	0,178
			(-0.886)	(-1.675)		(-0.687)	(-1.572)		(-2.611)	(-1.192)
AGE	+			-0,449			-0.474*			-1,033
				(-1.626)			(-1.680)			(-1.651)
FCF	+			-0,009			0,024			-0,33
				(-0.023)			(-0.061)			(-0.719)
LIQ	+			0,028			0,023			0.128***
				(-0.983)			(-0.814)			(-2.709)
Boardsz	+				-0,217	-0,22	-0,129		-0,286	-0,183
					(-1.564)	(-1.241)	(-0.699)		(-1.153)	(-0.685)
Boardsz*LTDA	+				0,198	-0,469	-0,563			
					(-0.466)	(-0.865)	(-0.759)			
TOP3-OWN	+							0,036	0,296	0,27
								(-0.266)	(-1.266)	(-1.202)
TOP3-OWN*LTDA	+							0.975*	0,743	-0,292
								(-1.723)	(-1.154)	(-0.270)
Intercept		0.113***	1,337	4.318**	0.102***	1,069	4.310**	0.090***	-5.784**	-0,198
		(-6.577)	(-0.957)	(-2.474)	(-5.673)	(-0.752)	(-2.389)	(-3.353)	(-2.575)	(-0.058)
Obs.		353	242	213	350	240	211	200	147	130
Adj. R-squared		0,011	0,02	0,078	0,021	0,04	0,09	0,04	0,163	0,284
F		0,668	0,606	1,318	0,871	0,85	1,182	0,807	1,628	2,023
Industry Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

7. CONCLUSION, LIMITATIONS, AND RECOMMENDATIONS

This study investigates the moderating effect of corporate governance mechanisms on the relationship between capital structure and firm performance. A sample of 133 Dutch listed non-financial firms were analyzed over the period 2013-2017 by using OLS estimation technique including firm-specific control variables as well as industry and year fixed effects. First, the effect of capital structure on firm performance was tested, then the moderating effect of corporate governance variables represented by board size and ownership concentration were separately examined.

The regression results provided weak evidence about the significant negative relationship between capital structure represented by long-term debt and firm performance represented by ROA, ROE while the relationship was insignificant with Tobin's Q. The results may indicate that financing choice decisions of capital structure contribute negatively to the firm financial performance due to the potential costs of financial distress resulted from that financing. Moreover, the results may support the view of pecking order theory in consisting with previous Dutch empirical evidence which provided opposite effect between profitable firms and capital structure. The corporate governance variable of board size was added to the regression model in order to test the moderating effect of board size (measured by the interaction Boardsz* LTDA) on the relationship between capital structure (long-term debt) and firm performance. The results showed insignificant effect of (Boardsz*LTDA) on the relationship between LTDA and firm performance, which means that larger or smaller boards have no impact on financing decisions of management, while the individual effect of board size on firm performance was weakly and positively related with Tobin's Q at the 10% significance level and with ROA and ROE at the 5 % and 1% significance level respectively, which may indicate that larger boards have diverse communications and experiences which could improve their control and monitoring function on management decisions, hence improving firm financial performance.

Furthermore, the results provided insignificant effect of ownership concentration, in moderating the relationship between long-term debt and firm performance, which may indicate that the largest shareholders have insignificant impact on the financing decisions related to capital structure that is made by the firm management. Robustness check for this study was conducted by testing the effect of the independent variable of total debt

(TDA) instead of (LTDA) long-term debt. The robustness results provided similar results in comparison with the effect of (LTDA), namely a weak relationship between total debt and firm performance (ROA and ROE only. Further, the robustness results revealed a weak and positive effect for the variable of board size (Boardsz*TDA) in moderating the relationship between total debt (TDA) and ROA, which may confirm that there is a role for board members communication and experiences in strengthening the firm ability to raise financial debt. However, ownership concentration had insignificant effect in moderating the relationship between (TDA) and firm performance.

To check for the robustness of the models, the tests were reconducted by using panel data regression of Random Effect to analyze the change of variables over time. The panel data regression has revealed insignificant results about the relationship between long-term debt (LTDA) and firm performance (ROA, ROE, Tobin's Q). Similarly, the panel data results showed that moderating effect of Board size (Boardsz * LTDA) had insignificant effect on the relationship between capital structure (LTDA) and firm performance. Moreover, panel data regression results showed that the moderating effect of ownership concentration (TOP3-OWN*LTDA) had weak impact on the relationship between long-term debt and ROE. This result is not sufficient to support the view that large shareholders put pressure on managers to raise debt in order to reduce mangers' discretion and exploitation of the free cash flows in their best interests and increase their financial discipline to meet the repayments of debt and interest.

However, the aforementioned results cannot be generalized since the significant results are weak and have been obtained only by a few models out of the total models and that is not sufficiently enough, which lead to the conclusion that the suggested hypotheses cannot be supported or rejected.

This study has some limitations which might have had some impact on the results. The sample size is relatively small where the observations ranged between 126-383 individuals for 133 listed firms including the missing values. The results could be better if the period of the study was extended to more than 5 years, but due to the lack of time, that was not capable especially that corporate governance variable (board size) need to be manually hand-collected. It is advisable to conduct this study on firms which have effective bond markets since that give more accurate results on the relationship between capital structure and firm performance besides taking the market effect in consideration,

indicating that Dutch firms depend solely on banks loans as a main external financing resource. There is a lack in evidence research regarding this topic for Dutch listed firms, which could have supported and enforced the discussed arguments if it was sufficient. It is recommended to extend this research to be conducted on a big sample of some European countries and to include more diverse variables of corporate governance (board characteristics, ownership structure, takeovers and anti-takeovers mechanisms) in order to test their moderating effects on the relationship between capital structure and firm performance, since corporate governance effect varies according to different political, judicial, social, and economic systems.

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Appendix

A. OLS Regression estimation: ROE and Tobin's Q with TDA

Table 8: this table presents OLS regression estimation of firm performance ROE on capital structure TDA and corporate governance (Boardsz, Top3-own). The sample consists of Orbis Dutch listed firms from 2013 to 2017. Firms belong to financial industries; utility industries are omitted. N stands for number of observations. Year dummies are included but not reported. Robust standard errors corrected for firm-level clustering are in parentheses. ***, **, and * denote significance at 1%, 5% and 10% level respectively.

Table 8: OLS Regressions of Firm performance ROE on TDA and corporate governance and some firm-specific variables

	Regressions of ROE								
Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TDA	-0.015	-0.096	-0.024	-0.142	-0.167	-0.061	-0.503***	-0.516**	-0.175
	(-0.104)	(-0.566)	(-0.146)	(-1.082)	(-1.104)	(-0.368)	(-3.023)	(-2.601)	(-0.669)
GROW		-0.214	-0.151*		-0.199	-0.135*		-0.323**	-0.212*
		(-1.448)	(-1.978)		(-1.298)	(-1.704)		(-2.472)	(-1.942)
SIZE		0.030***	0.022***		0.044***	0.035***		0.050**	0.041**
		(-2.876)	(-2.982)		(-2.836)	(-3.18)		(-2.464)	(-2.189)
AGE			0.006			0.006			0.035
			(-0.35)			(-0.36)			(-1.442)
FCF			2.037***			1.980***			1.301***
			(-8.391)			(-8.374)			(-3.556)
LIQ			-0.011			-0.012			0.02
			(-0.585)			(-0.638)			(-0.663)
Boardsz				0.179***	-0.122	-0.127		-0.082	-0.101
				(-2.803)	(-1.042)	(-1.598)		(-0.554)	(-0.854)
Boardsz*TDA				-0.252	-0.294	-0.44			
				(-0.742)	(-0.680)	(-1.196)			
TOP3-OWN							0.081	0.126	0.233**
							(-0.704)	(-1.142)	(-2.131)
TOP3-OWN*TDA							0.062	0.635	0.976
							(-0.129)	(-1.012)	(-1.081)
Intercept	0.02	-0.482**	-0.490***	0.011	-0.788**	-0.756***	-0.35	-1.046**	-0.999***
	(-0.099)	(-2.203)	(-3.277)	(-0.059)	(-2.513)	(-3.462)	(-1.224)	(-2.463)	(-2.726)
Obs.	330	228	212	327	226	210	189	140	129
Adj-R-squared	0.012	0.084	0.461	0.055	0.101	0.46	0.092	0.238	0.398
F	2.643	3.989	10.227	3.162	3.464	9.507	2.943	7.98	15.232
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

Table 9: OLS Regressions of Firm performance Tobin's Q on TDA and corporate governance and some firm-specific variables

	Regression Tobin's Q								
Ind-variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
TDA	0.001	0	0.009	0	-0.001	0.008	0	-0.002	0.006
	(-0.114)	(-0.063)	(-1.6)	(-0.004)	(-0.168)	(-1.392)	(-0.058)	(-0.381)	(-0.95)
GROW		0.012***	0.008**		0.003	0.001		0.001	-0.001
		(-4.264)	(-2.578)		(-0.835)	(-0.116)		(-0.26)	(-0.125)
SIZE		0	-0.001*		-0.001**	-0.002**		-0.002**	-0.002**
		(-1.065)	(-1.677)		(-2.150)	(-2.308)		(-2.299)	(-2.149)
AGE			0.001			0			0.001
			(-0.899)			(-0.487)			(-1.017)
FCF			0.022**			0.027***			0.021*
			(-2.102)			(-2.73)			(-1.982)
LIQ			0.002**			0.002**			0.001
			(-2.484)			(-2.268)			(-1.138)
Boardsz				0	0.008*	0.009*		0.014*	0.012
				(-0.015)	(-1.764)	(-1.703)		(-1.885)	(-1.408)
Boardsz*TDA				-0.006	0.001	-0.006			
				(-0.383)	(-0.074)	(-0.302)			
TOP3-OWN							0	0	0
							(-0.041)	(-0.104)	(-0.139)
TOP3-OWN*TDA							0.005	0.027	0.016
							(-0.23)	(-1.556)	(-0.787)
Intercept	0.007***	0.016**	0.016**	0.007***	0.037***	0.038**	0.007**	0.053**	0.048**
	(-5.517)	(-2.035)	(-2.052)	(-3.068)	(-2.776)	(-2.534)	(-2.102)	(-2.578)	(-2.19)
Obs.	285	274	270	284	209	205	175	132	129
Adj-R-squared	0.04	0.112	0.242	0.033	0.073	0.202	0.095	0.185	0.231
F	3.345	4.327	6.732	3.013	2.279	5.221	2.93	2.841	4.795
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

B. Panel data Regression: ROA with LTDA

Table 11: This table presents Panel data regression estimation of firm performance ROA on capital structure LTDA and corporate governance (Boardsz, Top3-own). The sample consists of Orbis Dutch listed firms from 2013 to 2017. Firms belong to financial industries; utility industries are omitted. N stands for number of observations. Year dummies are included but not reported. Standard errors corrected for firm-level clustering are in parentheses. ***, **, and * denote significance at 1%, 5% and 10% level respectively.

Table 11: Panel data Regressions of Firm performance ROAon LTDAand corporate governance and some firm-specific variables

	ROA Panel data regression								
Explanatory Vs	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
LTDA	-0.014	0.046	0.084	0.018	0.086	0.099	-0.007	0.052	0.099
	(-0.289)	(-0.732)	(-1.179)	(-0.366)	(-1.259)	(-1.33)	(-0.095)	(-0.55)	(-0.882)
GROW		-0.014	0.011		-0.02	0.005		-0.033	0.029
		(-0.527)	(-0.359)		(-0.707)	(-0.166)		(-0.828)	(-0.65)
SIZE		-0.011	-0.038		-0.008	-0.035		0.057	-0.012
		(-0.491)	(-1.434)		(-0.341)	(-1.285)		(-1.315)	(-0.216)
AGE			0.016			0.02			0.244
			(-0.179)			(-0.231)			(-1.431)
FCF			-0.007			-0.017			-0.066
			(-0.067)			(-0.162)			(-0.518)
LIQ			0.009			0.009			0.066***
			(-1.033)			(-1.007)			(-4.319)
Boardsz				-0.069	-0.095	-0.069		-0.062	-0.037
				(-1.337)	(-1.457)	(-1.002)		(-0.627)	(-0.365)
LTDA* Boardsz				0.206	0.203	0.151			
				(-1.423)	(-1.055)	(-0.561)			
TOP3-OW							-0.026	0.161*	0.141
							(-0.557)	(-1.707)	(-1.566)
LTDA* TOP3-OWN							0.069	0.001	0.297
							(-0.364)	(-0.006)	(-0.769)
_cons	0.038***	0.261	0.736	0.033***	0.188	0.657	0.035***	-1.144	-0.648
	(-6.031)	(-0.558)	(-1.249)	(-4.882)	(-0.395)	(-1.083)	(-3.523)	(-1.290)	(-0.526)
Obs.	383	263	230	380	261	228	222	163	143
Adj-R square	-0.385	-0.569	-0.61	-0.382	-0.568	-0.628	-0.594	-0.888	-0.571
F	0.725	0.607	0.528	1.034	0.83	0.54	0.604	0.853	2.216
Industry Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

T-values are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1