BOARD CHARACTERISTICS AND CAPITAL STRUCTURE IN MALAYSIAN MARKET

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MASTER OF SCIENCE IN FINANCE

UNIVERSITI UTARA MALAYSIA

JUNE 2012

BOARD CHARACTERISTICS AND CAPITAL STRUCTURE IN MALAYSIAN MARKET

A thesis submitted to the Postgraduate Studies Othman Yeop Abdullah

Graduate School of Business

(Department of Finance)

In partial fulfillment of the requirements for the degree

Master of Science (Finance)

Universiti Utara Malaysia

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UNIVERSITI UTARA MALAYSIA

JUNE 2012

DECLARATION

I certify that the substance of this thesis has never been submitted for any degree and for any other qualifications.

I certify that any assistance received in preparing this thesis and all sources used have been acknowledged in this thesis.

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ABSTRACT

Using fifty nine construction companies listed in Bursa Malaysia in 2010, this study investigates the impact of selected board of directors' characteristics on the level of leverage in a firm. Debt to equity is used as a measure of leverage. The characteristics on the board of directors that we examine are board size, CEO duality, directors' ownership, and ethnicity of directors. We employ two variables (profitability, and firm size) to control the relationships:

Findings show a significant interpretation of capital structure decision by these factors as a whole. Specifically, the outputs of the regression that we run show negative and significant relationships between director ownership, ethnicity of directors, and profitability of firm, and size of firm.

While we find that duality role of the CEO as a chairman has a negative but insignificant relationship with leverage, our sample shows that the companies which had CEO duality are few compared to those which had separated roles between a CEO and a chairman. However, there is a positive and significant correlation between debt level in the companies and size of board of directors.

Acknowledgment

In the name of Allah, the Most Gracious and Most Merciful

First of all, I praise the almighty Allah, who has given me the opportunity to study abroad, and finish a new stage of my life successfully by doing this research. I thank Allah for all his blessings and guidance, which have provided me with strength to face all the tribulations and trials in completing this part of my life.

I therefore send my love and gratitude to the ones who really have cared for me, and never stopped supporting me until I reached to where I am now; my parents, all my thanks and love for you both.

I want to thank my father, Abd Alrahman Auais, for everything that he has done for me. As a loving father, he has made life better and easier for me and my brothers. I send my deepest gratitude and affection to my mother Dina Awad. She is the source of power when things get harder. I have no suitable words that can fully describe my everlasting love to both of them.

I wish to express my deepest gratitude and heartfelt thanks to my supervisor, Associate Professor Norafifah Ahmad, for her discerning guidance, positive criticisms and advice- throughout the undertaking of this study. She had spent a lot of her precious time giving me valuable information, and corrections, to ensure better understanding, learning, and to achieve this study. Her excellent guidance and supervision have enriched me with higher quality of work. What

is more, she was sympathetic with my other matters which gave me the strength and consolidated my effort in completing this thesis.

I would like to thank all my MSc (Finance) lecturers, for their outstanding finance knowledge during knowledge building time in this university.

Sincerely,

AMIN AUAIS ABEL RAHMAN AUAIS

Table of Content

List of tables

List of abbreviation

Abbreviation	Description
OECD	Organization for Economic Cooperation and Development
MBAM	the Master Builders Association Malaysia
CEO	Chief executive officer
MCCG	Malaysian Code of Corporate Governance
BOD	Board of directors
LP	Legal person
ROI	Return on investment
ROA	Return on assets
PBDIT	Profit before depreciation, interest, and taxes
UUM	Universiti Utara Malaysia
LEV	Leverage
BS	Board size
DL	CEO duality
MANGO	Managerial ownership
SZ	Size of firm

CHAPTER ONE

1.0 Introduction

The choices to finance a firm are known as capital structure, and it remains a big debate. Since many years ago, many studies have tried to understand the factors that make managers prefer borrowing (taking up debt) rather than issuing new equities or the opposite, and many other researchers have tried to determine whether there is an optimum proportion of debt and equity. Capital structure theories have therefore been established to give an understanding of when and why firms tend to increase or decrease their debt, and what factors might have impacted the capital structure choice.

Studies and theories have discussed factors that have a touched impact on capital structure, due to the importance of capital structure for any firm, small it is or big, new or old.

Capital structure decision reflects how management is effectual, intelligent to exploit opportunities, and capable to carry out a company's business with the best way of financing. Furthermore, capital structure is important as a criterion of winnings and losses as well. Where we know that more debt leads to more risk, in conjunction with higher ability to avoid expenses.

Within the many factors that affect the capital structure, researchers have suggested corporate governance as an effective issue to affect the debt proportion in a company. The importance of corporate governance exists since the decision of capital structure is decided by management and directors, who corporate

governance takes care of, in addition to their normative decisions, and their relations with shareholders.

Corporate governance is a tool to assure better performance and management honesty in doing a firm's business. Hence, our study investigates the relationship between capital structure as an important decision by management and a corporate governance element represented by characteristics of board of directors on the firm. To establish this relationship, we examine selected firms listed on the Malaysian stock exchange, that is, the Bursa Malaysia.

1.1 Background of the study

1.1.1 Corporate governance and board of directors

Corporate governance has been recently a subject of extensive study by many researchers who do not totally agree whether the existence of corporate governance is good or not for corporations, and what kind of consequences it would leave (Shleifer & Vishny, 1996). However, many researchers have provided evidence on how corporate governance is critical in financial and nonfinancial decisions. Researchers have reported that corporate governance has an impact on several important aspects in a firm. The impact of corporate governance has been measured on the dividend policy in a firm, the transparency of information disclosure. Many studies have also studied the impact of corporate governance on the performance of firms as a whole (Klein et al., 2005; Lebanc, 2003; Daily, 2003).

Corporate governance is a combination of relations between the management of company, with its shareholders, the board of directors and its stakeholders. It is a tool to provide the structure of the company's objectives, how to attain these objectives and how to monitor the determined performance. Corporate governance should give appropriate incentives for the high level of management and the board of director to match the shareholder interests, and to provide an effective monitoring. Good corporate governance within not just individual companies but within the whole economy contributes to provide a confidence which is needed to create an effective market economy comes by providing a good corporate governance system (OECD 2004).

Macroeconomic policies and the competition in product and factor markets are economic contexts where corporate governance plays a role within. The corporate governance framework depends on the environment around the institution which includes the legal state, regulations, and institutional system. What is more, there are some factors (such as business ethics and the responsibility and the awareness toward the community of the corporation) that might affect the reputation and success of corporate governance (OECD, 2004).

According to Morck and Steier (2003) corporate governance importance comes from how to attract investor who has the choice to invest in multiple financial instruments in several financial and nonfinancial institutions. This choice is made due to that investor always looks for safety and benefits that would be generated due to their investments. Investors look for honest and intelligent management to manage their money and get the gains. Thus, corporate governance has become more critical in assuring the investor that his/her money would be in the right

hand. Thus corporate governance seeks to take care of an investor's interests and prevent any mismanagement.

Investor is expected to monitor the efficiency of corporate governance on his own, but with the awareness of its importance, and to reduce costs from investors consuming more economic resources, the capital markets in both the United States and the United Kingdom have put regulations by requiring that firms disclose detailed financial information by reporting insider share holdings, management payments, and information regarding conflicts of interest. Other rules prevent and detect stock manipulation, inappropriate trading, and other self-dealing by corporate insiders. These regulations which allow shareholders to sue the directors of any company which infringe them move the cost from investors by monitoring companies' management.

The Organization for Economic Co-operation and Development, 2004 (OECD 2004) established the Principles of Corporate Governance that assure to enhance an effective corporate governance framework which improves the transparency and efficiency in markets. This framework ensures shareholders rights and key ownership functions. It recommends to treat shareholders equitably. The OECD emphasizes that the corporate governance framework should assure the rights of stakeholders in corporate governance and encourage active co-operation between corporations and stakeholders in many ways regarding the prosperity of the enterprises. The OECD principles also ensure disclosure and transparency of the information regarding to the financial situation, ownership, and the governance in the company.

Shleifer & Vishny (1996) describe corporate governance as a tool to assure the finance suppliers who are not in charge of managing the company that they would get good returns on their investments. This assurance comes from that corporate governance stands as a barrier between managers and their desires to get some personal benefits which might hurt the owners' interests.

A common problem in firms related to corporate governance is the agency problem, developed as a theory by Coase (1937), Jensen and Meckling (1976) and Fama and Jensen (1983b). Agency problem arise as a result of conflict of interests between managers and shareholders in a firm. It creates a cost which is called agency cost, which includes costs of monitoring, costs of structuring, dealing by contracts with agents with conflicting interests, with residual loss due to the full enforcement costs of contracts exceeding the benefits (Fama & Jensen, 1983). Controlling the agency problems is therefore a critical factor for organizations to survive.

Agency problem can be controlled by having a system which splits the management into "initiation and implementation" and control, which consists of "ratification and monitoring" of critical decisions in the organization. There are tools for dividing decision management and decision control such as 1-decision hierarchies which let the lower level agents share in that decision with their suggestion then they pass it to the higher level agents and so on, 2- boards of directors is in charge of confirming, monitoring the organization's most important decisions to employ, fire, and give compensations and incentives to the high level decision managers, and 3- incentive system to encourage decision agents for mutual monitoring (Fama & Jensen ,1983).

Our study focuses on factors related directly to board of directors as a part of corporate governance which influences the capital structure. Board responsibilities are regarded as a principle of corporate governance with the power of the board to employ, compensate, and fire management. . Corporate governance structures are an institutional arrangements which are considered as specialized controller structures that reduce transaction costs for this kind of problem between managers and shareholders, for instance when a large shareholder is appointed to be a director.

In this situation large number of problems can be solved because directors are witness to certain inside information. Thus, the board determines a great weight in the governance of corporate contracting. It gives a powerful instrument through which interest conflicts could be solved without revocation contractual relationships when there are no better substitutes (Baysinger & Butler, 1985).

The OCED framework of corporate governance (2004) that requires that the board of an enterprise does its job diligently and faithfully, taking into consideration shareholders' interests without bias, while applying ethical standards. The board has to exercise independent judgment on corporate interactions; the board must do regular missions such as managing potential conflicts of interest of management, board of directors and shareholders. It has to ensure a transparent board election, and a formal and transparent board nomination and election process. After selecting the executives in the company, the board has to monitor them by making sure that they work to achieve the company’s and shareholders' interests. The board also has to ensure the effectiveness of the governance inside the company by renewing policies and strategies related to it. The board must oversee the

disclosure process and the financial reporting. And lastly board of director should be able to reach rigorous information at anytime in order to fulfill their responsibilities.

The board's role in large corporations is to differentiate manager-shareholder contracts. Within many mechanisms of corporate governance, board of directors is considered as a solution to the interaction between managers and shareholders

Searching for a real effective governing body, economists stress that the board should have both insiders and outsiders. The outside directors facilitate the board's confirmation of management's strategies, oversee the performance monitoring, and implement the strategies. Outside directors also serve in preventing any potential connivance of the top board's managers. Inside directors' task is to facilitate good communication with outsiders about inside information during meetings (Baysinger and Butler, 1985).

Asian crisis badly affects the perspective about the Malaysian corporate governance, and contributed to the country having better governance practice. . This event caused responsible bodies to take on corporate governance reform, which improved the quality of the governance in Malaysian's companies (Nor Azizah Zainal Abidin and Halimah (2007)). The Ministry of Finance formed a committee known as Professional Corporate Governance Financial Committee, with the aim to improve the governance level in the country and to review the old framework to make amendments and to put recommendations (Das (2000)).

Malaysian Code on Corporate Governance (2007) requires that every listed company to have a board of directors able to lead the company, and quick to access information related to work.

This board should include independent and internal directors to ensure better performance and monitoring, with re-elections and to bring new directors into the board with a transparency and justice.

1.1.2 Capital structure theories

Since long time ago many studies have examined the determinants of capital structure, with authors suggesting theories that might explain the behavior of a manager in financing his/her firm. The choice to finance a company is considered a mystery till now . Myers (1984) in his paper, The Capital Structure Puzzle, shows how difficult it is to know why and when managers go toward debt or equity, and whether there is an optimal limit to both debt and equity.

Theories that have been taken into consideration by many academicians and other practitioners in the financial markets have tried to explain the various aspects of this puzzle. One of them is Pecking Order Theory (POT) which states that firms finance itself firstly by its retain earning, then borrowing, and lastly by equity (Myers (1984)). Market Timing Theory is another theory, which explains the attitude of managers to finance their companies by considering easier and cheaper ways to get funds, depending on current conditions of the market, industry, and a company. Another theory considered as a good explanation for the choice of capital is the Trade-off Theory (TOT) which shows that the choice of capital

structure depends on the trade-off between debt's benefits and the cost of getting that debt.

On the other hand, agency theory explains part of managers' attitude to finance the company, that is, a manager tries to benefit himself regardless of the proper financing of the company, and such a conduct causes a company costs. These costs are the results of agency conflict between the manager and the shareholders (Harris and Raviv, 1991).

Another determinant is the reason for the financing choice. It can be the level of equity or debt holding by a company, which can control the attitude of a management to finance its company, Grossman & Hart (1982) suggest that higher level of debt reduces the tendency of using more than the optimal level of perquisites, and increase the risk of bankruptcy. They argue that high levered firm is not easy to finance by having more debt as long as good monitoring exists.

According to Titman and Wessels (1988) the cost of debt for growing firms is higher than that of other grown firms, due to the variance of the ability to have wide alternatives of choices. This is why growth is also considered a determinant of capital structure choice.

Another factor that is very important in making the capital structure decision is tax shielding. Since interests are exempted from tax, managers try to benefit from tax shielding In contrast, DeAngelo and Masulis (1980) argue that depreciation and investment tax credits have the privilege of tax deductions as an alternative of the tax shielding benefits of financing by debt.

In the preparation for cases such as liquidation of different kinds of assets, managers try to finance those assets with less debt, to avoid any chance of bankruptcy. Small companies have more risk, and less ability to get financing. They have to therefore use a high percentage of their earning for financing, thus size of a company is positively related with leverage, and growth is negatively related to leverage (Madura (2010).

Brander and Lewis's models (1986), show that oligopolists usually tend to finance themselves with more debt than firms in competitive markets. Maksimovic (1988) believes that debt is limited when tacit collusion exists and debt can be increased with the flexibility of demand. Harrls (1991) contends that capital structure is linked with corporate control situations; capital structure affects the distribution of votes, then the takeover events. This situation is discussed under what is known as Theories Driven by Corporate Control Considerations.

1.2 Problem statement

Many studies have tried to identify the determinants of capital structure of firms. Scott (1976), Scott (1977), Titman and Wessels (1980), (1988), Harris and Raviv (1991), and DeAnglo, Masulis & Sufi (2010) provide evidence in finding out the reason why a manager choose equity or debt to finance his/her company.

As time goes on researchers try to link factors or issues that might have a real impact on capital structure. Corporate governance has been one studied issue that researchers have assumed to have an impact on the decision of capital structure.

Berger et al. (1997), Fosberg (2004), Bertus (2008), Kumar (2006), and Hovey 2010), examined leverage of firms with elements of corporate governance such as share ownership that is owned by important persons and groups in the company, and the structure of the ownership in a company. Apart from board of directors' characteristics, certain financial figures such as profitability, growth, and firm size could be considered as effective factors on financing choice.

Saad (2010) examined the relation between directors' board characteristics (Board meeting, duality leadership, and board size) in Malaysian market, with capital structure defined by leverage. Another recent study in the same area and market by Heng at al. (2012), examines the effect of size of the board, presence of non-executive directors in the board, presence of independent directors in the board, and CEO's duality, on capital structure.

Our study extends the investigation on the determinants of capital structure by examining characteristics of board of directors including board size, CEO's

duality, managerial ownership, and ethnicity of the directors, while controlling for profitability and firm size. To add new evidence on Malaysian market, and better understanding of those variables' relations with the capital structure, our study investigates these variables in the Malaysian market to find out how effective they are in determining firm leverage, and in what kind of effect they leave on the decision of financing.

1.3 Research questions

This study examines the relationships between capital structure and selected board characteristics including two control variables of Malaysian firms in the construction sector listed in Bursa Malaysia as of 2010.

Our research questions are:

1- What is the relationship between board size and capital structure decision in Malaysian firms?
2- What is the relationship between CEO duality and capital structure decision in Malaysian firms?
3- What is the relationship between managerial ownership and capital structure decision in Malaysian firms?
4- What is the relationship between the directors race and capital structure decision in Malaysian firms?
5- What is the relationship between profitability and capital structure decision in Malaysian firms?
6- What is the relationship between firm size and capital structure decision in Malaysian firms?

1.4 Research objectives

The main goal of the study is to examine the relationships between capital structure decisions of fifty nine construction listed firms in Bursa Malaysia, and board of directors' and firm-specific characteristics. The specific objectives are as follow:

1- To investigate the relationship between board size, CEO duality, managerial ownership, directors' race, profitability, and firm size, and capital structure decision in Malaysian firms.
2- To determine the nature of the relationships (positive or negative, and significant or not significant) between capital structure decision and board size, CEO duality, managerial ownership, directors' race, profitability, and firm size.

1.5 Significance of study

The area of capital structure is wide, and there have been extensive studies that examined the variables that affect it. However, studies that link capital structure to corporate governance are still rather limited. Board characteristics impact on capital structure, for example, have been studied lesser, the effect due to those characteristics on the financing decision is still unclear.

This study adds more evidence on the scant literature on Malaysian capital market in understanding the relation and the effect of board characteristics on the choice of financing in companies.

This study adds ethnicity as a factor to test whether it affects financing decisions. Malaysian managers come from diverse and distinct backgrounds, in terms of culture, race and religion, all of which shape how they feel, think and act.

Furthermore, the sample that we have chosen is critical sample in Malaysian market, this paper studies the biggest fifty nine construction company. The importance of studying companies from the construction sectors in Malaysia lies in many reasons we conclude two of them: first; by Looking at local and global economic situation, it has been noticed that the economic situation is unstable. Uncertainty of the future of economies is high. However, according to MBAM outlook; construction sector will keep stable in the future Mahalingam (2012), and this goes Consistently with the construction master plane 2006-2015, which was put to insure growing future of construction sector. Abo Mansor (2010) explained that while all other sectors recorded negative growth in 2009, construction sector was the only sector that recorded a positive growth in 2009, during every quarter.

Second; the importance of construction sector comes where it is considered as a contributor segment in the Malaysian economy, due to the interaction with other industries. Construction sector is a gate of other sectors' growth, where its role is to build fundamental buildings of educational institutions, nation's social-economic development, government offices, tourist attractions, transportation infrastructures, and many other sides in the country (Construction Industry Master plan Malaysia 2006 – 2015 (2007)).

1.6 Organization of study

The remainder of the study is divided into four chapters. The next chapter, chapter two, provides a review of related literature on the relationship between corporate governance and capital structure decisions and the efficiency of the independent variables in affecting other variables. Chapter three introduces the design for the study, the methodology employed, variable measurements and data collection. Chapter four discusses and presents the results of testing the hypotheses, and finally, chapter five provides discussion, implications, of as well as conclusion of the study.

Chapter Two

Literature Review

2.0 Introduction

This section explores previous studies and findings, related directly and indirectly to our study, to understand the variables that we have selected to investigate. We review studies that examined our variables, beginning from the dependent variable (capital structure), to the independent variables (board size, CEO duality, managerial ownership, and ethnicity) before ending the review on the control variables (profitability and firm size).

2.1 Capital structure

Capital structure and the choice of choosing the ways to finance a firm has been an intense debate since long time ago. Many studies have gone through the capital structure theories which to give an understanding to when and why managers tend to increase their firms' debt or to reduce it.

Some studies have suggested factors that might affect the choice of firm financing. Market Timing Theory is one theory that gives an explanation on when managers choose their source of funds. It states that managers choose whatever more favorable whether debt or equity according to current market current conditions (Myers and Goyal, 2009).

Another famous theory, the Pecking order theory, explains capital structure choice. Myers (1984) considered that any firm can finance itself by three sources:

by borrowing, issuing new equities, and reinvest its earnings. According to this theory firms are willing to finance its projects firstly by its earning; if return earnings were not sufficient, then second choice would be by borrowing debt, and lastly by issuing new equity.

According to Trade-off Theory, the choice depends on the trade-off between debt's benefits and its' costs. This is what makes managers decide whether to finance by equity or debt. The benefits of financing by debt basically come from tax shielding, where corporations do not pay any tax on its interests. However the highest cost might lead the company to costs of bankruptcy. According to this theory, management tries to balance the benefits against the costs, depending on their situation and judgments (Jensen and Meckling, 1976).

Another well-known theory is called agency theory. As a consequence of agency conflict between the manager and the shareholders, managers bear the cost which results from doing the company's activities. . Managers may consume less effort in managing firm resources while they may be try to transfer the firm resources in a way to benefit their interests. As a result managers would use up the resources that could have increased the firm value. This problem is magnified when the manager's fraction of the firm's equity is higher (Harris and Raviv (1991)).

We can take a look at this problem from another view point which is the conflict relation between the bondholder and the shareholder. This conflict might happen in some situations which affect shareholders differently from bondholders. The amount of risk taken by managers is different depending on situations. For example, large companies are likely to choose safer projects to get a certain profit

in maintaining their reputation, while small or growing companies tend to have risky projects which would be more beneficial in case of success. This situation is more advantageous to shareholders since they would get higher return from incurring higher risk. Bondholders however seem not to be happy with these risky projects while shareholders might be happy to engage in these projects, to increase their wealth and to get more benefits which could be reflected fast on their share prices (Harris and Raviv, (1991)).

Harris & Raviv (1991) also suggest another way to explain the attitude of choosing the fund sources, which is the asymmetric information. Capital structure seems to be a tool used by investors to know what information managers have. Asymmetric information theories focuses on knowing or predicting stock price reactions in primary and secondary transactions, the leverage amount, and whether pecking order theory takes place in the firm for security issues or not.

Following the asymmetric information theory, firm managers usually have private information about the characteristics of the future firm's return or future opportunities to invest. Choice of the firm's capital structure signals the information that insiders have to outside investors, therefore managers' decisions related to capital structure reflect the inside information. There is thus a relation between the asymmetric information and capital structure decision.

Another clearer form of the effect by the information can happen when investors have less information than the firm insiders about the assets value of the firm, in this case the market mispriced is giving the equity a not real price. This is the case when the firm wants to finance a specific project by issuing stocks and issue those

stocks with lower costs to the new stockholders. Those new stockholders would get the gain while the existing shareholders would get loss. The firm can avoid this kind of problem by financing new projects by issuing securities that are not much undervalued by the market, such as internal funds or riskless debt which has no undervaluation. Accordingly firms would prefer to use debt rather than equity. This kind of solution is referred to as Pecking Order Theory which states that firms are willing to finance their new investments by using internal fund , then low risk debt, and finally by using equity (Myers and Majluf (1984)).

There are some studies that show that market interactions such as product prices and quantity of goods and services are related to the choice of the firm financing. Brander and Lewis (1986), show that oligopolists usually tend to finance themselves with more debt than firms in competitive markets. Maksimovic (1988) believes that the debt is limited when tacit collusion is exists and debt can be increased with the flexibility of demand.

Knowing that stockholders have the right to vote while bondholders do not, there have been discussions that capital structure is linked with corporate control situations, that is, capital structure affects the distribution of votes, then the takeover events. This is what has been discussed under what is known as Theories Driven by Corporate Control Considerations (Harris and Raviv (1991)).

Financial researchers and theories have suggested determinants might have a big effect on the managers' capital structure decision. Collateral value of assets is one of the determinants that might affect the financing decision, when type of firm's assets affects the desired way to finance a firm. According to Grossman & Hart

(1982) higher level of debt reduces the tendency to use more than the optimal level of perquisites and increase the level of bankruptcy risk. Managers in companies which is highly levered, may not be able to use more dept as long as there is other sides to monitor the management. In order to reduce misconduct by managements, the associated costs of the agency relations might be more in case of lower amount of collateralizable assets. Equity controlled companies managers try not to use the optimal level of debt in financing, but a level lower than that (Titman &Wessels, 1988).

In the case of choosing suboptimal level of debt, this would cost growing firms more than others due to the ability to have wide alternatives of choices. This is why growth is a determinant of capital structure choice (Titman and Wessels, 1988).

Debt financing is known to beneficial in term of tax shielding. However there is a debate by DeAngelo and Masulis (1978) that shows that non-debt tax shields could affect the financing choice in yet another way. They argue that depreciation and investment tax credits have the privilege of tax deductions as an alternative of the tax shielding benefits of financing by debt.

Liquidation potential has a powerful effect on capital structure choice where liquidity is linked somehow to bankruptcy. Some industries have higher costs when doing liquidation for some assets which are required to finance those kinds of assets by less debt. Another factor that makes liquidation powerful is the uniqueness of the relations between the corporation and its consumers, suppliers, and workers. It may cost the firm more when it finances itself by more debt due to

the dependency of those bodies on the firm in one way or another. Since companies with higher size are considered more diversified and able to minimize risk. They should finance by higher level of debt. Bigger companies ability to get debt by lower prices than small companies, makes size of company affects the capital structure choice (Titman & Wessels, 1988).

Profitability and growth also impact the financing way. A small company relies on return earnings to finance itself. While growing companies usually are supposed to create more earning in their beginning years. Therefore earnings and its volatility could affect the choice of firm financing, with big and multinational companies relying on debt more than equity, to have cheapest fund (Madura, 2010).

Features of the theory of industrial organization have models that are based on product/input market interactions. The theories which are related to product/input market interactions or characteristics of products with capital structure have also been studied. .

The significant role of board of directors, as a part of focusing on the area of good corporate governance has induced researchers to study the effect of board characteristics on the decision of financing. Saad (2010) examined some aspects in board of directors like board meeting, board size, and CEO duality.

Leverage can be defined by ratios that reflect the debt size in a company. Debt ratio is extensively used in previous studies (see for example, Abore & Biekpe (2005); Bertus et al. (2008); and Heng et al. (2012)), who defined their firms' leverage by this ratio. There is another ratio that can explain the proportion of

both the debt and the equity in a firm, which is debt to equity ratio. According to Reilly and Brown (2012) the debt equity ratio equals to total long term debt divided by total equity. The debt in his formula includes all long-term fixed obligations, including subordinated convertible bonds. The equity typically is the book value of equity and excludes preferred stocks, and includes only common stocks.

Financial risk is the risk of credits default, and this happens when a company is not able to pay off the obligations that come from the debt that it made. More debt to equity ratio means more financial risk. This debt to equity ratio reflects the proportion of debt to equity in a company, which is essentially the capital structure of that company. Bokin & Arko (2009) used the same definition for their dependent variable in their empirical study to express the leverage in their sample's firms. Other researchers use the total debt to total equity. Fosberg (2004), Kumar (2006), Hovey (2010), and Saad (2010) used total debt to total equity to express their firms' leverage.

Leverage has been a place of study whether it is measured by debt ratio or debt to equity ratio, or another dimension of firm's leverage. Researchers have tried to examine the relation between factors and leverage. Capital structure is an object of study by many factors, corporate governance being one of them. Some board characteristics are studied by researchers. Abore and Biekpe (2005) examined the relation between the leverage and board size, board composition, board skill, and CEO duality. Saad (2010), and Bertus (2008) covered the same area with slight differences. Heng et al. (2012) include in their research independent variables that have effect on leverage such as the presence of independent directors and non-

executive directors on the board. and Fosberg (2004), Kumar (2006), and Hovey (2010) relate ownership structure with different forms of financing in companies.

Profitability, growth, and other macro and micro factors are studied by some authors. Sinan (2010) links the structure of firms financing with factors such profitability, liquidity, assets tangibility, size, growth, volatility, and non- debt tax shield.

Rajan and Zingales (1995) show the relation between leverage and tangibility, sales, market- to-book value, and profitability. Booth et al. (2001) searched for the relation between leverage and stock market, value/GDP, liquidity liability/GDP, real GDP growth rate, inflation rate, Miller tax term, tax rate, Business risk assets tangibility, Size (local currency), size (U.S dollar), Return on assets Market to debt equity**.** Titman and Wessels (1988) examined the effect on leverage of asset structure, non-debt tax shields, growth, uniqueness, industry classification, size, volatility, profitability, and earning. Another interesting article by Dong (2011) includes the exchange rate as a variable that might affect the capital structure.

2.2 Board size

Abdul Rauf et al. (2012) described board size as a characteristic of the company's board of directors, and also one of the effective mechanisms in monitoring the management of the company. Their study examined the impact of these board characteristics on the earning management practices, with the sample drawn from Malaysia public listed companies with specific linkage to the size of the firm, cash flow, and the board size and race. The authors find that Board size has been positively effectual on earnings management with an obvious fact

showing that a larger size of the board is less effective in the discharge of their oversight duties (Denis & Sarin, 1999; Abdul Rahman & Mohamed, 2006; Ishak, et al. 2011; and Gulzar and Wang, 2011). However Abdul Rauf et al. (2012) show that no active relation between the performance and the board size.

Saad (2010) reported that there are enough studies on the relationship between corporate governance and the firm performance, with a limited scope on capital structure. This theoretically explains that financing in capital structure by any company is dependent on the decision of the board of directors. However, in order to be compliant with the corporate governance code of best practices, the board of directors decides on choosing good financing decision to the company This important decision depends to large extent on the size and the composition of the board of directors.

Lipton & Lorcsh (1992) go more specifically to recommend that 8 to 9 directors is the preferred board size in order to have a board to be effective. Abor (2007) posited that corporate governance affects the capital structure with a negative and significant relationship, relating board size and the capital structure. Wen (2002) from his study explained that board of directors is responsible for the operation and management of the firm under Chinese securities rules., His result shows that there is a positive relationship between board size and leverage, but they are statistically insignificant .Additionally, Bertus et al. (2008) assert that the board size is not a significant factor of capital structure with negative direction. Bokpin & Arko (2009) posited that board size is found to be positively and statistically significantly related to capital structure choices.

Berger et al. (1997), however concludes that larger board size is associated with low leverage. Heng et al. (2012) in his studies reveal that board size is significantly and negatively correlated with debt ratio. Therefore, the features of the board of director such as board size play an important role in determining the financial status of a company. Anderson et al. (2004), and Hasan et al. (2009) emphasize the finding that board size is also significantly negatively correlated with leverage.

2.3 CEO duality

The MCCG best practices requires that companies in Malaysian to divide the roles and function of a CEO from the board chairperson in order to ensure a balance of power and authority, such that no one has such a dominating power in decision-making. In some cases, the boards having CEO duality are seen not to be effective, supposedly because of the possibility of having conflict of interest (Haniffa & Cooke, (2002)). Therefore, an independent chairperson, different from the CEO is believed to be more responsible in guaranteeing an audit of higher quality.

Saad (2010) asserts that the deeds in the MCCG stated that under dual leadership, there must be a clearly accepted division of roles at the head of company, ensuring a balance of power and authority. Where the roles are fused in the case of CEO duality as the chairman board of directors, a strong independent element on the board must be put in place. MCCG states in addition, that the board should regularly meet, to ensure keen monitoring of board activities. The author also states that though there are many components in corporate governance, the Board

of Directors (BOD) is emphasized because it is one of the most important mechanisms of corporate governance. Dual leadership amongst other variables is responsible for the corporate performance and its public listing which resultantly affect the debt equity.

Forker (1992) posits that CEO duality in turn leads to less available information than the separation of the roles of CEO and chairman of the board of directors; supporting this view for the viewpoint that disclosure is related to the dominant personality. Therefore, it becomes necessary to investigate the impact of a dominant personality on internet-enabled financial and environmental disclosure by companies in Malaysia.

As far as CEO duality is concerned, it is shown from previous studies that only 15 percent of companies have not separated the role of CEO and board chairperson. This is also in line with the Malaysian Corporate Governance Survey 2002 (KLSE and Price Water House Coopers, 2002), that showed from the findings that 15 percent of respondents have CEO duality, showing that Malaysian boards are not dominated by one person.

The above study also explores the association between board composition, CEO duality and audit quality in Malaysia, the study shows a relationship between ethnicity and CEO duality as two variables with the most possible suggestion that the chances of Malay being the chairperson will be higher if the board of directors is dominated by Malay directors, but recorded a significant negative relationship between a Malay chairperson and the CEO duality (KLSE and Price Water House Coopers, 2002). The findings shows the relationship between CEO duality and the

leverage with the implication that larger boards adopt low debt policy and CEO as the board chairman tend to employ high proportion of debt.

Abor and Biekpe (2005) investigated the relation between CEO duality and the capital structure in firms, in Ghanaian small enterprises based on a sample of 150 company They found that CEO duality has a positive relationship with capital structure, which reflects a trend towards debt financing by the company which has dual leadership. Furthermore, Bokpin and Arko (2009) found the relation insignificant with the same direction of relation.

Saad (2010), Heng et al. (2012), and Hasan et al. (2009) found that CEO duality has an insignificant negative relationship with capital structure, which implies that when the CEO is the same person with the chairman, the financing decision tends to have more debt than equity. What is more, Hovey's (2010) finding shows a highly significant correlation between the duality and leverage with negative direction.

2.4 Managerial ownership

In pure agency relationship, the relationship between the stockholders and the managers of a corporation defines the terms of agreement; therefore, it is of no surprise that these issues are associated with separation of ownership and control in the modern understanding of ownership of in the general problem of agency. It is indeed shown how the agency costs are generated by the firm, not only as a determinant but also leads to a theory of the ownership structure of the firm (Mattis, 2000).

Carver (2002) argues that the rationality for diversity lies within the concept of ownership and also the moral obligation of boards' members in their respective stewardship role, to represent the ownership structure that is needed by the board within the diverse nature of the persons within the ownership.

Davies et al. (2005) using volatility measured the firm performance in their managerial-ownership equations and showed similar results in that earnings is of less effect on managerial ownership, and the negative with significant coefficient of capital structure suggested that board directors in firms with lower debt hold a larger fraction of their firm's shares.

Bertus et al. (2008) state that an increase in managerial ownership may be due to alignment of interests managers and shareholders' interests. Alternatively, increases in ownership could lead to managerial entrenchment. Their study mentions that it is possible that managerial ownership plays a significant role in the level of agency conflicts in the firm.

Fosberg (2004) found a significantly negative relationship between leverage and directors and other officers' ownership, with the relation between block holders ownership and the leverage significantly positive, in 146 firms in the US. In contrast, Berger et al. (1997) asserted that CEO's ownership in the company is related positively with the level of debt, due to that a CEO would like to inflate the voting power of the equity. Hovey (2010) examined the different forms of ownership (direct, state shares and the legal persons, and foreign ownerships). The author concludes that state ownership and legal persons' ownership are highly correlated with the capital structure. Legal persons, public, and foreign ownership

were found to be positively correlated, while state was found to be negatively correlated with capital structure.

Bokpin & Arko (2009) studied Ghana listed companies to analyze the impact of ownership structure and corporate governance on firms' financing decisions, using an unbalanced panel data covering a period from 2002 to 2007 with a statistical approach of a seemingly unrelated regression in mitigating the effects of multicollinearity. They suggested that the relationship between managerial share ownership and leverage may in fact be inverted u-shaped. The study also emphasized that the inside ownership portrays a positive and significant correlation with choice of long-term debt over equity and debt ratio. Manager with shareholding capacity in the firm were found to prefer financing the company operations with long-term debt rather than issuing equity, probably because of the tax shield arising as a result of leverage which eventually adds to shareholders' wealth. Foreign share ownership exhibits a positive and insignificant correlation with all the measures of capital structure.

However, Kumar (2006) in his study found that the debt structure is non-linearly linked to the all kinds of corporate governance patterns. Ownership structure was not directly effectual in determine the financial decision; rather it might be a reason of changing in firm performance.

2.5 Board race (Ethnicity)

Board race, as one the board characteristics, explains the racial, ethnic or cultural subjectivity of the members of the board of a corporate organization, simply because many previous researches tend to either state it has significance or

not with the final delivery of organizational business products like t return on investment (ROI), return on assets (ROA), and earnings management (Abdul Rauf et al., 2012; Yatim et al., 2006). In a broader perspective, culture is defined as a global phenomenon that is derived from socio-economic, and political legal ideals with religious norms, values and traditions of the society as characterized ingredients. In the organizational context, it is a set of beliefs and that are upheld by the members of an organization (Schein, 1996). This is highly believed to be subjected to the racial belonging of the members especially where race is a determinant of the religious affiliation.

Malaysia's sensitivity to ethnicity has made it an indispensable variable to be studied especially due to considerable division that the ethnic affiliation of the board members has been having on the emerging capital market, also are language and religion. Findings from previous studies suggested a strong support on the negative significant relationship between growth opportunities and dividend payout in the context of family controlled firms but not in the context of ethnicity. Family ownership being examined is borne out of the evidence that companies in the Bursa (Bursa Malaysia) are less diffused and dominated by companies with substantial shareholders (Subramaniam & Shaiban, 2011).

Malaysia is a developing country that is characterized with a multiracial background and diverse lingual structure. It is a country with an identifiable capital segments which are polarized along ethnic lines, brings a substantial degree of uniqueness and borne interest of research and study. Malays, Chinese and Indians are the three major ethnic groups in Malaysia stemming out from different indigenous groups in Sabah and Sarawak (Yatim et al., 2006).

Malays are called Bumiputra, described as secretive and as having low individualism characteristic at the ethnic level but high at the national level., What is more is that they try to avoid uncertainty. Their religion is Islam and they seem to be influenced by the Islamic principles and ethical values (Haniffa and Cooke, 2002).

A study by Abdul Rahman and Ali (2006) found that race of the board have no effect in reducing earnings management and dividend payout; but the results indicated that the technological standard, CEO's race and the size of the firm are determinants of both internet financial and environmental disclosures. However, the existence of a dominant personality is found to negatively affect the level of financial disclosures.

In spite of the immense attention given to the importance of organizational culture in Malaysia, there have not been consistent evidence credited to these previous research, therefore Yatim et al.,2006; Abdul Rahman & Ali, 2006) recommended that future research needs to precisely identify other controlling variables that are capable of being responsible for the inconsistency.

Some studies have explained the differences between cultures and belongingness, which are associated with decision making.

Al Arussi et al. (2009) find that the impact of chief executive officer (CEO)'s race on the extent of internet disclosure is positive. Che Ahmad and Houghton (2001) also document a significant relation between ethnicity and audit fees in the Malaysian market. Their study shows that Bumiputera-controlled firms pay higher audit fees compared to non-Bumiputera-controlled firms. However, Abdul Rauf

(2012) found that there is no direct relation between the board race and earning performance.

On the other hand, Yatim's et al. (2006) study shows that there is a significant negative association between external audit fees and the ethnicity variable measured using a dichotomous variable of whether a firm's outstanding shares are substantially held by Bumiputeras or otherwise. This indicates that Bumiputera-controlled firms pay lower audit fees than non-Bumiputera-controlled firms

Haniffa & Cook (2002) performed an extensive research, to find out the relation of many variables against the voluntary disclosure. Determinants that they examined were ratio of Malay directors, finance director, Malay chairperson, Malay managing director, and Malays shareholdings. Their study shows that Malay directors relate negatively with the voluntary disclosure and significant, while the other determinants are positively related, but none of them is significant.

2.6 Profitability

ROA is return on assets calculated as net income divided by the total assets at the year end, and measured as the ratio of return to total assets the case whereby the return is defined as the difference between operating revenues and expenditure before tax and interest payments (i.e. PBDIT) while the total asset of firm consists of fixed assets, investments and the current assets (Booth et al., 2001).

Profitability of firms can be explained by many ways, ratios, and concepts. one of them is the return on assets ratio which gives an indication of how a company's

assets are profitable in the business the company work in. Return on assets has been used in many firms as a good indicator to the productivity of a firm's assets and whether the situation of the assets and the profitability are proper or not, on the base of the situation of the company Wild (2009).

Profitability has been studied as a dependent variable, and many researchers have tried to find out the determinants that might affect the profitability in a firm. Studies by Sanda et al. (2005), and Ruan et al (2011) examined the factors that have an impact on profitability.

Leverage has been asserted to have a negative and significant relationship with profitability; this consequently is supported by a number of empirical studies which have been carried out purposefully to study the relationship between leverage and profitability. Leverage is negatively correlated with profitability in US, and China and Japan as case studies in developed economies and in developing economies (Booth et al, 2001).

Studies by Hovey (2010) with evidence from China, Sinan (2010) with evidence from the UK, Bokpin and Arko (2009) with sample from the Ghana, Bertus et al. (2008) from the US, and Abor and Biekpe (2005) evidence from small and medium firms in Ghana, and Berger et al. (1997) have assured that the relation is significant and negative with the capital structure choice, which gives an understanding that a firm which produce more income and could cover its assets by its earning, trends to have more equity rather than debt, and this is what the authors that we mentioned tried to explain through their empirical studies.

2.7 Firm size

A firm is said to be large when the additional transactions like exchange transactions of coordinated price mechanism are organized by the entrepreneur becomes larger and also smaller as he abandons the organization of such transactions. Studies are concentrated towards the determination of the forces that can determine the size of the firm (Bokpin & Arko, 2009). firm size has been measured as the size of a firm's assets, Hovey (2010), Abor and Biekpe (2005), and Berger et al. (1997).

Studies have showed that there is a significant positive relationship between firm size and earnings management, also in consonance with past research that found that firm size is a variable that could influence a firm's tendency to manage earnings and might affect the magnitude of earnings surprise or earnings informativeness. Empirically, the evidence from the correlation of firm performance is mixed and inconclusive (Hasan et al. 2009; Wen et al., 2002). Yermack (1996) in his study of large US publicly traded corporations taken from 1984 to 1991 realized that there is a significant negative correlation between firm size and firm value; meaning that the bigger the size of the board the lower is the firm value.

Chen (2004) found by examining 88 public listed firms in the US that the relation is significantly positive between firm size and leverage when using total debt as a measurement of leverage, whereas he found the relation becomes negative and still significant when using long term debt alone as a definition of leverage.

Another study by Timan and Wessless (1988) on the relation between firm size and leverage, indicates that transaction costs may be a significant factor of capital structure choice. Short-term debt ratios shows a negative relation with firm size, it might reflect the relatively high transaction costs that small firms encounter when it issue long-term instruments. Their study assumes that transaction is small relative to other determinants of level of debt in a firm. Therefore, the importance of transaction costs in the study suggests that the various leverage-related costs and benefits are not necessarily significant.

Hovey (2010) examined firm size effect on capital structure Chinese listed firms where the firm size has an inverse and significant relationship with the leverage. Abor and Biekpe (2005) examined the same relation in small and medium firms in Ghana, and they found the same results; negative and significant. Furthermore, Berger et al. (1997)'s study on industrial companies in the US, support the result provided by Hovey (2010) and Abore & Biekpe (2005).However, Sinan (2010) using different periods and concepts of leverage, Bokin and Arko (2009), and Wan et al. (2002) this relation as significant positive.

CHAPTER THREE

RESEARCH FRAMEWORK AND METHODOLOGY

3.0 Introduction

Chapter two reviews studies in different countries which test the effect of the variables that we adopt in this study, with capital structure and some other factors. This chapter contains five sections; Section 3.1 Research design, section 3.2 Research model, section 3.3 Model specification and multiple linear regressions, section 3.4 measurements of variables, and section 3.5 Hypotheses statements.

3.1 Research Design

3.1.1 Data Collection

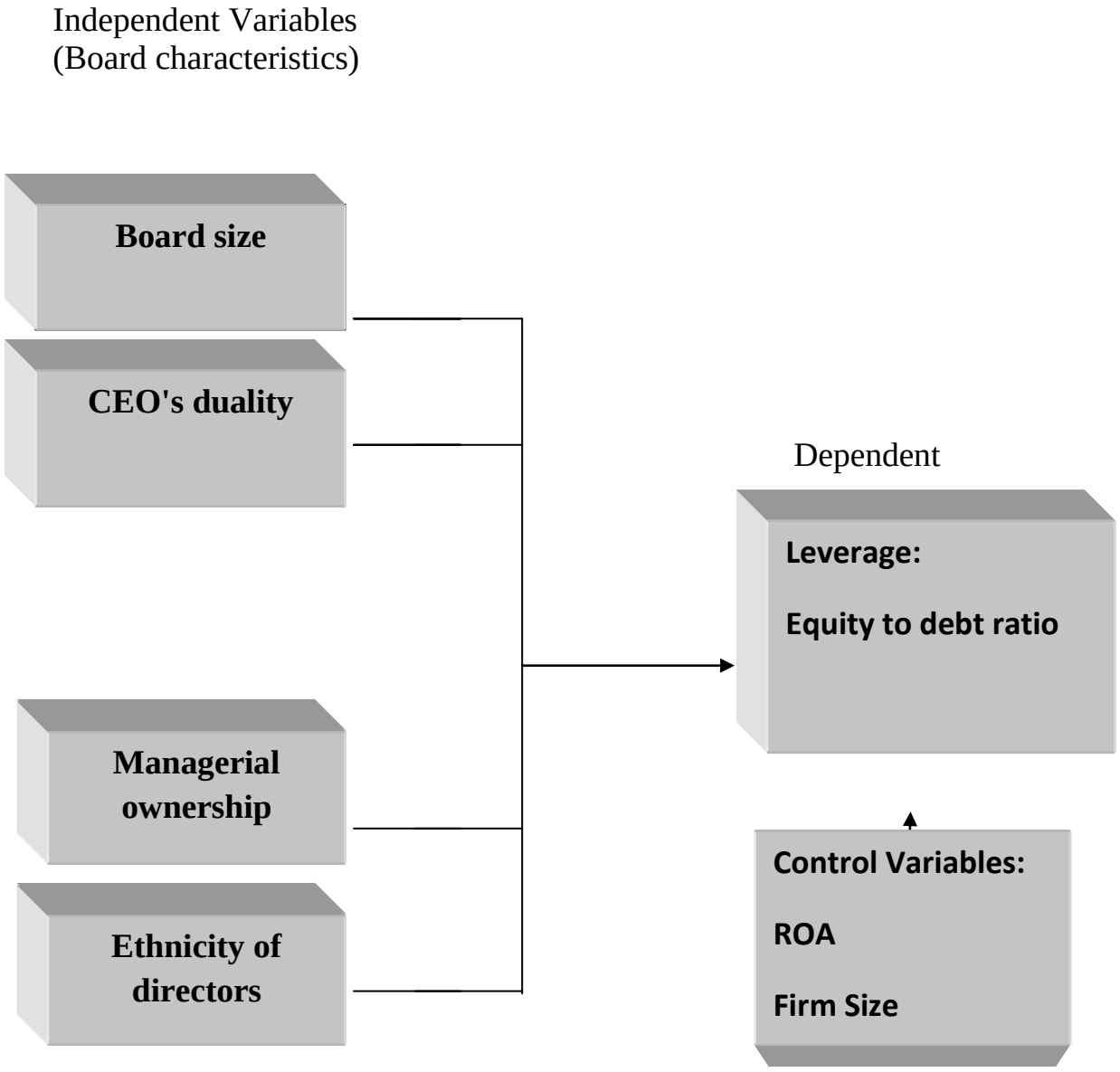
Construction sector in Malaysian stock exchange (known as Bursa Malaysia) consists one hundred and ten companies. Our study examines the largest sixty companies (in terms of total assets) as an initial sample. We exclude one company due to lack of information, to finally arrive at fifty nine firms, representing the biggest construction companies listed in Bursa Malaysia in 2010.

The data that we examined were collected from the annual reports of the companies, obtained from Bursa Malaysia site. Therefore, the study employs secondary data based on directors' profile and financial statements of all the 59 construction listed firms in Bursa Malaysia. The second source was the DataStream accessed through UUM’s library.

3.2 Research Model

The objective of our study is to determine the effect of board characteristics on the capital structure of construction companies listed in Bursa Malaysia for 2010. Based on our literature review, we chose six independent variables to determine their relation with capital structure. The variables are four independent variables and two control variables. The corporate governance independent variables consisting of the four variables: board size, CEO duality, managerial ownership, and ethnicity of the directors. The control variables are profitability of firm and firm size. These variables are tested against the dependent variable (debt-equity ratios as a definition of capital structure) in listed construction companies on Bursa Malaysia. Figure 3.1 shows the research model of this study that includes all mentioned variables.

Research Model Variables



As we can see in figure 3.1 there are four independent variables which are board size, CEO duality, managerial ownership in the outstanding shares of a firm, and ethnicity of the directors. Two other variables to control the relation are ROA ratio and the firm size. All of them are regressed against one dependent variable which is capital structure (debt- equity ratio).

3.3 Model Specification and Multiple liner Regressions

We use in our study the liner regression method to examine the relationships between the capital structure in the construction Malaysian companies and board size, CEO duality, managerial ownership, ethnicity, profitability, and the firm size. The result of regression analysis is an equation that represents the best prediction of a dependent variable by several independent variables we motioned.

The following regression equation is estimated as follow:

$$\mathbf{LEV = \alpha 0 + \beta 1\ BS + \beta 2\ DL + \beta\ 3\ MANGO + \beta 4\ ETHNICITY + \beta 5\ ROA + \beta 6\ SZ + \varepsilon}$$

Where:

LEV : Leverage of firm (debt equity ratio)

α0 : Constant

BS : Board size

DL : CEO duality

MANGO : Managerial Ownership

ETHNICITY : Ethnicity/Race

ROA : Return on equity

SZ : Size of firm

ε : Error term

For the purpose of examining the relationship between the whole set of predictors and the dependent variable, all independent variables are entered into the regression equation simultaneously. The objective of the analysis is to examine the relation between the variables and to measure its significance.

3.4 Measurement of the Variables

This section provides the measurement of our dependent, independent and control variables, and they are as follow:

3.4.1 Dependent Variables

The main variable that we propose to find out its interaction with other independents is the leverage in a firm, is in other word the capital structure.

3.4.2 Independent Variables

This section provides measurements of the board characteristics that we have chosen, as independent variables which are as follow:

Board size: measured by total number of directors

CEO duality: measured as a dummy variable equal to "1" if the CEO is also the chair of the board, and "0" otherwise.

Managerial ownership: measured as the percentage of total direct directors' ownership divided by the total number of the outstanding shares in a company.

Ethnicity: measured by calculating the total number of Malay directors divided by the total number of directors.

3.4.3 Control variables

Return on Assets: measured by earnings before interest and taxes divided by total assets.

Firm Size: measured as the natural log of total assets.

Table 3.1: Research Variables

Variable	Acronym	Operationalization
Dependent		
Leverage (debt to equity ratio)	LEV	Total debt divided by total equity
Independents		
Board size	BS	Total number of directors
CEO duality	DL	A dummy variable equal to "1" if the CEO is also the chair of the board, and "0" otherwise.
Managerial ownership	MANGO	Percentage of total direct directors' ownership divided by the total number of the outstanding shares in a company.
Ethnicity	ETHNICITY	Total number of Malay directors divided by the total number of directors.
Controls		
Profitability (Return on Assets)	ROA	Earnings before interest and taxes divided by total Assets.
Firm size	SZ	natural log of total assets

3.4 Data Analysis

We used SPSS software to analyze the collected data. The analysis comprises descriptive statistics, correlation of variables, and regression analysis.

3.4.1 Descriptive Analysis

The descriptive analysis explains the mean, minimum, maximum, and standard deviation of the sample's variables.

3.4.2 Correlation of Variables

This kind of analysis determines the correlations between the variables in a matrix. The outcome of the analyses shows the nature, direction and significance of the correlation of the variables. This is called the Pearson correlation.

3.4.3 Multiple Linear Regression Analysis

To examine the relation between the firm capital structure decision and board characteristics (board size, CEO duality, managerial ownership, and directors' ethnicity), and profitability and firm size as control variables, this study applies multiple linear regressions (MLR).

3.5 Hypotheses development

The research hypotheses that we develop in this section were formulated according to the relevant literature reviewed in chapter two. The hypotheses are designed to answer the questions of the research in chapter one and they are as follow:

- H1: Board size is positively related with capital structure decision "leverage" in Malaysian firms.
- H2: CEO duality is negatively related with capital structure decision "leverage" in Malaysian firms.
- H3: Managerial ownership is negatively related with capital decision "leverage" structure in Malaysian firms.
- H4: The ethnicity of directors is negatively related with capital structure decision "leverage" in Malaysian firms.
- H5: Profitability is negatively related with capital structure decision "leverage" in Malaysian firms.
- H6: Firm size is negatively related with capital structure decision "leverage" in Malaysian firms.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.0 Introduction

This chapter presents the results that our study contributes, through descriptive statistics, correlation analysis and assumptions of multiple regressions. In this chapter we specify a section to discuss our results of multiple linear regressions. The study uses the Statistical Package for Social Sciences IBM (SPSS) statistics 19 to analyze the data.

4.1 Descriptive Statistics

The first analysis is descriptive analysis which includes table of means and standard deviations of the data that we collected, besides clarifying the minimum and maximum inputs.

Table 4.1 Summary of Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Debt equity	59	.1100	5.5300	.734424	1.0137090
Board size	59	4.0000	15.0000	7.932203	2.3987382
Duality	59	.0000	1.0000	.050847	.2215719
Ownership	59	.0000	.6010	.152183	.1538606
Directors race	59	.0000	1.0000	.341146	.2853947
ROA	59	-.1940	.2355	.036686	.0605233
Firm size	59	12.3149	15.6918	13.400869	.8756394
Valid N (list wise)	59				

Table 4.1 displays the descriptive statistics on each of the variables. As we can see, the mean of the ratio debt to equity is 73.4%, which demonstrates that the construction companies are highly levered as a whole. In conjunction, the standard deviation indicates a high variation among the sample, while it is a little above 1. The leverage in the firms seems to vary from one company to another, the lowest level of debt compared to equity held by the companies is 11%, while another company held debt by almost 5.5 times of its equity.

The mean of directors' board sizes is around 8; this number shows a relatively moderate board size. The standard deviation of board size for our firms is 2.4, which reflects a wide variation among firms in appointing directors.

The summary shows that the CEO existence as a chairman in our sample is around 5%. In other words, the duality of leadership happened very rarely within our sample in 2010 to be almost 5%, which reflects committing to better corporate governance by the construction Malaysian firms.

The mean of directors' ownership in firms' outstanding shares is about 15%, which means that the ratio of the shares that the directors owned was 15% of the total number of outstanding shares. The minimum proportion of shares that was held by directors in our sample is 0%, meaning that all the directors in our sample had some amount of ownership in their firms. The highest proportion in our companies' sample reached to 60%.

Moreover, the low value of standard deviation (15.38%) indicates that the variation between the companies in term of holding shares by directors is not wide.

Directors race reveals that original residents of Malaysia. Malay directors made up almost 34% of the board of directors, compared to the total number of directors which includes other races. The table shows that some firms had 100% Malays directors and others had 0% Malays directors. The standard deviation of the directors' race was 28.5% shows a moderate variation among firms in existing Malays directors.

With respect to the control variables, the mean of firms' profitability is 3.6 %, which indicates low level of profitability in listed construction companies. The minimum firm's profitability was (– 19.4%), whereas the maximum profitability 23%. This shows that during the study year (2010) the construction firms had not been to achieve high profitability. However, the standard deviation of profitability 6% proves that the differences among the construction firms' profitability is not so large.

The mean of firm size (the natural logarithm of total firm's assets) is 13.40%. This figure reveals that our sample's companies are relatively small. The minimum level of holding assets among the firms is 12.31 and the maximum value is 15.69. However, the moderate value of standard deviation (87%) reveals some reasonable differences between firms in terms of their sizes.

4.2 Multicollinearity tests

In this section we examine our independent variables to see whether they have multicollinearity or not.

In order to examine this relation we perform the regression six times, where we consider each time one independent variable as dependent, related to the other five independents.

Tables 4.2 explain the summery of Multicollinearity statistics

Table 4.2.1

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	duality	.879	1.137
	ownership	.738	1.355
	Directors race	.713	1.402
	Firm size	.831	1.204
	ROA	.838	1.193

a. Dependent Variable: board size

Table 4.2.2

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	ownership	.747	1.340
	Directors race	.720	1.388
	Firm size	.655	1.527
	ROA	.829	1.206
	Board size	.713	1.402

a. Dependent Variable: duality

Table 4.2.3

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Directors race	.800	1.251
	Firm size	.690	1.449
	ROA	.825	1.212
	Board size	.713	1.403
	duality	.889	1.125

a. Dependent Variable: ownership

Table 4.2.4

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Firm size	.641	1.559
	ROA	.973	1.028
	Board size	.724	1.381
	duality	.901	1.109
	ownership	.840	1.190

a. Dependent Variable: directors race

Table 4.2.5

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	ROA	.823	1.215
	Board size	.936	1.068
	duality	.910	1.099
	ownership	.805	1.242
	Directors race	.712	1.404

a. Dependent Variable: Firm size

Table 4.2.6

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	Board size	.725	1.380
	duality	.884	1.131
	ownership	.739	1.353
	Directors race	.829	1.206
	Firm size	.632	1.582

a. Dependent Variable: ROA

The tables above show that the VIF is very low and not reaching to 3. Then the results show that our independent variables have no multicollinearity, and there is no sign to its existence.

4.3 Correlation Analysis

Table 4.3 Summary of variables' correlations

		Debt equity	Board size	duality	ownership	Directors race	ROA	Firm size
Debt equity	Pearson Correlation	1	.075	-.074	-.127	-.064	-.210	-.167
	Sig. (2-tailed)		.575	.578	.336	.631	.111	.207
	N	59	59	59	59	59	59	59
Board size	Pearson Correlation	.075	1	-.123	-.185	.096	.125	.519**
	Sig. (2-tailed)	.575		.353	.161	.468	.345	.000
	N	59	59	59	59	59	59	59
Duality	Pearson Correlation	-.074	-.123	1	.254	-.204	-.028	-.260*
	Sig. (2-tailed)	.578	.353		.052	.122	.836	.047
	N	59	59	59	59	59	59	59
Managerial ownership	Pearson Correlation	-.127	-.185	.254	1	-.378**	.058	-.350**
	Sig. (2-tailed)	.336	.161	.052		.003	.665	.007
	N	59	59	59	59	59	59	59
Directors race	Pearson Correlation	-.064	.096	-.204	-.378**	1	-.374**	.060
	Sig. (2-tailed)	.631	.468	.122	.003		.004	.650
	N	59	59	59	59	59	59	59
ROA	Pearson Correlation	-.210	.125	-.028	.058	-.374**	1	.096
	Sig. (2-tailed)	.111	.345	.836	.665	.004		.471
	N	59	59	59	59	59	59	59
Firm size	Pearson Correlation	-.167	.519**	-.260*	-.350**	.060	.096	1
	Sig. (2-tailed)	.207	.000	.047	.007	.650	.471	
	N	59	59	59	59	59	59	59

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 4.3 illustrates the relations between the dependent variable debt-equity ratio and the other independent variables; on the other hand, it illustrates the relations between the independent variables with each other. This table helps us to understand to what extent the variables are related to each other, and what is the nature of the relation between each of them.

Correlation analysis gives us an initial step in statistical techniques to understand the relations between all variables in the study. Therefore, we carry out a multiple linear regression analysis to eventually judge the results of this study.

It is worth it to know that the value of correlation 0 reveals no relation between two examined variables, on the opposite direction, a correlation of ±1.0 reflects a perfect positive or negative relationship. The interpreted values are between 0 and ±1. Reflect imperfect positive or negative relationship, but vary in term of strength and weakness, as rates vary from 0 to ± 1, wherein closer figure to ±1, reflects stronger affirmative or inverse correlation, while as closer the number to 0, as the correlation is weaker between two respective variables.

Table 4.3 reveals the correlations between leverage, board size, CEO duality, managerial ownership, directors' ethnicity, profitability, and firm size. The interpretation of is that, the independent variables (CEO duality, managerial ownership, directors' ethnicity, profitability, and firm size) move inversely with the dependent variable leverage (debt to equity ratio), which means that the dual leadership for the CEO as a chairman in the same firm causes a lowering in the leverage in the firms. Higher percentage of shares owned by director, leads to less leverage in the firm too, and same goes to the ethnicity variable. The

interpretation of the relation between ethnicity of directors and the leverage is this: as a firm has more Malay directors in its board, the decision of capital structure tends to have lower leverage.

Board size has got another direction in influencing the decision of financial structure of a firm. Our result reveals that the bigger the board, the higher the level of leverage in a company, which means that the correlation is positive with debt to equity ratio.

In respect to the other two control variables, we find that the correlation is negative with the leverage, where the higher profitability the firm, the higher the leverage in it; same goes for the size of the firm, the result shows that a firm with more assets, tends to finance itself with more debt rather than equity.

We can see from the table that board size is related negatively with the CEO duality and the directors' ownership, while it has positive relation with the ethnicity of directors, ROA, and significantly with firm size. CEO duality correlates negatively with all of the variables, including a significant negative relation with the size of a firm. However it is positively correlated with the directors' ownership, where the existence of a dual leadership in a company comes with owning more shares by the directors.

Directors' ownership is related significantly with directors' race with negative correlation, and has another negative correlation with firm size; on the other hand it has positive correlation with the profitability of a firm.

The race of directors in our study has been negatively (-0.374**) and significantly related with profitability; implying that the more Malays directors in a firm inversely affect profitability, while the existence of Malays directors is positively correlated with the size of firms, which reflects that Malay directors exist in bigger companies.

We can see from the table that profitability is positively related to the size of an enterprise. Bigger companies seem to generate higher profits than the smaller ones.

4 .4 Multiple Linear Regression Analysis

The present section multiple regression technique elaborates analysis. Therefore, discussion of the relationships, between firm's financial leverage (Debt-to-equityratio) as the dependent variable and independent variables consisting of board size, CEO duality, directors' ownership, ethnicity, firm size and leverage. The output of multiple regression is shown in Table 4.4.

Table 4.4 Summary of regression model

Mose 1	R	R Square	Adjusted R square	STD. Error of the estimate	Durbin Waston
1	.4700*	.221	.131	.944913 1	1.771

*predictors (constant), firm size, directors race, duality, ROA, ownership, board size

The R square in our study is 0.221, which means that the six independent variables predict the dependent variable and they are considered as a cause of changing the dependent variable by 22.1 percent.

On the other hand, Durbin Waston test shows that the relation has no autocorrelation because the output of the test is 1.771 which is close to 2, and still between 1.5 and 2.5.

Table 4.5 ANOVA[b] Analysis

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	13.160	6	2.193	2.456	.036[a]
Residual	46.429	52	.893		
Total	59.589	58			

a. Predictors: (Constant), Firm size, directors race, duality, ROA, ownership, board size

b. Dependent Variable: debt equity

Based on the Table 4.5, the ANOVA analysis shows that F is 2.456; the significance of F test, then the regression is .036, which means that the leverage have been significantly explained by the six independent variables, which reflects also a valid model.

Table 4.6: The Coefficients of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.895	2.280		3.023	.004
	BS	.120	.061	.283	1.950	.057
	DL	-.667	.598	-.146	-1.117	.269
	MANGO	-1.852	.939	-.281	-1.972	.054
	Ethnicity	-1.139	.519	-.321	-2.193	.033
	ROA	-5.269	2.259	-.315	-2.332	.024
	SZ	-.463	.178	-.400	-2.600	.012

a. Dependent Variable: debt equity

Looking at the t test, we find that there are five out of the six variables tested are significant in predicting the leverage in firms. These are board size, managerial ownership, race of directors, profitability, and size of firm. Board size and managerial ownership are significant at 10% level while directors' race, ROA, and firm size are significant at 5% level. CEO duality does not seem to be significant in affecting the firms' leverage.

Table 4.6 shows that the independent variables (CEO duality, managerial ownership, directors' ethnicity, profitability, and firm size are inversely correlated with the leverage.

The only positive relationship that leverage has is with board size, suggesting that bigger board favors more debt in their firms' capital structure.

Taking into consideration the unstandarized coefficient as a measure of the relation between the dependent and independents variables, we interpret the relation as follow: The interpretation of board size and leverage is as this: when board size increases by one unit leverage increases by (0.12). The results show that when duality takes place, or when the duality increases by a unit, the leverage decreases by -0.667.

An increase of one unit in the percentage of directors' ownership, decreases debt by -1.852. And our result regarding the race of directors indicates that when Malay directors existence increase by one unit more in a board that would lead to reducing in the amount of debt that a company has by -1.139.

Regarding to the control variables, the study finds that when a company generates one more unite of profits, that would lead to reducing the amount of debt by -5.269. When the size of a firm increases a unit, the leverage would be reduced by -0.463.

Therefore, we can develop the study's framework as follows:

LEV = 6.895 + .120 BS - .667 DL -1.852 MANGO - 1.139 ETHNICITY -5.269 ROA -.463 SF

4.5 Discussion

Table 4.6 displays the regression results of the relationship between leverage and governance variables and control variables. The results display the the linkages between the independent and the control variables with leverage.

As we can see from Table 4.6 the relation between board size and capital structure decision is positive with significance at 10% level, and this shows that the study's first hypothesis is supported by the result, which states that board of directors' size is positively related with a firm's leverage. This result is consistent with Bokpin & Arko (2009) and Wen et al. (2002), which asserted that the relation between board size and capital structure decision is statistically positive.

CEO duality has been shown to have an insignificant and negative relationship with leverage. This finding supports the second hypothesis which states that there is a negative relationship between CEO duality and firm leverage. Therefore this hypothesis based on our results is supported. This negative value indicates that if there is an increase in CEO duality, firm leverage trends to decrease.

In terms of the direction of the relation between duality and leverage, our finding is consistent with the results of Saad (2010), Heng et al. (2012), and Hasan et al. (2009). They found that CEO duality has an insignificant and a negative relationship with capital structure.

Table 4.6 also shows a negative relationship between managerial ownership and leverage. This result confirms our hypothesis that managerial ownership and leverage is negatively correlated, supporting the result of Fosberg (2010).

Haniffa and Cooke (2002) relate the ethnicity factor to voluntary disclosure and found that Malay directors significantly and negatively influence voluntary

disclosure. Yatim et al. (2006) showed that there was a significant negative association between external audit fees and ethnicity.

Our study examines the effect of ethnicity on leverage as well. The measure of ethnicity is the number of Malay directors divided by the total number of directors on the board. We find that the relation is negative, at a 5% level of significance, thus supporting the fourth hypothesis that there is a negative relation between ethnicity and leverage.

The fifth hypothesis posits that profitability has a negative relation with leverage. Our result confirms this hypothesis, with a significant relationship. In looking at previous studies that have examined this relation, we find that our finding is consistent where profitability significantly and negatively affects capital structure decision (see for example Harvey, 2010; Sinan, 2010; Bokpin & Arko, 2009).

The last hypothesis assumes that there is a negative relation between firm size and leverage. Our finding shows that this assumption holds true, where the result shows a significant negative relation between firm size and leverage, consistent with Hovey (2010), Abor and Biekpe (2005), and Berger et al. (1997).

CHAPTER FIVE

CONCLUSION AND FUTURE RESEARCH

5.0 Introduction

This chapter presents the discussion and summary of the study followed by limitations of study, and suggestions for future research might cover aspects that we did not cover and examine those that need to be clarified, to remove ambiguity around this area of study.

Section 5.1 displays the discussion part; section 5.2 appoints some of the study's limitation, while section 5.3 exhibits recommendations for future studies

5.1 Discussion and Summary of Research

This study investigates the relationships between selected board of directors' characteristics namely, board size, CEO duality, directors' ownership, race of directors, firm profitability and firm size with capital structure (debt-equity ratio) of Malaysian listed firms. . We use a multiple linear regression to examine the relations. The final sample of this study includes 59 listed construction companies in Bursa Malaysia in 2010.

Our study finds a significant and positive relationship between board size and capital structure decision. The result implies that the more the directors in a firm, the higher the debt in a company, consistent with Bokpin & Arko's study (2009) and Wen's et al. (2002).

The second variable we examined is CEO duality. It is a dummy variable, recorded as 1 if there is a duality in a firm and 0 if not. Our result proves that Malaysian firms are compliant with the preferable situation of separating the roles between the chairman and the chief executive officer, as showed by the mean statistic of duality of 5%, reflecting a small proportion of companies that have duality in leadership. The results show a negative but insignificant relation between CEO duality and leverage in firms which is consistent with that of Saad (2010), Heng et al. (2012), and Hasan et al. (2009). Similarly, directors' ownership in outstanding shares, showed a negative and significant relationship with the amount of debt in a company. This result supports Fosberg's study (2010) which contends that directors' ownership is linked inversely with the size of debt that a company has.

In examining ethnicity in determining the leverage in a firm, we find that the relation is negative and significant too. We define the variable by counting the number of Malay directors over the total number of directors. Other studies have measured the impact of ethnicity on decision making related to other aspects in a firm. Abdul Rauf (2012) studied the relation between ethnicity and earning performance; Haniffa and Cooke (2002) relate the ethnicity factor to voluntary disclosure in Malaysia, finding that Malays directors are significantly and negatively correlated with voluntary disclosure. Yatim et al. (2006) showed that there is a negative and significant correlation between ethnicity and external audit fees.

In respect to the control variables, we define profitability as the ratio return on assets. We find that the relation between capital structure decision and profitability is negative and significant as well, this factor has been used to explain the leverage.

Hovey (2010), Sinan (2010), Bokpin and Arko (2009), state that capital structure decision is significantly negatively related to profitability.

Our final variable is size, defined by natural logarithm of a firm's total assets. In this regard our finding reveals another negative relation between firm size and leverage. This is consistent with some other previous studies. (See for example Hovey (2010), Abor and Biekpe (2005), and Berger et al. (1997).

5.2 Limitations of the Study

The first limitation is related to the research design and the considered sample, where this study examines companies from one sector only that is the construction sector.

Secondly, our study examined only six factors, board size, CEO duality, directors' ownership, and ethnicity, besides profitability and firm size, against the dependent variable, capital structure. There are still many other characteristics of board of director that may have strong influence on capital structure decision.

Thirdly, this study uses one definition of leverage, which is debt-equity ratio as the dependent variable. There are however many other ways to measure the capital structure, and such other ratios or ways should be used simultaneously to measure leverage and provide enrichment to determinants of capital structure.

5.3 Recommendations for future Research

Future research should attempt to overcome the limitations that our study faced. It is recommended that the studies would cover other listed, unlisted, and financial

companies. It is worth it to consider other sectors and financial companies. Additionally, investigation should be carried out in other countries which have not been examined before, in terms of corporate governance and capital structure.

This study examines e selected characteristics of board of directors and includes two control variables. However, there are other characteristics of board of directors and factors of corporate governance that need to be examined in future research.

Further studies can include other measurements of capital structure, such as (i.e. debt to capital ratios, long-term debt to capital, long-term debt equity, interest coverage, and total debt to total assets). To have a better idea about the influence that any independent variable could affect capital structure decision, these measurements could be used for the same sample and same period, which could provide better understanding about the movements of capital structure due to changes in corporate governance factors.

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