THE IMPACTS OF CORPORATE GOVERNANCE AND DIVIDEND PAYOUT POLICY TOWARD MANAGERIAL COMPENSATION: EVIDENCE ON MALAYSIA TOP 100 LISTED COMPANIES

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DECLARATION

We hereby declare that:

(1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

(2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

(3) Equal contribution has been made by each group member in completing the research project.

(4) The word count of this research report is 30,770.

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DEDICATION

We would like to dedicate this research to our supervisor, Dr. Zuriawati Binti Zakaria, for her advice and guidance to assist us throughout this research project.

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LIST OF ABBREVIATIONS

ACAPS	Automated Content Access Protocol
BI	Board Independence
BPLM	Breusch-Pagan Lagrange Multiplier Test
BS	Board Size
CEO	Chief Executive Officer
CLT	Central Limit Theorem
CNLRM	Classical Normal Linear Regression Model
COM	Managerial Compensation
CP	Company Profitability
CS	Company Size
DPR	Dividend Payout
DUA	CEO Duality
ECM	Error Components Model
ESOPs	Employee Stock Options Plans
Eviews 8.0	Electronic View 8.0
FEM	Fixed Effects Model
FTSE	Financial Times Stock Exchange
GMI	Governance Metrics International
HLM	Hierarchical Linear Modeling
IOSCO	International of Organization of Securities Commissions
JB	Jarque-Bera Test
LOG	Logarithm
LSDV	Least-square Dummy Variable
MCCG	Malaysian Code on Corporate Governance
MCG	Malaysia Corporate Governance
NASDAQ	National Association of Securities Dealers Automated Quotations
NLS	National Longitudinal Survey
NPV	Net Present Value
NYSE	New York Stock Exchange

OECD	Organisation for Economic Co-operation and Development
OLS	Ordinary least square
OWN	CEO Ownership
PLCs	Public Limited Companies
PSID	Panel Study of Income Dynamics
REM	Random Effects Model
ROE	Return of Equity
S&P	Standard & Poor
SBF	Société des Bourses Françaises
SEC	Securities and Exchange Commission
SSRN	Social Science Research Network
TC	Technical Committee
TOL	Tolerance Factors
TSE	Taiwan Stock Exchange
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor

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PREFACE

This research paper is submitted as a part of the requirement to fulfill for the Bachelor of Finance (HONS) course. The title for this research project is "The Impacts of Corporate Governance and Dividend Payout Policy toward Managerial Compensation: Evidence on Malaysia Top 100 Listed Companies".

There are a number of previous researchers conducted study on the relationship between corporate governance, dividend payout policy and managerial compensation. However, there are rare researchers conduct similar studies in Malaysia, especially study on the impact of the implementation Malaysia Code of Corporate Governance (MCCG) 2012. Due to this motivation, this research is conducted in order to provide more evidence and knowledge to Malaysia's listed companies with the effect of MCCG 2012 implementation. This research can provide significance contribution to policy makers, corporates' management, investors and future researchers.

Furthermore, this research conducted the overview on corporate governance, dividend payout policy and managerial compensation package in Malaysia. It also included the research objective, the determinants and its effect, data analysis, empirical major findings and recommendations for future research.

ABSTRACT

The main objective of this study is to examine the relationship between corporate governance, dividend payout policies and managerial compensation. Variables like board independence, board size, CEO duality, CEO ownership and dividend payout has been taken into account in order to study the relationship. Using data from 57 public listed companies in FTSE Bursa Malaysia Top 100 Index, this study concluded that the impact of each independent variable on managerial compensation vary before and after the implementation of MCCG 2012. Before the implementation of MCCG 2012, there was insignificant relationship between managerial compensation with board size, CEO duality and CEO ownership. While at the same time, board independence has positive significant relationship and dividend payout has negative significant relationship with managerial compensation. After the implementation of MCCG 2012, the impact of CEO duality toward managerial compensation turned out to be positively significant. While at the same time, CEO ownership has negative significant relationship with managerial compensation. Board independence, board size and dividend payout has insignificant impact on managerial compensation after the implementation of MCCG 2012. This research can provide significant insight to policy makers, companies' management, investors and future researchers.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

This research highlighted the impact of corporate governance and dividend payout policies towards the managerial compensation. The purpose of this study is to investigate factors that will affect the managerial compensation in Top 100 listed companies in Malaysia. Variables like board independence, board size, CEO duality, CEO ownership, dividend payout are used in this research in order to find out the relationship of corporate governance and dividend payout policies with managerial compensation. This chapter included parts of research background, problem statement, objectives, hypothesis, significant of study and also chapter layout.

1.1 Research Background

1.1.1 Overview on managerial compensation

People nowadays have increasingly concerned about the economic growth over the world. In recent years, a high degree of attention has been paid by public on those individuals in society (Lewellen, 1968). The author stated that this group of individuals refers to those playing important position that every decision they made are closely related and affecting their company's performance. These individuals refer to corporate top executives as they have been recognized whose behaviour is mostly important in companies' operations. According to Lewellen, these group of decision makers have ultimate powers not only to a company's activities but also able to determine the uses of resources, especially scarce resources. Managerial compensation is an important mechanism that generates the company's growth and economic development.

Managerial executive, including Chief Executive Officer (CEO) or top executive, is appointed by the organization's board or other authority to manage the organization's activities and operations (Winston & Patterson, 2006). They are the one who make decisions related to the organization and have to take care of every field and sectors of the organization operations. And yet, every decision they made will eventually have significant impact to the company's growth and indirectly affect the economic development. Thus, their compensation for these stewardships is of concerned, indicated by Winston and Patterson.

On the other hand, company boards refer to a group of individuals that are appointed to monitor and oversee the activities of the organization (Adams, Hermalin & Weisbach, 2010). They are responsible to supervise the top executive's actions and look after the organization's operations. According to Adams, Hermalin and Weisbach, this group of people has the right to determine managerial compensation. Typically, they use the mixture of salary and bonuses, or shares or call options to compensate top executives for bringing company into a success. But somehow, the linkage between board of directors and managerial compensation is being questioned by many.

Over the past three decades, the average real value of managerial compensation has increased rapidly (Frydman & Saks, 2010). Since 1990s, managerial compensation in United State has been more than doubled. According to the U.S Securities and Exchange Commission, the rise of managerial compensation in US has beaten the growth of corporate profits and economic development. Not only in US, Canadian Centre for Policy Alternatives also reported that the average compensation of Canadian top executives has been increasing over the years but with no significant improvements in their business sector. Same goes to many more other countries over the world, including Malaysia (Ei & Saw, 2012). According to Ei and Saw, arguments such as top executives being overpaid or not paid for their performance started to burst in Malaysia's

business society. Some economists direct this issue to the weak oversight of boards on managerial act. According to Core, Holthausen and Larcker (1999), top executives in firms with weaker corporate governance structure will earn greater compensation. They claimed that less effective corporate governance is one of the main factors that cause unreasonable compensation to top executives.

1.1.1.1 Compensation Package in Malaysia

The compensation packages for top executives have been a topic in the academic and business communities (Core et al., 1999). The author indicated that there are critics of top executives' compensation packages argued as managerial compensation package and firms' corporate governance might not be associated. Therefore, to understand more on the relationship between corporate governance and managerial compensation, the study on compensation packages of top executives is important.

According to a report from Towers Watson in 2013, a global consulting firm that manage employee benefits programs, indicated that typical compensation mix for top executives in Malaysia included 60% fixed salary, 20% short-term incentives and 20% long-term incentives. But somehow, the percentage of short-term incentives in top executives' compensation package is uncertain. According to a survey from Deloitte (2012), it indicated that compensation package is made up by three main components namely (i) fixed fee based on position, a base salary that is fixed at the beginning of the year with a contract agreed with top executives, (ii) variable remuneration, either in short-term or long-term, included bonus payout and stock options, and (iii) benefits-in-kind. Benefits-in-kind commonly included telephone expenses, staff discounts, company cars, loans, insurance, housing provision, retirement schemes, club membership and annual leaves. The amount of benefits-in-kind range from 10% to 20% of the basic salary paid to executives. Besides, dividends

received by top executives through their share ownership are also another major source of income.

Basically, the fixed fee based on position included annual salary and other fixed fees such as allowances or supplementary fees. A previous study found that base salaries made up 75% of the total top executives' compensations in Malaysia (Cheah, Lim & Yen, 2012). According to PayScale, a salary and compensations Information Company stated that top executive's compensations in Malaysia are ranged between RM82, 212 to RM730, 839 in year 2012. Somehow the base salary will come together with bonus payout or stock options. Bonus paid to managerial is ranged from RM4, 932 to RM249, 725. But according to Cheah et al. (2012), some of the companies in Malaysia did not provide any bonus as a form of compensation payment to their top executives. Majority of companies in Malaysia compensate their top executives with dividend payout. Fixed fees and dividend in the form of salary was found to be the most common way of managerial compensation.

Instead of bonus, another component in variable remunerations is stock options. Company will use either Employee Stock Options Plans (ESOPs) or Employee Stock Option Schemes (ESOs) to invest in shares of their employer, including top executives. The usage of ESOs has been on the upswing in Malaysia (Bacha, Rain, Mashid & Mohamad, 2009). The authors indicated that many public listed companies in Malaysia use stock options as part of their compensations or incentive packages. Some companies used the scheme to reduce agency problem that might conflict between shareholders and employees of the firm. But arguments like compensating top executives with stock options may actually give them intention to increase the volatility of underlying assets. Therefore, it was said that placing stock options in hands of management might hindrance existing managements.

1.1.2 Overview on Corporate Governance

In Malaysia, the disclosure of managerial compensation has been an issue in companies' corporate governance system. Some of the companies only disclose an approximate value for their managerial compensation but for certain top banks, they set a higher standard for the disclosure of the exact managerial compensation amount (Deloitte, 2012). For example, Maybank cannot provide the actual managerial compensation amount in their annual report every year without approval from their shareholders.

The Securities Commission Malaysia had come out with new Malaysian Code on Corporate Governance (MCCG) in 2012, superseding version in 2007. This regulation provided some guidelines and recommendations for companies to have a better management. The first version of MCCG was implemented in Malaysia in year 2000. The regulation was launched in order to protect shareholders' rights. MCCG provides governance mechanisms such as managerial compensation, board composition, and the roles of board committee and board of directors (Jaafar, James & Wahab, 2012). In year 2007, this code was modified with reinforcing the responsibilities and roles of board of directors, board committee as well as the internal audit function. In year 2012, some regulation was revised in order to enhance the board's duty. This code focuses more on managerial compensation, stating that managerial remunerations should reflect the ability or skillfulness of the top managements. However, for all the codes and regulations in MCCG (2012), the companies are voluntarily to adopt after the complying of minimum requirement by regulation MCCG.

Besides, under Malaysian Law, shareholders have no power to interrupt the managerial compensation setting process recommended by company's remuneration committees. According to *Table A: Articles of Association in Schedule Four of the Companies Act 2013*, directors' remuneration is subject to shareholders' approval, however there is no clear law enforce that the company should adopt this Table A (Tahla, Sallehhuddin &

Masuod, 2009). Besides compensation, there are other incentives for top executives as well. However, shareholders have some rights on planning managerial incentive plans in Malaysia. These incentive plans are recommended by the remuneration committees and to be approved by board of directors. Thus, shareholders' right are actually quite small no matter on deciding the managerial compensation or such incentive plans in Malaysia.

Table 1.1: Top 10 Largest Companies in Malaysia

Company Size Ranking	Company Name	Managerial Compensation (RM)	Board Size	Duality	Board Independence (%)	Dividend Payout (%)	CEO Ownership (%)
1	Malayan Banking	6,262,685	12	No	75	89.45	0.01
2	CIMB Broup	10,000,000	9	No	56	40.00	0.70
3	Public Bank	14,514,000	10	No	60	43.93	0.18
4	Hong Leong Bank	4,864,000	11	No	46	28.64	0.05
5	Genting Berhad	111,575,000	7	Yes	57	15.56	0.57
6	Axiata	9,975,000	9	No	67	118.48	0.07
7	IOI Corporation	47,725,001	9	Yes	44	55.44	43.96
8	Telekom Malaysia	2,000,001	14	No	50	62.28	0.00
9	Maxis	9,525,001	11	No	36	95.48	0.01
10	Genting Malaysia	48,785,000	9	Yes	67	26.70	0.66

Source: Bloomberg, Bursa Malaysia, Malaysian Business Magazine, data as at December 2012.

1.1.2.1 Overview on Board Independence

According to Financial Times, an international daily newspaper with global economic news, independent directors are those who have minimal or no business dealings with the company in order to avoid conflicts of interest. Independent directors were assigned by company's board to exercise independent judgement on corporate affairs whenever there is potential for conflict of interest (The Technical Committee of IOSCO (TC), 2007).

Board independence has been crucial in the development and evolution of corporate governance, said by Varottil (2010). United States was the origin of the setting of independent directors. Independent directors were formed in US legislation in order to give weight on companies' managerial decisions, as so reducing improper transactions and actions. Marchesani (2005) also supported that US corporate governance system has recognized that independent directors has been an important and useful tool to protect stakeholders' interests. The author documented that the existence of independent board directors can reduce agency problems caused by top executives, management or shareholders.

Board independence started to expand after the Enron scandal, the largest bankruptcy reorganization in American history. According to Bratton (2002), Enron was failed mainly because of the self-regulatory system of corporate governance. Top executives of Enron used their power to affect the standard of Enron's governance system and by then misguide the board of directors of the company. As reported, top executives of Enron manipulated the company's financial reporting and hided billions of debts. This audit failure of Enron was after found by SEC and thus awaken the importance of board independence. In order to increase the reliability and accuracy of company's' financial reporting, Sarbanes-Oxley Act therefore required board of companies to appoint independent directors to have better and proper oversight on company's performance.

The role of independent directors is important as well in Malaysia. According to the requirements of Bursa Malaysia, every listed company in Malaysia will need to have at least one-third of seat for independent directors in the board. However, the tenure of holding the post as independent directors has a term of nine years under MCCG 2012. After nine years, independent directors can remain their seat or reassigned as non-independent directors. To remain as independent directors in the board, the companies must have approval from shareholders. If approval was given, reasons why the particular independent director remain the seat in company's board exceed the night years of term must be stated clearly in the company's annual report.

As board independence is one of the important elements in corporate governance, many previous researchers, such as Core et al. (1999) and Laux (2005) has taken board independence into account to examine the relationship of it with managerial compensation. In viewing Malaysia's Top 10 listed companies, the relationship between board independence and managerial compensation are found to be uncertain.

As shown in Table 1.1, the top 10 largest companies in Malaysia which are measured by total assets, sorted according to the company size during year 2012. For the fair comparison purpose, the ninth and tenth ranking companies measured by the total assets in Malaysia are chosen to be discussed as their company size is similar. The board independence of companies is measured by the percentage of independent directors in the board, which is shown in Table 1.1, range from 36% to 75%. Genting Malaysia has the second highest percentage of board independence that is 67% compared to Maxis, which having 36% of independence directors in the board. When it comes to the managerial compensation, Genting Malaysia leads by the total amount of RM48.88 million, compared to Maxis, which is RM9.53 million. Song and Xu (2014) found that the shareholders' interest become the priority when the board remains independent, as the board can propose lesser compensation for the top

executives. The finding is different from the sample extracted above, as Genting Malaysia is having higher board independence, it still compensates more to their CEO compared to Maxis. As so, the variance effects of board independence on managerial compensation have become an issue in Malaysia business society.

1.1.2.2 Overview on Board Size

The board size is defined as the numbers of board of directors in a board of company. In dealing with corporate governance, there is no universal agreement on optimum board size. In Malaysia, the MCCG 2012 recommended the size of board should be justified on the board effectiveness of companies. However there is no specified numbers of the board of directors recommended (Zulkafli, Samad & Ismail, 1999). The most important is the numbers of board of directors can perform their role and responsibilities effectively and functionally.

According to a report from Deloitte in year 2014, it stated that average board size in Malaysian companies is relatively consistent with 9 to 11 members. Although it found that having more than nine members may cause ineffective functions of the board, but board size happened to be associated with company size and market capitalization. The larger the companies will have the greater number of board of directors. Deloitte suggested that companies should take board effectiveness and efficiency into consideration while setting the size of board.

In the study of corporate governance, the board size is playing an important role in a company's board structure. Based on news from the Wall Street Journal in 2014, companies with smaller board size able to create greater rewards for their investors and manage to maximize shareholder's wealth. In conducting this study for the Wall Street Journal, governance researchers from GMI Ratings believed the outperformed is

because smaller boards able to develop better decision-makings. They concluded that smaller boards able to have better oversight on top executive's performance and hence, more likely to fire top executive for poor performance. Therefore, the association between the board size and the company's top executive are of concern by investors or shareholders in desire to enjoy outstanding performance of the company.

As mentioned above, the board size will affect the effectiveness oversight of management. It was believed that board size will also affect the managerial compensation (Feng, Ghosh & Sirmans, 2007). In viewing on Top 10 listed companies in Malaysia, the board size is shown by the number of directors in the board, which range from 7 to 14 in the sample. From the table, the managerial compensation for IOI Corporation is approximately RM47.25 million, which is more than the managerial compensation of Telekom Malaysia. However, the board size of the latter is more than the former. Ozkan (2007) found that the firms in UK are willing to compensate more to their CEO, when the board size is large. So, one of the issue to be discussed in this research is whether a larger board size indicates higher amount of directors' compensation for Malaysian companies.

1.1.2.3 Overview on CEO Duality

CEO duality refers to a situation when a company's top executive is serving as Chairman of the Board at the same time (Kwok, 1998). The practice of CEO duality started to become an issue of corporate governance since two decades ago, said by Dalton, Dalton, Hitt and Certo (2007). Before the implementation of Sarbanes-Oxley Act, companies in U.S was said to be rich in "dual leadership". The author found that period before the act when top executive also hold a post as board chair, the company will more likely to be involved in agency risk. Therefore, more and more investors and shareholders started to require a separate chair.

In 2002, the Sarbanes-Oxley Act was implemented in U.S. The board governance in U.S started to change fundamentally, including the change of association between top executives and board chair. A research from Dalton et al. (2007) indicated that the percentage of board chairs independent from managerial activities has increased from 9% to 20%, the separation of top executive and board chair in firm listed in S&P 500 also increased from 20% to 40%. The authors believed that these changes were because of the intensive of CEO duality in firm's corporate governance.

In Malaysia, the roles of CEO duality were also widely tested by many researchers (Abdullah, 2004). The author concluded that majority companies in Malaysia have corporate governance with non-dual leadership practice. But regarding to the issue of CEO duality, MCCG 2012 had come out with several requirements. In compliance, the positions of top executive and board chair should not be taken by same person, and yet the chair of board must be a non-executive member of the board. Besides, the numbers of independent directors in board have to be larger if the top executive is not an independent director. Another requirement stated that reasons have to be stated in company's annual reports if the positions of top executive and board chair are not separated.

Researchers believed that the duality of holding two positions as top executive and chairman of boards will affect the managerial compensation (Lin & Lin, 2014; Ya'acob, 2016). In viewing Top 10 listed companies in Malaysia, there are three companies with the top executive that hold position of board chair at the same time, which is Genting Berhad, Genting Malaysia and IOI Corporation The managerial compensation of these companies was ranked as top-three highest paid managerial compensation among Malaysia companies in year 2012. This sample trend is consistent with the previous research of Vemala, L.Nguyen, D.Nguyen and Kommasani (2014) which they found that CEO duality had significantly positive relationship with managerial compensation.

1.1.2.4 Overview on CEO Ownership

Adams, Almeida and Ferreira (2005) defined CEO ownership as the ratio between the number of shares held by top executives and the company's total outstanding shares. In studies of board governance in U.S, Denis and Sarin (1999) realized that top executive's ownership changes together with business conditions. Equilar, a trusted data provider of executive compensation and corporate governance to companies, conducted an executive ownership guideline report in 2013. In this report, they stated that more and more companies tend to tie managerial compensation to equity awards. This is because shareholders want to ensure that the interest of leadership team are aligned with theirs, therefore, they supported top executives to have financial stake in the company.

This report from Equilar summarized that there are two common forms of ownership policies, which are ownership guidelines and holding requirements. Ownership guidelines require top executives to obtain specific amount of shares while holding requirements require top executives to retain certain amount of shares following the company's stock or options vesting exercise. Either form of ownership policies are implemented in order to ensure that leadership team of a company will hold substantial amount of ownership.

CEO ownership has become more and more trendy throughout the years, as reported by Equilar. The prevalence of CEO's ownership in Fortune 100 has increased from 80% to 84% during year 2011 to 2012. Researchers believed one of the reasons of this rising figure is because setting CEO ownership able to create mutual interest between top executives and shareholders. The design of ownership of top executives can be varies between companies. For example, top executives of Sysco (SYY) obtained ownership of the company in form of fixed number of shares while Safeway Inc. (SWY) maintained top executives' ownership with multiple of base salary to be owned in stock.

Compare with Sweden and United Kingdom, top executives in Malaysia have sizeable ownership stakes in their company (Ho & Williams, 2003). It is because most of the businesses in Malaysia owned by families. The statement was supported by a study from Amran and Ahmad (2013) as well, saying that the shares of most Malaysian companies are commonly concentrated by the ownerships of the families.

As such, the managerial compensation will rise or fall with the performance of company's stock as if the top executives have financial stake in the company. In viewing Top 10 listed companies in Malaysia, the CEO ownership is shown by the percentage of outstanding shares, which ranged from 0.00024% to 43.96%. For this aspect, Malayan Banking and CIMB group are being compared, whereby the CEO ownership for both is 0.01% and 0.70% respectively. However, the total managerial compensation for CIMB group is higher which opposed the previous research by Sapp (2007), in which the researcher found that when the shareholdings of top executives increased, the total level of managerial compensation will decrease. So, further study is needed to examine the relationship between CEO ownership and managerial compensation.

1.1.3 Overview on Dividend Payout Policies

According to Masum (2014), dividend payout policy is defined as the pattern of cash distribution to the shareholders of the company. The author stated that dividend payout policy of the company's share value is one of the major concerns of investors, as the ability of timely and adequate dividends actually reflect the financial position and condition of the company. According to the author, one of the importances of dividend payout is the shareholders and investors can access the company's ability to generate cash and the willingness to distribute earnings to the investors.

Waswa, Ndede and Jagongo (2014) differentiate the dividend payout ratio according to nature and size of business. Generally, the new and growing companies will pay less dividend as they need more cash to sustain their development; while volatile business such as materials producers also tend to distribute lesser cash to dividend payout because there is too much uncertainty in generating income especially during economic downturns. On the other hand, larger size companies which having steady growth and predictable cash inflow will distribute more dividends to maintain their share attractiveness. Even though a high dividend payout might attract more investors, but at the same time, the earnings distributed as dividends become the opportunity cost for paying their liabilities and investments for future projects with potential higher returns.

Commonly, different companies have differed dividend policy according to the located countries and statutory system (Porta, Lopez-de-Silanes, Shleifer & Vishny, 1998). In Malaysia, companies have their own right to decide either to distribute the dividends to shareholders, or retain it for the company's development or investments in the future financial years because there are no standard regulations in governing the dividend payout (Ling, Mutalip, Shahrin & Othman, 2008).

Bhattacharyya, Mawani and Morrill (2008) suggested that the managerial compensation is negatively related to dividend payout ratio, a high managerial compensation will reduce the amount of earnings to be distributed to shareholders in terms of dividends. From Table 1.1, the dividend payout is shown in the range from 15.56% to 118.48%, which is computed through the formula of Dividend per share over Earnings per share. Public Bank and Hong Leong Bank are chosen as the sample for investigation for the relationship, whereby Public Bank has higher dividend payout ratio of 43.93% compared to Hong Leong Bank at 28.64%. At the same time it also compensates a higher amount for its top executive with the amount of RM14.51 million, which is approximately RM9.65 million more than Hong Leong Bank. The sample is in contrast

with the previous study, so this research is needed to further review for the relationship between dividend payout and managerial compensation.

1.2 Problem Statement

The management style of a Chief Executive Officer (CEO) or top executive is one of the key elements for a company to be successful. Thus, no doubt, many will question about the compensation of top executive as they are the leader of the company. Average S&P 500 top executives income has increased to $14.7 million in year 2000, from $3.5 million in year 1992. But, a lot of unnecessary cost increased upon shareholders and company due to case of misuse and negligence among top executives who do not meet standard (Bebchuk & Fried, 2006). Public believe that managerial compensation is overrange far from average employee compensation level. According to Anderson, Collins, Klinger and Pizzigati (2011), average managerial compensation contrast to average production worker's' pay is 107:1 rise to 325:1 with nearly triple increases. In Malaysia, the increment and large amount of managerial compensation have attracted the attention of the public. The Star reported in 2013 that the top executive of CIMB Bank, Dato‟ Nazir Razak received RM10 million in remuneration which increased from RM8.7 million in 2011 (Kaur, 2013). In 2007, the top executive of Genting, Tan Sri Lim Kok Thay received RM86.5 million as his compensation (Fong, 2009). Tan Sri Lee Shin Cheng who is the CEO of IOI Corporation, received RM56.3 million in year 2010 (Yunus, 2012).

Agency problem may induce the conflicts on the issue of board structure and managerial compensation. Agency costs happen when there is conflict of interests between the shareholders and the management. According to Lins and Servaes (1999), in Malaysia, distinctive agency problem may be induced by the poor corporate governance system and existence of various ownership structures. According to Jensen and Murphy (1990), some are debating whether compensation scheme are inadequate for top executives to maximize shareholders' welfare by making their interest parallel to shareholders' objective. Remunerations

are hard to predict and unsure whether the pay-out are correctly specified when agency problem started to occur (Malak, 2015; Fong, Misangyi & Tosi, 2010). In Malaysia, agency problem has happened that between board of director themselves and Sime Darby's shareholders which caused by conflict interest. According to The Star, Sime Darby countered on big losses of RM 2 million and RM 10 billion for law suited by project of Bakun Dam in Sarawak at year 2010. These are due to imprudent investments by Sime Darby's board of director who is Datuk Seri Ahmad Zubir Murshid. This case happened before the implementation of MCCG 2012. Agency problems are induced by the conflict of interests between shareholders and board of directors (Khor et al., 2013). Therefore, this study will discuss the relationship of corporate governance and managerial compensation based on theory of agency costs.

CEO duality is one of the doubtful issues when top executive holds the Chairman position of the board on firm at the same time. There are evidences shows that when top executive elected to be the Chairman of the board, it will indirectly induce moral hazard problems that may affect the performance of the firm (Crystal (1991); Jensen (1993); Pi and Timme (1993)). In Malaysia, when there is connection between role duality and performance, Malaysian companies with top executives holding dual titles seem like not to outperform as well as their complements with isolated board leadership (Abdul Rahman & Haniffa, 2003). Agency theorists suggest that, top executives with dual titles will have sufficient controlling power to benefits themselves (Finkelstein & D'Aveni, 1994). Researchers who looked at the determinants of managerial compensation in the early 1990s, they found that top executive who is also the chairman of the board receives higher compensation (Cyert, Kang & Kumar, 2002). Grinstein and Hribar (2004) found that the level of bonus is higher when the top executive has more power to affect company's board decisions.

Non-compliance of the companies to the regulation or fail to disclose compliance in annual report may lead to failure of corporate governance. Arguments about the failure of corporate governance structure to properly protect shareholders have been shown by the collapsed large publicly traded companies. Issues that involve

executive compensation in a corporate may cause the most public scorn and corporate governance failure (Dorata & Petra, 2008). In Malaysia, many companies still unable to fulfil the global disclosure practice adequately (Standard and Poors, 2004; Toh, 2004). According to Hassan Che Haat, Abdul Rahman & Mahenthiran (2008), the disclosure on corporate governance practices is still insufficient although it is mandatory under Bursa Malaysia Listing Requirements. They also indicated that Malaysia listed companies do care about corporate governance but the internal monitor mechanisms seems yet to be really effective. Not only that, serious criticism has been raised by the recent financial crisis particularly which regarding the role of corporate governance in determining executive compensation (Fahlenbrach & Stulz, 2011; Bebchuck, Cohen & Spamann, 2010; Kirkpatrick, 2009).

Top executives may acquire some ownership of the firm when they exercise the stock option granted as compensation for them. Managerial compensation is generally meant to work as a corporate governance mechanism that motivate top executive to align their actions and decisions which advantageous to shareholders. But, some doubt that the pay-out decision may be affected when they believe that the incentive will be paid at the expense of shareholders' welfare. However, by referring to the managerial power idea, in the eyes of top executives, the frequent use of stock options as a pay-out device may be connected to its effectiveness in extracting wealth from the firm without provoking shareholder outrage (Bebchuk, Fried & Walker, 2002). According to Morck, Shleifer and Vishny (1988), interests of the rest of shareholder are neglected or less considered by managers when they gain the power (voting right) with significant ownership stake. They may tend to make decision which will award themselves at the expenses of other stakeholders. Therefore, pay-out decisions that maximize the compensation of top executive may be adopted, but the decision made may not be most favorable or preferable by shareholders (Geiler & Renneboog, 2013). Therefore, this research carries out the investigation on the relationship between dividend payout policies and managerial compensation.

Furthermore, up to the researchers' knowledge, there are no previous researches that identify the impact of MCCG 2012 towards the managerial compensation. So, the effectiveness of the implementation of MCCG 2012 in the Top 100 listed companies in Malaysia is still puzzled. There researchers that studied on the effect of previous MCCG that have been implemented in Malaysia, for example, Ghazali and Manab (2013) found that the non-leverage financial leverage ratio of financial and non-financial companies is significantly lower after the implementation of MCCG 2007; Wahab, How and Verhoeven (2007) concluded that MCCG 2000 is well implemented among the listed companies in Bursa Malaysia, as they found that the stock prices increased by an average of 4.8% after the implementation. The researches on the previous researches provide the idea of the effect of implementation of MCCG, however the actual impact on the managerial compensation is not documented.

1.3 Research Objectives

1.3.1 General Objective

- The general objective of this study is to investigate the impact of corporate governance and dividend payout policies towards managerial compensation in public listed companies in FTSE Bursa Malaysia Top 100 Index.

1.3.2 Specific Objectives

- To examine the relationship between board independence and managerial compensation.
- To examine the relationship between board size and managerial compensation.
- To examine the relationship between CEO duality and managerial compensation.

- To examine the relationship between CEO ownership (%) and managerial compensation.
- To examine the relationship between dividend payout and managerial compensation.

1.4 Research Questions

The research questions are addressed as below to gain better insight and understand more on the relationship between corporate governance, dividend payout policies and managerial compensation.

- Does board independence significantly affect the managerial compensation?
- Does board size significantly affect the managerial compensation?
- Does CEO duality significantly affect the managerial compensation?
- Does CEO ownership (%) significantly affect the managerial compensation?
- Does dividend payout significantly affect the managerial compensation?

1.5 Hypothesis of the study

There are five hypotheses provided to test the significant factors of corporate governance and dividend payout policies' impact on managerial compensation.

First Hypothesis

H_0: There is no significant relationship between board independence and managerial compensation.

H_1: There is significant relationship between board independence and managerial compensation.

Second Hypothesis

H_0: There is no significant relationship between board size and managerial compensation.

H_2: There is significant relationship between board size and managerial compensation.

Third Hypothesis

H_0: There is no significant relationship between CEO duality and managerial compensation.

H_3: There is significant relationship between CEO duality and managerial compensation.

Fourth Hypothesis

H_0: There is no significant relationship between CEO ownership (%) and managerial compensation.

H_4: There is significant relationship between CEO ownership (%) and managerial compensation.

Fifth Hypothesis

H_0: There is no significant relationship between dividend payout and managerial compensation.

H_5: There is significant relationship between dividend payout and managerial compensation.

1.6 Significant of the study

This research will provide the results on the relationship of corporate governance and dividend payout policies towards managerial compensation. This research highlighted the issue about board independence, board size, CEO duality, CEO ownership and dividend payout policy toward managerial compensation in Top 100 listed companies in FTSE Bursa Malaysia Top 100 Index. Policy makers can use this research as reference to conduct better policies to deal with potential

problems such as overpaid managerial compensation among the firms listed in Malaysia. This research provides guidance for policy makers to identify whether reasonable payment practices are made to top executives with law compliance.

Besides, with the understanding on relationship between corporate governance, dividend payout policies and managerial compensation, corporate's management team can avoid improper compensation paying scheme. Management team can therefore reduce the risk of agency costs as they can improve their development on corporate governance with more knowledge on the effect of corporate governance on managerial compensation can be gained from this study. In a company, top executives serve as main referent for lower-level managers in determining whether their own situation is fair. When they are underpaid relative to the top executive's pay, they are more likely to leave the organization (Wade, O'Reilly & Pollock, 2006). This has indicated that company management in setting top executive compensation is very important which may also affect the employees in the company. Therefore, this research is important in providing guidelines for board of director to decide how much to pay for managerial compensation based on various factors in this research. So, the companies can make some development and improvement on these factors that influence the managerial compensation in Malaysia.

Besides, the investors might have less idea on how much or how the company issue managerial compensations and might not able to evaluate whether the companies make proper decisions on the compensation matters. This research will manage to give the investors a clear and better understanding on cash flows of the companies and whether the compensation working is in the favour of investors or shareholders. Based on this study, the investors might able to make accurate decisions and evaluate whether their investments are worth or not. A higher managerial compensation does not mean the company will have good performance because the skill of top executives might have been overestimated. A research from Cooper, Gulen and Rau (2009) stated there is negative relationship between managerial compensation and future shareholder wealth changes for periods up to five years due to the overconfidence of top executives and

overreaction of investors towards firms with high paid CEO. So, the investors can take the managerial compensation into consideration before making any investing decisions.

In addition, this research will be beneficial for future researchers to use it as a guideline for further study. The researchers face the problem of lack of resources because there is not much research projects related to the effect of corporate governance on managerial compensations in Malaysian large companies. There are also only few researches focused in investigating relationship between corporate governance and managerial compensation. For example, Chiang, Leong, Lim, Lye and Yaw (2015) studied the impact of CEO characteristics and board governance toward CEO compensation which mainly focus on consumer product industry. Chu and Song (2012) studied 196 public listed company in Malaysia which focused primarily on how managerial compensation influence over the investment. Therefore, this research tends to assess and examine the impact of other factors in relation to top executive compensation of various industries in Malaysia. This study provides not only about how the variables influence the managerial compensation, but also proves their significance relationships. Future researchers can utilize this research as reference to explore different issues about managerial compensation in the future.

1.7 Chapter Layout

Chapter 1 of this research consist an overview of the topic together with problem statements, research objectives, research questions, hypotheses to be tested, significant of the study, chapter layout and also conclusion of the chapter. Then toward Chapter 2 of this research will cover the literature review, review on relevant theoretical models and conceptual frameworks, as well as the hypotheses development of each variable in this research. Next, Chapter 3 will discuss on the methodologies used to examine the relationship between corporate governance, dividend payout policies and managerial compensation. Then further statistical elaborations and inferential analysis relates to the hypotheses of the research will

be carried out in Chapter 4. And lastly, the discussions areas of Chapter 5 will be the implications and limitations of the research and recommendations for future research.

1.8 Conclusion

This chapter covers the background of the study, problems statements, objectives and research questions. Hypotheses of the study and the significant of study have also been included in Chapter 1. Further discussions on literature review on variables including board independence, board size, CEO duality, CEO ownership and dividend payout will be conducted in Chapter 2, together with reviews on theoretical and actual framework.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The beginning of this chapter will review journals that are related to the research topic. This chapter included literature review on previous researches about corporate governance, dividend payout policy and managerial compensation. Independent variables such as board independence, board size, CEO duality, CEO ownership, dividend payout and control variables such as company profitability and company size are included in this study to examine their relationship with managerial compensation. These reviews on relevant research provide a basis to develop the conceptual framework as well as the theoretical framework. In this chapter, hypotheses development will be formulated and further clarifications on research objectives and research questions will be made.

2.1 Review of Literature

2.1.1 Board Independence and Managerial Compensation

Board independence can be interpreted as the proportion of the board represented by independent outside directors (Knyazeva, Knyazeva & Masulis, 2013). In the past, many believed that board of directors did not perform well in assisting the companies during the financial crisis (Mustafa & Kashif, 2013). Therefore, countries' government started to implement corporate governance that includes the independent directors to the board in order to protect the interest of shareholders. For example, the Olivencia Report from Spanish and the Cadbury Report from British had highlighted the important role of independent outside directors.

Ryan and Wiggins (2004) showed that the top executives received higher compensation when the board has more independent directors. The researchers studied the relationship by applying difference-in-means test with the compensation data obtained from S&P's ExecuComp database and board independence data obtained from proxy statements of Research Insight database. The positive relationship was proved by using the samples of 600 firms during 1995-1997. The authors claimed that top executives are supposed to structure the compensation properly. But, due to lack of board oversight and lack of negotiation with independent directors regarding compensation structuring, top executives tend to exercise their power to structure higher compensation for themselves.

Ozdemir and Upneja (2012) reported that the board independence has positive relationship towards managerial compensation. The board independence is a significant tool in controlling the managerial compensation. The researchers took U.S. lodging firms' board of directors as sample to study the pattern of managerial compensation in U.S. If the director election process is affected by top executives, the monitoring will become ineffective and it will give top executives the opportunity to gain the benefits of higher compensation. This result supported an earlier research from Laux (2005), which stated that managerial compensation will be higher as if the board of directors become more independent.

Masulis and Mobbs (2004) found that the sensitivity of managerial compensation had significant positive relationship with board independence. When there are more independent directors in the board, the top executives are highly paid. The independent directors are able to influence the board decision because their main role is to control and administer the senior management. They are able to utilize their ability and reputation to influence the board decision on managerial compensation. Osano (2003) stated the higher the managerial compensation received as board become more independent. It indicated that there is positive relationship between board independence and managerial compensation.

The researcher constructed four timing of events in order to check the relationship. The more independent directors in the company's board provide higher monitor and by then lead to higher profit gained of the company. Then, it increases the managerial compensation.

Kashif and Mustafa (2013) proved that there is positive relationship between board independence and managerial compensation. The managerial compensation increased as the board consisted more independent directors. They took 66 listed companies from different industries in Karachi Stock Exchange and obtained the compensation and number of outsider in board data from published financial statement. The more independent directors in the board can provide professional advice to the companies in making important decision. It will enhance the company's performance and the managerial compensation as well.

Lone, Hasan and Afzal (2015) showed that there is negative relationship between board independence and managerial compensation. The researchers used 22 listed banks in Pakistan from 2006 to 2013 as their sample. They obtained compensation data and number of outsider in board from annual report that published on the Karachi Stock Exchange. In the banking sector of Pakistan, the lower the board independence is the higher the managerial compensation will be. This might because majority of banks in Pakistan are family-owned, therefore the number of independent directors in the board will be lesser. Thus, this might lead to higher managerial compensation to top executives with close relation to the family-owned company. This result is also in-line with an earlier research did by Anjam and Svanberg in 2011, claiming that the relationship between board independence and managerial compensation is negatively related.

Based on previous studies, most of the researchers showed that there is positive relationship between board independence and managerial compensation. This study would expect the managerial compensation will

become higher as the higher the number of independent directors in the board.

2.1.2 Board Size and Managerial Compensation

The efficiency of the board may be affected by the board size which may also influence the top executives' compensation. But, based on the past researches, the linkage between board size and managerial compensation is uncertain. Some of the researches (e.g., Feng et al., 2007 and Brick, Palmon & Wald, 2006) stated that the board size is negatively related to managerial compensation. But, there are also supporters for positive relationship between these two variables.

According to Abdul Rahman and Mohamed Ali (2006), when the boards are outsized, coordinating and processing problems becomes more challenging, resulting ineffective in performing monitoring functions. Both of the researches, Jensen (1993) and Lipton and Lorsh (1992), argued that large board size cause them less effective because of increased decision-making time and free-riding problems amongst directors, and thus affecting the structure of managerial compensation.

Cyert et al. (2002) find that managerial compensation is positively related to board size. According to Knop and Mertens (2010), their research showed that board s is positively related to total managerial compensation, base salary or variable pay. The positive relation is correspond to the earlier research done by Core et al. (1999) and in line with suggestion of Bebchuk and Fried (2004) who suggested that overcrowded supervisory boards appear to be less effective, which result in higher managerial compensation. The results are supported by the coefficient 0.49 which implies that supervisory boards with more than 5 members have paid their top executives 49% more. The constitution of managerial compensation will be more challengeable when the board size is larger as it will be

harder to gather every director's opinion and agreement on managerial compensation matter (Knop & Mertens, 2010).

The managerial compensation is significantly negative related to board size, it suggests that large boards are less effective in satisfying their monitoring role (Feng et al., 2007). According to Tariq (2010), the empirical results from his researches showed that there is negative but statistically insignificant relationship between managerial compensation and large size board. The results are in contrast with the findings of Core et al. (1999) who suggested positive relationship between board size and managerial compensation. Brick et al. (2006) suggested that both parties, board and top executives, can engage in cronyism. They believed that the key function of board to monitor top executive's activities is influenced by social factor (e.g. friendship). According to Wienclaw (2009), agency theory perspective is different as board size is increasing it means control level is also improving. And by then, the improvement on board's control level will lead to proper managerial compensation payment instead of over-paying.

Based on supporting from previous researches, the relationship between board size and managerial compensation was said to be positively related. Hence, this study will also expect that the managerial compensation will be higher when the company has larger board size.

2.1.3 CEO Duality and Managerial Compensation

According to Hodgson and Ruel (2012), CEO, or top executive, and the chairman are the two most authoritative positions in the board. Questions was brought forward by the author as if how a board can monitor and oversee the top executive's conducting the business if the top executive at the same time is serving as a board chair. In the summary made by Hodgson and Ruel (2006), they found out that the pay for top executives

who also having a position as the chairman of a board are more expensive. Base on their research with analysis on GMI Ratings' data over 180 North America mega-caps, it indicated that top executive with separate titles earn $9.8 million. As compared to top executive with dual titles earn around $16 million, in the median of total summarized compensation. The author concluded that compensation payment made to combine CEO and chair is far more expensive then separated. A study from Lin and Lin (2014) also indicated that when top executive serves as the board chair, the compensation is 41.20 percent higher than expected.

It was said that companies that are having CEO duality has positive relationship with their company's' compensation scheme (Ya'acob, 2016). According to Ya'acob, top executives that hold both position of chair will stand to benefit themselves regardless the firm's performance. The research stated that CEO duality can lead to self-interest and thus create corporate scandal of the company. The author collected data from 298 companies' annual reports from Bursa Malaysia and came out with a result showing that CEO duality has large effect on managerial compensation. This result is also alike with a previous study from Core et al. (1999) finding that managerial compensation is positively related with CEO duality. CEO duality will lead to higher managerial compensation, as conclude.

Besides, a previous study from Hengartner and Ruigrok (2006) claimed that top executive who holds position as chairman in a board is able to earn a pay premium of about 24 percent. One of the reasons for the positive relationship between managerial compensation and CEO duality might be because of the dual responsibility. Some companies tend to reward the executive (combined positions) with higher pay for their filling on two jobs (Hengartner & Ruigrok, 2006). The author also believed that executives with duality structure should get higher pay as they have to perform in certain circumstances with strong leadership, which is hard to

find this ability in most people. Hence, the research concluded that executive with dual positions will have higher pay level.

However, there are sayings that even though there is an absence of CEO duality in a corporate management but the top executive somehow are still able to affect the board decisions on compensation scheme (Lin & Lin, 2014). A previous research from Chen, Lin and Yi (2008), said that CEO duality has negative effect on managerial compensation. The author collected data from firms listed in Taiwan Stock Exchange and came out with the result concluded that top executives with dual titles are not usually granted high compensation. This research stated that the pay level for top executives is actually tied with the firm's performance. Top executives that are able to create better firm's performance will get higher compensation, regardless their position in the board. Although many previous researchers said that CEO duality has positive relation with managerial compensation, but there are still have some arguments against this statement.

CEO duality are found to be positively related to managerial compensation but somehow their relationship is weak (Abed, Suwaidan, & Slimani, 2014). Previous researchers Krause, Semadeni and Cannella (2014) also indicated that CEO duality was not an important driver of managerial compensation. The author collected evidence from 500 companies in Forbes and Fortune and revealed a result of negative relationship between CEO duality and the percentage of total managerial compensation. According to Conyon and Peck (1998), CEO duality will not increase managerial compensation. The research was conducted with a sample of United Kingdom firms listed in FTSE 100. The result saying that CEO duality has small effect on managerial compensation settings. Compensation of a separated chairman and top executive was somehow said to be higher simply because the cost of paying two individuals instead of one (Krause, Semadeni & Cannella , 2014).

Based on these reviews, this study would also expect that CEO duality and managerial compensation have positive relationship. The managerial compensation will be higher whenever the top executive has two titles.

2.1.4 CEO Ownership and Managerial Compensation

Nulla (2013) stated that the managerial compensation in large firms are relatively less than those in smaller firms. Jensen and Murphy (1990) documented that top executives' compensation is influenced by the percentage of their shareholdings in the company. Core et al. (1999) supported that the linkage between CEO ownership and managerial compensation is negatively related. The author justified that when the executives are holding large amount of shares in the company, their compensation level will be relatively low; in the assumption that they will be more willingly in accepting the low compensation as they are more focused on the company performance. This finding is compatible with Sapp (2007), which identified that as the shareholdings of top executives increased, it leads to the top executives' sensitivity to company performance, so the their level of compensation will be lower as concern of the company expenditure.

Besides, Forsyth, Teoh and Zhang (2007) found the same negative relationship, as the top executive has higher stock ownership, his or her compensation will be lower based on the large firm sample from CRSP, Compustat, IBES, and Execucomp from year 1996 to 2002. According to the researchers, this is because top executives do not utilise their company ownership to influence the board of directors' decisions in determining the compensations.

Jensen and Murphy (1990), they found that there is insignificant and small coefficient between CEO ownership and managerial compensation, which then concluded that CEO stock ownership is not one of the factors for the

board of directors in composing the management incentives plan. In addition of that, the negative relationship is further supported by Ozkan (2007), using sample of 414 large UK companies from year 2002 to 2003.The researcher claimed that the company with higher top executive ownership will compensate less to the executives, as the researcher stated that as top executives have higher ownership, their interests will be more identical with other shareholders, so there is not necessary for them to have a higher compensation.

In contrast, from the research of Hassen et al. (2015), based on the sample of French companies listed on SBF 120 index during the period of 2007 to 2010, they found that the managerial compensation of top executives is influenced positively by their shares holdings. It reflects the fact that the executives with larger share holdings indirectly granted them the right to demand higher compensation. This result from Hassem et al. was in line with Finkelstein and Hambrick's findings. They both claimed that the increase in top executive's shareholdings will bring the increased managerial compensation. Based on their research sample of the chief executives of companies listed under "Leisure" in the Forbes Annual reports in American Industry, in the year of 1971, 1982 and 1983, the researchers concluded that when top executives acquired greater power, they are capable to derive more compensation from the company, as they not only can influence the operating decisions, but also board decisions. Their findings are on a par with Holderness and Sheehan (1988), in which the researchers found that top executives with larger share ownership have comparably higher compensations, as the higher ownership of top executives indicates more controlling power, so they could allocate company resources to benefit themselves.

Furthermore, in the study of Buigut, Soi and Koskei (2015), they included 20 firms in U.K from the period of 2008 to 2010, and they concluded that the ownership of top executives in the company has a significant and positive effect on top executives' compensation in various form because

the company need to set a compatible level of compensation for them according to their performance in company.

Moreover, based on a sample of 903 US company between 2007 and 2010, Lin, Kuo and Wang (2013) demonstrated that CEO shareholdings have a significantly negative relationship with managerial compensation. By using random effects model, the authors proposed that the existence of substitution effect between CEO ownership and managerial compensation, which means that CEO shareholdings can become the substitute of managerial compensation. Moreover, their finding is supported by Cheung, Stouraitis and Wong (2005), in which they used a sample of 412 Hong Kong firms, and documented that top executives with high level of ownership use the received dividends as substitute of their compensation, as the dividends received are more than the compensation, so top executives will be less concern on their compensations.

This study will expect negative relationship between CEO ownership and managerial compensation. As in line with most of the previous studies, the larger the CEO ownership, the smaller the managerial compensation.

2.1.5 Dividend Payout and Managerial Compensation

Gomes (1996) and Fluck (1998) stated that the corporate dividend policy can minimize the agency problems between the top management and the shareholders. This also can be supported by the dividend payouts which will actually decrease the cash flow to the managerial compensation and directly mitigate the agency conflicts, which do not make the best advantage or interest to their shareholders (Grossman & Hart, 1980). The increase in managerial with substantial cash flow will highly increase the rate of them to invest in unprofitable project (Jensen, 1986).

There are actually two way relationships between dividend payout and managerial compensation. Large number of studies (Fen & Liang, 2001 and Bhattacharyya & Elston., 2009) had been carried out to explain the relationship between dividend payout and managerial compensation, but there is still difficulty for researchers to clearly explain their relationship. Besides that, most of the studies focus on how managerial compensation affects dividend payout. Bhattacharyya et al. (2008) stated negative relationship between managerial compensation and dividend payout. This is because the current managerial will get reward or punishment due to their contribution or performance to the corporation and further will affect the cash available for dividends declaration. In this study, they also found out that when the managerial with many high productivity NPV projects, they will receive more other incentives like stock options. Moreover, they will receive more cash for their next year investment. Thus, the available earning as dividend to shareholders will decrease for current year.

In contrast, the corporate structure of dividend policy actually may have some small or big impact to the managerial compensation. According to the studies among US firms, the dividend payout policy has significant effect on managerial compensation (Fenn & Liang, 2001). Geiler and Renneboog (2016) also carried out an investigation to check whether there is any linkage between dividend payout set up by managerial and their personal compensation. They found out that the managerial base salary and compensation has a negative relationship with the dividend payout. Easterbrook (1984) and Jensen (1986) also supported that if the dividend payout received by investor increase, it means the cash available for managerial compensation will decrease.

In year 2009, a study was carried out to determine how dividend payout affects the managerial compensation in North America and German (Bhattacharyya & Elston, 2009). North America and German were chosen because they have almost the same corporate governance system. They investigated how dividend payout affects the managerial compensation.

The result showed that the dividend payout actually have the negative relationship with managerial compensation in North American and German firms. When the dividend is paid to shareholder, the remaining cash flow will decrease, and then follow by the compensation of top executives will decrease. They also believe this will decrease the agency conflict between top executives and shareholders' interest. Emerenciana (2012) also stated that the paying dividend company will have lower cash compensation to top executives.

However, there are some studies which assert the managerial compensation is positively related to dividend payout. Samples in Japan show that the increase in dividend payout will increase the managerial compensation (Kubo & Saito, 2006). This was caused by the compensation include the large stock options, the increase in dividend payout also will increase in compensation. When the top executives held the large ownership of corporations, they actually can affect the dividend policy to pay dividend as to increase their own compensation at the same time. Thus, the managerial would more likely to increase the dividend payout ratio. This also can be supported by Bhattacharyya and Elston (2009) posit that those firms having higher ownership concentrations also have higher dividend payout ratios.

Furthermore, there are also some top executives tend to control the dividend payout not only to increase their compensation also increase their pension plan (Eisdorfer, Giaccotto & White, 2015). In order to secure their future pension plan payout, top executives will try to keep fund internally. It is because the distribution of earning to shareholders will lower the internal funds which directly decrease the amount compensation as well as the pension funds after they retire.

This study expects the dividend payout is negatively related to managerial compensation. When the dividend payout increases, this will decrease available cash flow and further decrease in the managerial compensation.

2.1.6 Company Profitability and Managerial Compensation

From past to present, managerial compensation are said to be closely related to a company's financial performance by many researchers (e.g., Sigler, 2011; Jensen & Murphy, 1990). A company's financial performance can be measured on market-based or accounting-based (Duru & Reeb, 2002). Gentry and Shen (2010) supported that market-based and accounting-based measurement of company's financial performance are used widely but somehow accounting-based measurement is more suitable to be used in measuring a firm's performance. The author supported that Accounting-based measurement with analysis on a company's short-term financial performance can better linked to the study on managerial compensation as it can show the effectiveness of top executive's management, as compared to market-based measurement. As such, Return on Equity (ROE) is the most common data used in accounting-based measurement on a firm's profitability.

According to Sigler (2011), the relationship between managerial compensation and company profitability is positive and significant. The author examined their relationship with data of 280 listed firms in New York Stock Exchange (NYSE) for the period from 2006 to 2009. The research stated that many of the firms in US tend to use compensations to motivate their top executive to behave in shareholder interest, and shareholders' largest interest would be maximizing company's profit. Therefore, top executive will put more effort in maximizing shareholder wealth in order to increase their own compensation amount. The higher the company's profitability the larger the shareholder wealth, and followed by greater amount of managerial compensation, as said by Sigler.

A earlier saying from Michaud and Gai (2009) is also in line with Sigler's research. Top executives that are able to improve the company's profitability will get higher compensation. A study from Jensen and Murphy (1990) had also proved the positive relationship between

company's profitability and managerial compensation. It stated that the pay for top executives will increase $3.25 for every $1000 increase in company's profit. The author concluded that top executive with compensation tying to company profitability tends to prioritize company's profitability instead of self-interest. By having this kind of performance-based compensation package, top executives will take more appropriate actions to meet certain level of achievement.

Another study from Canada done by Gabay and Ruge-Murcia (2005) corroborated with Jensen and Murphy's research. Gabay and Ruge-Murcia analyzed the relationship between company's profitability and managerial compensation with a sample of 168 Canadian listed corporations for year 2003. A positive connection between company's profitability and compensation has been brought out in their research. It was said that contracting top executives with compensation package linked to company's profitability able to lower down inefficiency management.

But somehow, there are still a number of arguments on the relationship between company's profitability and managerial compensation. It was said that top executives will easily get higher compensation regardless the company's performance when the compensation packages for managerial are not designed properly (Michaud & Gai, 2009). Yang, Dolar and Mo (2014) presented a point of view in contrast with other researches that supported positive relationship between salary and performance. The author pointed out negative relationship with an example from Wall Street Journal stated the top executive of Cisco Systems, John Chambers still received high compensation amount in year 2010 when the company's profitability has been plunged 31.4 percent. They believed that economic conditions are one of the key factors that affect the linkage between compensation and performance. The managerial compensation tied with company's profitability was said to be no effective during financial crisis.

Bebchuk and Fried (2003) discussed this issue with agency theory. Based on their research, the relationship between managerial compensation and company's profitability is weak. This can be explained with the improper behaviors of top executive as they have significant influence over the board to set their compensation in expense of shareholder interest. And thus managerial compensation sensitivity towards company's profitability is weak. A research from Bertrand and Mullaiathan (2001) also claimed that the linkage between managerial compensation and company's profitability is negatively related. The author reviewed this issue with a case study of oil industry in United States for year 1977 to 1994 and concluded that a company's profitability changes not only because of top executive's actions but affected by random factors (e.g., market forces, competitors' development.) as well. They also found out that although shareholders' agreed with pay-for-performance contract for top executives but somehow they are unable to observe whether there is any improvement on the company's profitability. Therefore, top executives can still manipulate their own compensation package and control the company's performance as shareholder might have less knowledge on performance measurement, as said.

This study expects that the relationship between company's profitability and managerial compensation is positively related based on previous studies from other researchers. The managerial compensation would be higher when the company's profitability rises.

2.1.7 Company Size and Managerial Compensation

Company size can be determined in many ways such as total sale per year, market capitalization and others. In this study, company size is determined by logarithm of total asset. As previous studies did, Dalbor, Kim and Upneja (2004) measured company size with logarithm of company's total

assets. Besides, Pervan and Višićss (2012) also used logarithm of total asset as company size measurement in their research.

According to Lau and Vos (2004), there is a positive relationship between managerial compensation and company size. The researchers used 104 companies from Datex as data to examine the relationship between company size and managerial compensation. The authors concluded that when the company size is larger compare to others in the market, they are able to employ the more talented, qualified as well as better paid top executives. This also can be supported by Rosen (1982) and Kostiuk (1990) which also get the result of strong positive pay-size relation.

According to Gregg, Machin and Szymanski (1993), the pay to top executives' is positively related to company size. When the company size grows by 50%, the pay to top executives will increase by 10%. This study focused on top highest paid of 288 listed firms in U.K. from 1983 to 1991. Makinen (2007) also proved the positive and significant relationship between company size and managerial compensation. Finkelstein and Hambrick (1989) also stated the larger firm will pay more because the top executives oversee substantial resources, and able to fully utilise the resources effectively and efficiently.

Nevertheless, the concept "larger the firm size pays more to top executives" is widely practiced through all the firms. This is because they believed the top executives deserved more pay or compensation when dealing with large as well as complexity organization and human capital (Nulla 2013). In the empirical result, the author found the significant and positive relationship between company size and managerial compensation. Furthermore, based on 280 firms listed New York Stock Exchange from 2006 to 2009, Sigler (2011) proved that company size is the most significant factors to determine the top executive pay because of the demand of leadership is very large. This research also line with study from Fox (1983) and Simon (1957).

However, there are a small numbers of researchers found that there is weak relationship between company size and managerial compensation. According to Frydman and Saks (2010), the relationship between company size and managerial compensation from late 1940s to the mid of 1970s was found to be weakly associated. This is due to the failure of top executives to manage the large firms with low advanced technology. This will cause the firm unable to make a profit or obtain low profit.

There is also some researches stated that there do exist negative relationship between company size and managerial compensation. According to Schaefer (1998), they extracted data from Compustat ExecuComp database from year 1991 to 1995 to determine the pay-size relationship. The study claimed that the company size has an inversely proportional relationship to managerial compensation. This is because the compensation should determine by the ability of the top executives but not the company size. When a less talented top executive was employed in a larger firm compared to a more qualified and talented top executive in a small firm, the one in small firm will get the higher paid due to his or her ability and not determined by the company size. This result is also in-line with an earlier research done by Jensen and Murphy (1990), saying that company size is negatively related to managerial compensation. Besides, Baker and Hall (2004) also supported these researches with the findings of inversely proportional pay-size relationship in their research.

Most of the researchers support firm size is positively related to managerial compensation. Thus, this study would also expect a positive pay-size relationship. The larger the size, the higher the pay would be for the top executives.

2.2 Reviews on Relevant Theoretical Models

2.2.1 Agency Theory and Managerialism

When researchers investigate about the relationship between managerial compensation and corporate governance, agency cost is the main issue to be discussed. Agency theory is to explain the principal-agent relationship between two parties who are owners and hired executive. Due to the separation of ownership, the agent may engage in activities that benefit him rather than the firm's owners. Agency theory can be said as extension of managerialism. Managerialism is separation of ownership and control in organisations that will affect executive pay decisions. But, it may benefit the executive regardless of what the organisational outcomes and effects might be on shareholders. According to Tosi et al. (2000), managerialism states that top executives seek to become entrenched which means they will use their power to maximize their own salary. Managerialism explains that top executive use their ability to substitute their compensation preferences for those of shareholder. Thus, shareholders view pay premiums of entrenched executives negatively because the substitution expropriates shareholder wealth (Shleifer & Vishny, 1989).

As the agency theory mentioned the separation of ownership and management, executives may have significant degree of power. According to Shleifer and Vishny (1997), managers may pursue their private interest in various ways by using their discretion. For example, manager may try to build empire with their substantial degree of power (Williamson, 1974). According to Yang and Zhao (2012), dual leadership are largely argued based on the agency theory. In the case of this research, the agency problem may occur if the top executive is having duality role. He/she may try to manipulate the managerial compensation level by utilizing power of chairman, to pursue his/her own interest regardless shareholder's value. When the CEO is also chairman of the board, the duality role is a threat to decision making because he becomes a major director in the selection of

new board members (Dalton & Kesner, 1987). According to Core et al. (1999), firm decisions made may tend to serve self-interest of the top executivrs rather than shareholder's interest, when top executive also serves as chairperson of the board of directors who has extraordinary influence over board decisions. There are researches indicate managerial compensation increases as their influence over the board increases (Hallock, 1997). Firms with weak governance structures including CEO duality, tend to have high managerial compensation (Core et al., 1999).

In order to minimize the agency problem, shareholders and board of directors have to design executive compensation contracts, after considering the impact of incentive compensation on managers' self-interested behaviour (Jensen & Meckling, 1976). There are two methods used by the firms, to mitigate the agency problem by utilizing the executive compensation arrangements. Firstly, the optimal contracting approach, the compensation package is to be designed by boards seeking to provide top executives with efficient and adequate incentives to maximize shareholder value (Bebchuk & Fried, 2003). In this study, this method may help if top executive who is also chairman of boards satisfy with the compensation package provided, he/she may not try to manipulate the compensation level for his/her own interest. Secondly, the managerial power approach executive compensation is assumed as a potential instrument for addressing agency problems, but also as part of the agency problem itself (Bebchuk & Fried, 2003).

Jensen and Meckling (1976) has stated that an agency theory is the relationship that one or more person (the principal(s)) engages another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent. In this study, agency theory is not only existed between board of directors, top executive and shareholders. But, it is more complicated when duality role of top executive is existing. He/she is chairman of board of directors and also top executive of companies. The decision making about top executive

compensation will be influenced by the duality role because agency cost may incur. That is supported by Core et al. (1999) that duality feeds agency issues. Therefore, duality role of top executive is included as independent variable in this study, in order to examine the agency cost effect on managerial compensation.

2.2.2 Marginal Productivity Theory

Based on Masulis and Zhang (2012), marginal productivity theory is suitable to explain the managerial compensation, as they compared marginal productivity theory and tournament theory in analyzing the compensation gaps between U.S top executives. The compensations level difference between company top executives is determined according to the top executives' marginal contributions to the company performance. The characteristics difference in top executives such as abilities, managerial skills, and experience in the position will influence their productivity. Besides, the job responsibilities also affected the executive's productivity, as top executives hold the greatest power, one will assume that their productivity to be maximized as they can utilize the manpower in all level of company.

Besides, Gabaix and Landier (2006) explained the models of multiplicative productivity effects. They suggest that top executive can affect the employees' productivity of all levels of the company, and indirectly boost the lower level executives' performance. As the results, the top executives' abilities allow them to be paid more as they can increase the company's overall productivity. This result is in line with earlier study carried by Joskow, Rose and Sherpad (1993), where they stated that the marginal products of executives increased as the hierarchy moves towards the top executives' level. The management skills of top executives tend to affect the productivity of all lower levels workers, which is termed as 'chain

letter effect'. This effect caused the surge of top executive compensation level, which indicating the impacts on overall company productivity.

Other than that, Rosen (1990) stated that top executives' remuneration is equivalent to their marginal contribution to production. The highest position is occupied by the most capable executives, where the marginal productivity of their decisions will affect all people below them, and the compensation of top executives is based on the effectiveness of the decisions in enhancing the company's productivity. This is why talented executives are placed in the top management of the company to contribute more to the company performance.

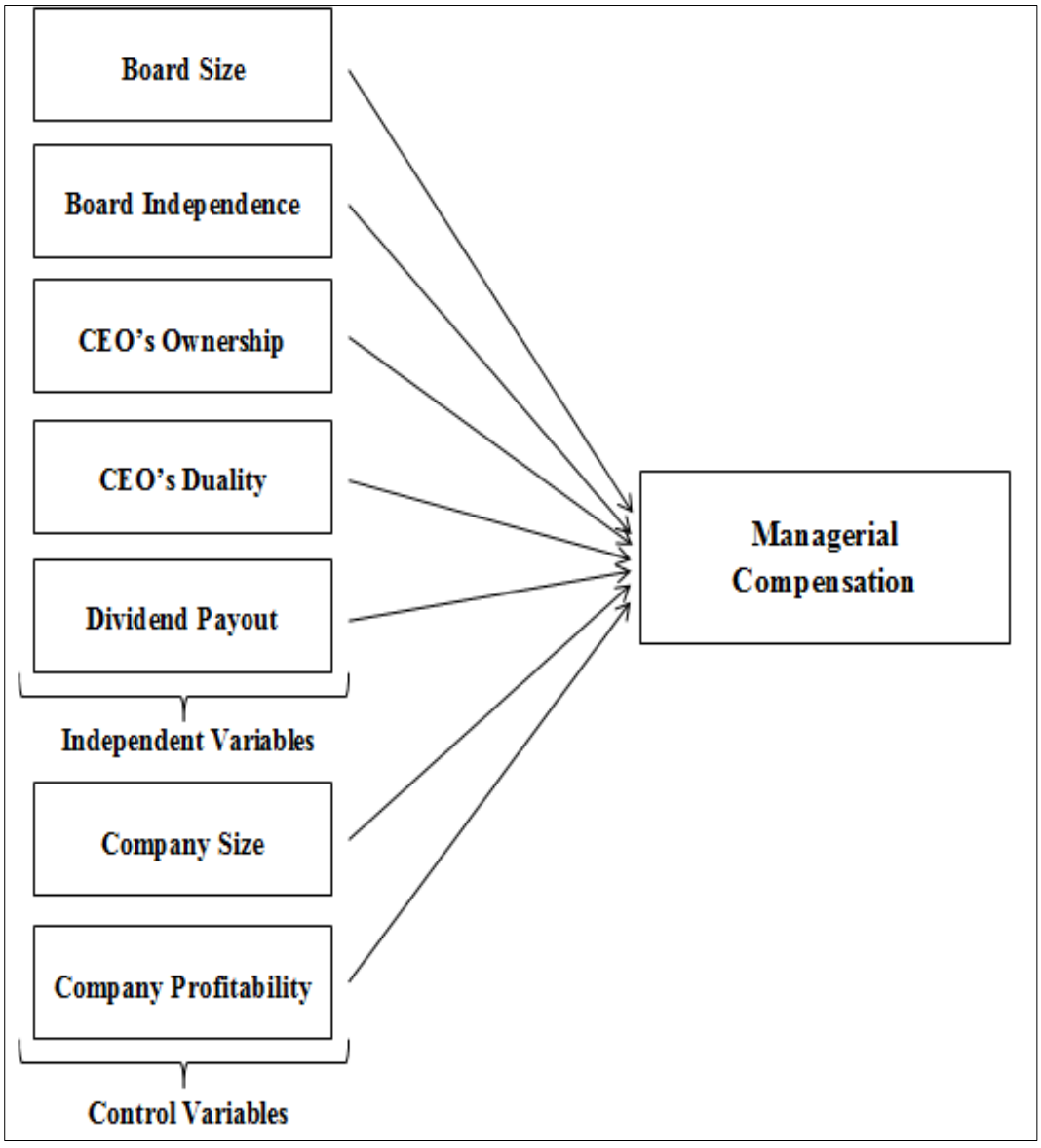
Then, Barro and Barro (1990) found that the growth rate of the top executives' compensation level is in line with the increasing marginal productivity of the executives. The more experienced executives will be capable to increase the company's marginal productivity, which also supported the theory that stated the high management skills of executives can demand more compensation due to their potential in influencing the company's future value and profitability. Furthermore, the researchers also found that top executives' compensation is positively related to their cumulative performance. The historical executives' contribution in marginal productivity also becomes one of the determinants for the compensation level, in which the compensation level is positively responded to the growing performance.

Overall, marginal productivity theory provides the fundamental framework to this research, as this research topic focuses on the factors that influence managerial compensation level. Thus, this research expects that the high managerial compensation level is in line with the high marginal productivity of top executives.

2.3 Proposed Theoretical Framework

Proposed theoretical framework is to examine the effect of each variable towards managerial compensation in Malaysia top 100 corporations from year 2009 to year 2013. Independent variables will be the board size, board independence, CEO's ownership, CEO duality, dividend payout and control variables.

Figure 2.1: Theoretical Framework



Source: Developed for research

2.4 Hypothesis Development

2.4.1 Board Independence and Managerial Compensation

Masulis and Mobbs (2004) found that the sensitivity of managerial compensation had significant positive relationship with board independence. When there are more independent directors in the board, the managerial compensation are highly paid. Kashif and Mustafa (2013) also suggested that the managerial compensation will be higher as the board consists of more independent directors.

H_1: There is positive relationship between board independence and managerial compensation.

2.4.2 Board Size and Managerial Compensation

Knop and Mertens (2010) stated that size of the board is positively related to total compensation, base salary or variable pay. Bebchuk and Fried (2004) also suggested that larger board size appear to be less effective, which result in higher managerial compensation.

H_2: There is positive relationship between board size and managerial compensation.

2.4.3 CEO Duality and Managerial Compensation

According to Brick et al. (2006), executive with combined positions (CEO and Chairman) will receive larger compensation. It was said that might cause agency problems if the corporation's top executive is also the chairman of the board of directors, as the control over managerial

compensation might be affected. Ya'acob (2016) also stated that CEO duality and managerial compensation is positively related.

H_3: There is positive relationship between CEO duality and managerial compensation.

2.4.4 CEO's Ownership and Managerial Compensation

According to Forsyth, Teoh and Zhang (2007), as the top executive has higher stock ownership, his or her compensation will be lower. The finding is supported by Ozkan (2007), which stated that when CEOs have higher stock ownership, their compensation will be lower, because as CEOs held larger shares in the company, their interest will be same as other shareholders, so they focus on overall company performance rather than their own compensation level.

H_4: There is negative relationship between CEO ownership and managerial compensation.

2.4.5 Dividend Payout and Managerial Compensation

Based on the result of Bhattacharyya and Elston (2009), there is a negative relationship between dividend payout and managerial compensation. The increase in dividend payout will decrease the remaining cash flow contribute to managerial compensation. This result was supported by Emerenciana (2012), proving that the paying dividend company will have lower cash compensation to their top executives.

H_5: There is negative relationship between dividend payout and managerial compensation.

2.5 Conclusion

The relationship of managerial compensation with board independence, board size, CEO duality, CEO ownership, dividend payout, company profitability and company size are discussed in this chapter with literature review on previous researches. This chapter also carried out the relevant models and theories used in this study. In the end of this chapter, estimation of positive or negative sign on the relationship between managerial compensation with each independent variable was conducted in hypotheses development. Chapter **3** will further the discussion on methodology and data collection.

CHAPTER 3: METHODOLOGY

3.0 Introduction

The content of this chapter has included the research design, data collection method, target population, construct measurement, data processing and also data analysis. In order to support the hypothesis made by researchers, research methodology is important to provide arithmetic and scientific results. While readers are able to have better understanding about the research as the research was carried out scientifically. Thus, this chapter will scientifically explain the variables that affect the managerial compensation in top 100 listed companies in Malaysia.

3.1 Research Design

Using research design as main direction may help researchers to perform the research effectively. In this research, quantitative research is applied by using secondary data to study the regression model. It is stated as social research which utilizes empirical methods and empirical statements (Cohen, 1980). He stated that empirical statement is descriptive statement that express in numerical terms. Empirical evaluations are applied in quantitative research as to determine the degree of whether the policy empirically satisfies a particular standard or not. Quantitative research is explaining phenomena by gathering numerical data which will be analysed by using mathematically based methods (Creswell, 1994). A quantitative research utilizes the scientific method and concentrates on independent variables, collecting measurable evidence and also computes the conclusion (Hesketch and Laidlaw, 2013). This research aims to determine the relationship between independent variables which are board independence, board size, CEO duality, CEO ownership and dividend payout, with managerial compensation as the dependent variable.

The main objective of quantitative research method is to test predetermined hypotheses and produce generalizable results. The outcomes of quantitative analysis can be used to confirm or reject the hypothesis made for determining the relationship between dependent and independent variables by using statistical methods. The collection and analysis of data from representative samples is more frequently utilized because quantitative data is numeric. Quantitative analysis will more accurately reflect the relationship between dependent and independent variables for the whole population; if the more representative the sample is randomly selected. But, if data collection tools used to gather quantitative data are improper, the representative sample is pointless (ACAPS, 2012).

The advantage of using quantitative data is that results are reliable and analysed critically when data is collected rigorously by using appropriate methods. While, the disadvantage will be quantitative data fails to provide an in depth description of the experience of how the investigated relationship affect the population. In short, the advantage of quantitative data collection are that it provides numeric estimates, chance for relatively uncomplicated data analysis, data which are verifiable, data which are comparable between different communities within different locations and data which do not require analytical judgement beyond consideration of how information will be presented in the dissemination process (ACAPS, 2012). Based on advantages of quantitative data and suitability of quantitative data for this research, quantitative research design is applied and quantitative data is collected.

3.2 Data Collection Model

Data is collected based on the variables in this study which are managerial compensation, board independence, board size, CEO duality, CEO ownership, dividend payout, company profitability and company size. The period of data has covered from the year 2009 to 2013 which represent the current condition of top executives' compensation. The numbers of sample size are 57 listed companies in

FTSE Bursa Malaysia Top 100 Index. As panel data is decided to be used in studying the regression model, there will have 285 observations in this study.

Panel data is adopted in this study, but primary or secondary data has to be collected before panel data is developed. According to Nicholson and Bennet (2009), primary and secondary data are two common ways to collect data for a research. Primary data is defined as first-hand information collected by researches by using questionnaire. In primary data analysis, data collected are analysed by researchers who mix the statistical results from multiple studies of a phenomenon, to reach a conclusion for meta-analysis. Secondary data are existing information such as information in annual report. Secondary data analysis may be conducted based on the published data or the original data (Church, 2001).

Secondary data is employed in this research as data needed for the variables of this research is more secondary data based. According to Church (2001), secondary data can be collected and analysed by government, organization or individual, so as to provide sufficient information for various research purposes. Using secondary data has always helped in saving time and money (Ghauri & Grønhaug, 2005). The advantage is caused by technology revolution in world. Students and researchers may obtain precise information via search engines from library. Large data sets collected by government surveys can be obtained and analysed with no additional cost. According to Sorensen, Sabroe and Olsen (1998), the main benefit of using secondary data is because of its availability for future research and so cost and time saving.

In this study, the secondary data are obtained from the sources which are Bursa Malaysia official website, Bloomberg and Malaysian Business Magazine. The Bursa Malaysia official website provides all published annual reports and detailed information of listed companies in Malaysia. The Malaysian Business Magazine is acquired in the library of Universiti Tunku Abdul Rahman (UTAR). The CEO compensation data are obtained from the Malaysian Business Magazine while the independent variables like board size, board independence, CEO duality, CEO

ownership and dividend payout are collected from annual reports published in Bursa Malaysia official website and Bloomberg as well. There are:

Table 3.1: Sources of Variables

Variables		**Sources**
Dependent Variable	Managerial Compensation (COM)	Malaysian Business Magazine (2010-2014)
Independent Variables	Board Independence (BI) Board Size (BS) CEO Duality (DUA) CEO Ownership (OWN) Dividend Payout (DPR)	Companies annual reports from Bursa Malaysia (2009-2013) Bloomberg
Control Variables	Company Profitability (CP) Company Size (CS)	Bloomberg

Notes: By using the data collected from each source, this study applies this data set and fit into individual variable formulas components that discuss in 3.4 Data Processing.

3.3 Sampling Design

3.3.1 Target Population

The target population is defined as the set of elements about which information is wanted and estimates are required that may exclude some of the units due to practical considerations (Organisation for Economic Co-operation and Development (OECD), 2001). The target population is the whole total of respondents which fulfills the designated set of standards (Burns & Grove, 1997). In this research, the target population is companies listed in FTSE Bursa Malaysia Top 100 Index.

In order to ensure unbiased results, the top 100 companies are firstly selected, but some companies are excluded because of incomplete data. The top 100 companies are selected because it may include companies that are conducting good practice of corporate governance and those which are not. Therefore, the selected 100 companies of this research have included some companies from Top 100 Malaysia corporate governance (MCG) index, for example, Nestle, Air Asia and Tenaga. Researches like Buniamin, Johari, Abdul Rahman and Rauf (2012) has included top 100 MCG Index companies, in terms of corporate governance practices, are ranked as the top 100 public limited companies (PLCs) in their research. Thus, the relationship between managerial compensation and corporate governance can be determined. The 100 companies are believed that companies with high top executive compensation will be included. Inclusion of various level of top executive compensation are significant, to accurately investigate the relationship between managerial compensation and the independent variables. For example, Genting is the company that has the highest managerial compensation in Malaysia. The top 100 companies chosen are from different sectors and industry (eg. food and beverage, entertainment, oil and gas, argriculture and etc.). Researcher like Chan (2012) included companies from different industries in his research of executive compensation. The Malaysia top executive pay trends shows that Plantation and Pharmaceutical & Health Science industries have the highest increment for top executive salary (Towers Watson, 2013).

The top 100 companies listed in the FTSE Bursa Malaysia Top 100 Index are chosen as sample of this study and the period of data is between 2009 and 2013. The latest and adequate information obtained from this period of data are better in reflecting current trends of managerial compensation. One of the reasons that encourage us to choose the recent years (2009-2013) is because there has been increasing public debate in Malaysia on the exorbitant rate of officers' remuneration in recent years. This can be proved by the highest pay-out to chief executive officers exceeding

MYR110 million a year (Tan, n.d.). In recent years, the managerial compensation have been highlighted by the increment and large amount of CEOs compensation as the CEO of CIMB Bank, Dato‟ Nazir Razak obtained RM10 million in compensation which increased from RM8.7 million in 2011 (The Star, 2013). Setting time periods from 2009 to 2013 allows us to examine the effectiveness of implementing the Malaysian Code on Corporate Governance 2012 (MCCG 2012). MCCG as an active and responsible fiduciaries that concentrates on refining board structure and composition in identifying the role of directors (MCCG, 2012). The effectiveness of implementing the MCCG 2012 can be measured by analysing the difference before (2009-2011) and after (2012-2013) implementation. The effect of MCCG 2012 on corporate governance is believed that it may influence the managerial compensation.

3.3.2 Sampling Technique

Electronic Views 8.0 (Eviews) was applied in this research. According to Bossche (2011), time series data, cross sectional data and panel data can be analysed by utilizing Eviews. It is also statistical software package for data analysis (e.g., mean, median, maximum and minimum), regression analysis (e.g., F-Test Statistic, T-Test Statistic) and forecasting. Eviews provide the information with estimated coefficient from the outputs by estimating a regression (Startz, 2007). It is also used to run multiple regression model which can provide summary information for the each estimated model and equation. In this study, it is to detect and diagnose the econometric problem by examining the Eviews output. In short, change of each variable can be predicted and estimated with the individual variable's estimated coefficient which followed by diagnostic checking and econometric analysis. Data analysis (e.g., Descriptive Analysis), diagnostic checking (e.g., Normality Test, Multicollinerity, Autocorrelation), panel regression analysis (e.g., Poolibility Test, Hausman Test), empirical results

(e.g., R^2, Adjusted R^2, *F* Test Statistic, *T* Test Statistic) are econometric analysis that can be generated by using Eviews.

3.3.3 Sampling Size

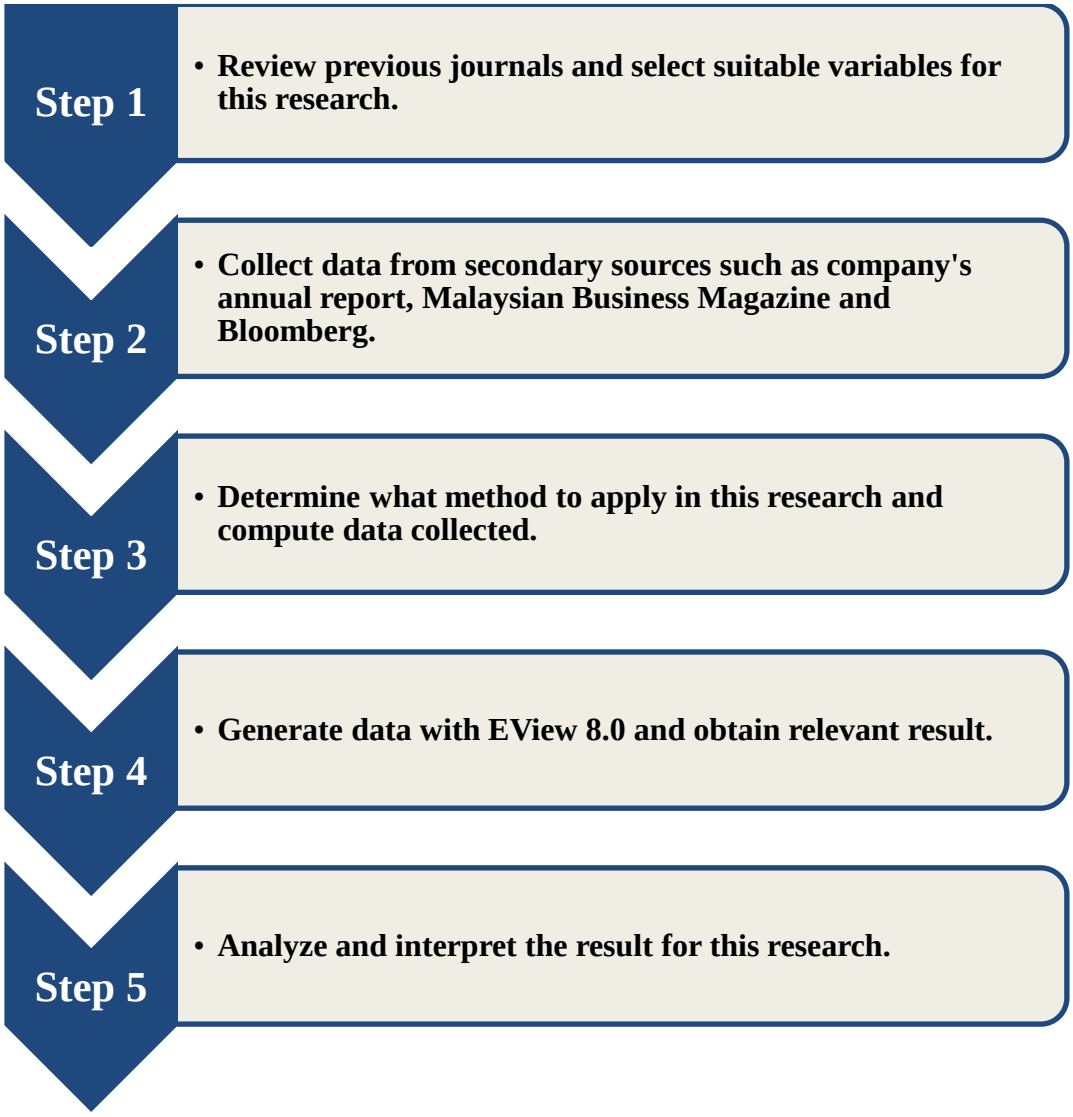
Sampling size is the total units of a population that included in the study. According to Evan, Hastings and Peacock (2000), sample size is the number of observations in a sample. In this research, cross sectional data and time series data are combined to develop panel data. There are top 100 listed companies in FTSE Bursa Malaysia Top 100 Index are selected, but only 57 numbers of companies are chosen because of incomplete data. The sample time periods of this study are from year 2009 to 2013. Therefore, total observation will be 285 which are the results of multiplying number of companies chosen and time periods. These 285 observations from the panel data will be used to determine the relationship between the dependent and independent variables in this research. Summarization of the number observation is shown in Table 3.2.

Table 3.2: Number of Observations

	Number of Firms	**Number of Observations**
Original Data	100	100 x 5 = 500
Missing Data	43	43 x 5 = 215
Final Data	57	57 x 5 = 285

3.4 Data Processing

Figure 3.1 Flow of Data Processing



There are five stages of data processing in this research, as shown in Figure 3.1. The first stage is reviewing previous journals with topic related to this research and selecting suitable independent variables with past studies' references. Journals from Google Scholar, Science Direct, JStor, and Social Science Research Network (SSRN) are used as supporting references. Needed data are then collected from several secondary resources, such as company's annual reports from Bursa Malaysia, Malaysian Business Magazine and Bloomberg. Managerial compensation is obtained from Malaysian Business Magazine while data for other five main independent variables such as board independence, board size, CEO

duality, CEO ownership and dividend payout are obtained from company's annual report provided in Bursa Malaysia official Website. Besides, data for control variables, company profitability and company size are collected from Bloomberg. The next stage will be methodology determination and data computation. Complete set of data are then imported into EView 8.0 to examine the relationship between dependent variable, independent variables and control variables. And finally interpret the results of this research with obtained findings.

3.4.1 Dependent Variable Specification

3.4.1.1 Managerial Compensation

According to Cheah et al. (2012), managerial compensation package in Malaysia is basically made up by base salary and incentives. Base salary is the fixed fee that contracted with top executive in the beginning of the year while incentives such as bonus are paid to top executive variously. A report from Towers Watson in year 2013 also supported that compensation package for top executive in Malaysia included base salary and bonus incentives. Base salary and incentives in bonus form are most common compensation package used in Malaysia listed corporations, as concluded by a report from KPMG (2006). Ei and Saw (2012) applied logarithm of salary and bonus to measure managerial compensation, this measurement is also in line with similiar research studied by Gregory-Smith in year 2012. Thus, this research measures managerial compensation in logarithm of managerial compensation with data collected from Malaysian Business Magazine.

Managerial Compensation = log (Managerial Compensation)

3.4.2 Independent Variables Specification

3.4.2.1 Board Independence

According to the requirement of Bursa Malaysia, the assignation of independent board has been included in a corporation's corporate governance system. Previous researchers such as Core et al. (1999) or Ryan and Wiggins (2004) had studied the influence of board independence towards managerial compensation. In a study of Rehman and Ali Shah (2013), they measured board independence with the proportion of independent directors to total board of directors. This measurement was applied by Sanda, Garba and Mikailu (2008) as well in their research on relationship between board independence and firm's financial performance. Hence, this study will also apply this measurement of board independence with data obtained from corporation's annual report.

$$Board\ Independence = \frac{Number\ of\ independent\ directors}{Total\ number\ of\ board\ of\ directors}$$

3.4.2.2 Board Size

The relationship between board size and managerial compensation has been studied by many researchers (e.g., Abdul Rahman and Mohamed Ali, 2006; Jensen, 1993; etc). Based on historical studies, board size is found to be an important variable that will affect managerial compensation's setting. In a research of Abdul Rahman and Mohamed Ali (2006), they studied managerial compensation with board size as one of their variable. Board size is measured by the total number of members in the board. This measurement is also applied by Hassim and Devi (2008) in their research. Therefore, board size is taken as one of the independent variable in this research with data from corporations' annual reports.

Board Size = log (Total number of directors in the board)

3.4.2.3 CEO Duality

CEO duality is used to describe when a top executive of a corporation is serving as the chairman of the board at the same time (Kwok, 1998). This variable is taken into account as it has significant effect on managerial compensation, as said by Ya'acob (2016). In a research of Lin and Lin (2014), CEO duality is the dummy variable that equal to 1 if the top executive holds dual titles, 0 if otherwise. This measurement is same with Hengartner and Ruigrok's research. CEO duality is measured as dummy variable. CEO duality is counted as dummy variable in this research with data obtained from company's annual report published in Bursa Malaysia's official website.

CEO Duality = 1 if top executive holds dual titles,
0 if otherwise

3.4.2.4 CEO Ownership

It was believed by many researchers (e.g., Jensen and Murphy, 1990; Core et al., 1999; Sapp, 2007) that the relationship between managerial compensation and their shareholdings of the company is significantly connected. Adams, Almeida and Ferreira (2005) had taken CEO ownership as one of their independent variables in their study. They measured CEO ownership with the ratio of number of shares own by top executive to the total shares outstanding. Forsyth, Teoh and Zhang (2007) also applied similar measurement to examine the linkage between top executive's ownership and pay. They measured the CEO ownership with fraction of the firm's shares. This study applied same method to measure the top executive's ownership with data obtained from corporations' annual reports.

$$CEO\ Ownership = \frac{Number\ of\ shares\ hold\ by\ top\ executives}{Total\ shares\ outstanding} x100$$

3.4.2.5 Dividend Payout

The relationship between dividend payout and managerial compensation has been studied by many researchers (e.g., Fen & Liang, 2001, Jensen, 1986; etc.) These authors believed that dividend payout policy of a corporation will give impact on the managerial compensation. Bhattacharyya et al. (2008) studied the relationship between dividend policy and managerial compensation with dividend payout as one of the independent variables. The authors measured dividend payout with ratios of total dividends declared to net income available to common shareholders. Ramli (2010) also applied same method as dividing earnings after taxes and interest with dividends.

$$Dividend\ Payout = \frac{Dividend\ per\ share}{Earnings\ per\ share}\ x100$$

3.4.3 Control Variables Specification

3.4.3.1 Company's profitability

According to Sigler (2011), there is a positive relationship between company profitability and managerial compensation. It was said that company with better financial performance will compensate the top executive with greater amount. However, Yang et al. (2014) claimed a different point of view. In the study of managerial compensation and company profitability, Return-of-Equity (ROE) is used to measure their relationship. Berger and Patti (2006) measured company profitability with ROE. Santos and Brito (2012) also used ROE as one of their measurement for company profitability. Hence, ROE will be applied in this study as well to measure company profitability.

$$ROE = \frac{Net\ profit}{Total\ equity} x\ 100$$

3.4.3.2 Company size

Managerial compensation might be affected by the company size, as said by many researchers in the past (e.g., Tariq, 2010; Lau and Vos, 2004) The relationship between company size and managerial compensation is said to be positively related by Lau and Vos (2004). But Frydman and Saks (2010) argued that the relationship between this two variables is weak. Llukani (2013) used log of total assets to measure company size. A research from Niresh and Velnampy (2014) also used total assets with logarithm to measure company size. Therefore, this study will apply total assets as company size's measurement with data obtained from corporations' annual reports.

Company Size = log (Total assets)

3.5 Data analysis

In this study, the objective is aimed to test the relationship between corporate governance and managerial compensation of large corporations in Malaysia from year 2009 to 2013. The software used to carry out the testing is Eviews 8.0. The regression models are shown as below:

Regression Model 1:

LOG COM = $\boldsymbol{\beta 0}$ + $\boldsymbol{\beta 1}$ $\boldsymbol{BIit}$+$\boldsymbol{\beta 2}$ $\boldsymbol{LOGBSit}$ + $\boldsymbol{\beta 3}$ $\boldsymbol{DUAit}$+ $\boldsymbol{\beta 4}$ $\boldsymbol{OWNit}$+ + $\boldsymbol{\beta 5}$ $\boldsymbol{DPRit}$+ $\boldsymbol{\beta 6}$ $\boldsymbol{CPit}$+ $\boldsymbol{\beta 7}$ $\boldsymbol{LOGCSit}$+ $\boldsymbol{uit}$

Regression Model 2:

LOG COM = $\boldsymbol{\beta 8}$ + $\boldsymbol{\beta 9}$ $\boldsymbol{BIit}$+ $\boldsymbol{\beta 10}$ $\boldsymbol{LOGBSit}$ + $\boldsymbol{\beta 11}$ $\boldsymbol{DUAit}$+ $\boldsymbol{\beta 12}$ $\boldsymbol{OWNit}$+ + $\boldsymbol{\beta 13}$ $\boldsymbol{DPRit}$+ $\boldsymbol{\beta 14}$ $\boldsymbol{CPit}$+ $\boldsymbol{\beta 15}$ $\boldsymbol{LOGCSit}$+ $\boldsymbol{uit}$

Regression Model 3:

LOG COM = $\boldsymbol{\beta 16}$ + $\boldsymbol{\beta 17}$ $\boldsymbol{BIit}$+ $\boldsymbol{\beta 18}$ $\boldsymbol{LOGBSit}$ + $\boldsymbol{\beta 19}$ $\boldsymbol{DUAit}$+ $\boldsymbol{\beta 20}$ $\boldsymbol{OWNit}$+ + $\boldsymbol{\beta 21}$ $\boldsymbol{DRPit}$+ $\boldsymbol{\beta 22}$ $\boldsymbol{CPit}$+ $\boldsymbol{\beta 23}$ $\boldsymbol{LOGCSit}$+ $\boldsymbol{uit}$

Where,

COM = CEO Compensation

$\beta 0$ = Intercept for the regression model

$\beta 1, \beta 2, \beta 3 \ldots\ldots \beta 23$ = coefficients of partial regression

BI= Board Independence

BS= Board Size

DUA= CEO Duality

OWN = CEO's Ownership

DPR= Dividend Payout Policies

CP= Return on Equity

CS= Company Size (Total Assets)

u = Error term of regression model

Model 1 is the regression model for the overall period in our research, which is from year 2009 to 2013; Model 2 consists of data before the implementation of MCCG 2012, so the time period of the data is from year 2009 to year 2011; while Model 3 contains the data after the implementation, which the time period covered year 2012 to 2013. The purpose of having these three models is to record the differences between the relationship of corporate governance and managerial compensation before and after the implementation of MCCG 2012.

3.5.1. Panel Data Technique

In this study, panel data technique is proposed in order to investigate the large corporations in Malaysia. Panel data, sometimes called as longitudinal data, is used when time series and cross sectional data are pooling together (Baltagi, 2008). Panel data occurs when the individuals which are people, companies, states or countries are observed at several point of time like days, months and years. The individuals observed at several point of time give more adequate information including beginning point of the time. This multiple observations provide more flexibility

during setting the model (Gutierrez & Sanford, 2015). It also provides more variability and less collinearity with the variables (Hsiao, 1986). Otherwise, this technique is insulated from the underlying dynamic model influenced by aggregation bias as compared to the typical of cross sectional and time series data (Baltagi, 2008).

As what have discussed above, quantitative research design is applied by collecting quantitative data for all the variables. Quantitative research is defined as "explaining phenomena by collecting numerical data that are analysed using mathematically based methods" (Aliaga & Gunderson, 2000). According to Baltagi (2008), panel data used in this research comprises of numerous observations on each sampling unit. The panel data could be generated by pooling time-series observations across a variety of cross-sectional units. The cross sectional units can be countries, states, regions, firms, or randomly sampled individuals or households. While the period normally set in panel data are annually, quarterly, weekly, days, five years interval or any observation time (Parlow, 2010). In U.S., there are two famous examples of panel data which are the Panel Study of Income Dynamics (PSID) and the National Longitudinal Survey (NLS) (Baltagi, 2008).

Hsiao (1986) states that there are some advantages and shortcoming of using panel data sets in studying regression model. The main advantage will be the large data set with more variability and less collinearity among the variables than is typical of cross-section or time-series data. Other than that, panel data set provide more informative data which allow researchers to get reliable estimates and test more sophisticated behavioural models with less restrictive assumptions. There are some effects are not easy to be identified and estimated in typical pure cross-sections or pure time-series data, but panel data has better capability to detect the effects. In short, complex issues of dynamic behaviour are easier to be studied by using panel data sets. In this research, the fluctuation of top executive compensation according to the independent variables (eg. board

independence, board size, CEO duality, CEO ownership, dividend payout) is to be studied across the period from the year 2009 to 2013. The dynamic behaviour of top executive compensation in the population can be clearly shown by using panel data.

Panel data is differentiating into two types which are balanced panel and unbalanced panel (Gujarati and Porter, 2009). A panel is said to be balanced if each subject (company) and number observations in data are equal. It can be divided into two types which are short and long balanced panel data. In short balanced panel data, the number of cross sectional subjects is greater than number of time periods. The number of cross sectional subjects for long balanced panel data is less than the number of time periods. Unbalanced panel data will be obtained if each subject has a different number of observations. For example, the value of observation is missing at the particular time of period panel (Gujarati and Porter, 2009). Therefore, balanced panel data is applied in this research, to ensure accuracy of estimated results.

There are two most common panel regression models which are fixed effects model (FEM) and random effects model (REM) (Parlow, 2010). The intercept in FEM is allowed to be different across subjects, but the intercept does not change over time which is time-invariant (Gujarati & Porter, 2009). In short, FEM is used to study the individual's characteristic for each unit of observation depends on the intercept term without considered the time effect. In order to allow intercept to vary among the individuals, differential intercept dummy technique by inserting dummy variables into regression model. Furthermore, if the observation is large, different subjects in FEM are sharing the similar and fixed effect will be more effective in detecting the relationship (Borenstein, Hedges, Higgins & Rothstein, 2010).

According to Gujarati and Porter (2009), REM or Error Components Model (ECM) is an alternative to FEM. Borenstein et al. (2009) state that

the REM is to forecast the mean of a distribution effects but not to estimate one true effect. It assumes the intercept of an individual is randomly drawn from large population with a constant mean value. Random Effects Model (REM) is appropriate to be applied when the (random) intercept of each cross-sectional unit is uncorrelated with the regressors (Gujarati and Porter, 2009). They state that Hausman test can be used to indicate which model, FEM or REM, is better for this research.

$$\boldsymbol{Y_{it}} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\, \boldsymbol{X_{it}} + \boldsymbol{\varepsilon_{it}}$$

Where:

$\boldsymbol{Y_{it}}$ = Independent Variable
$\boldsymbol{X_{it}}$ = Dependent Variable
$\boldsymbol{\varepsilon_{it}}$ = Error Term

This technique is able to test and control the heterogeneity by using several types of individuals (Baltagi, 2008). If not able to control it, it will cause the result to become biased (Baltagi, 2008).

3.5.1.1 Pooled OLS Model

Ordinary least square (OLS) model, also called as Constant Coefficients Model, it used to measure the panel data, estimate the regression line and used for the individual observations across time phases (Steenkamp, Baumgartner & Hofstede, n.d.). According to Ong and Teh (2011), the errors between the actual and estimated values of the regression line can be reduced by using the OLS model. Besides, Gujarati and Porter (2009) stated that the analysis and interpretation of the findings are much easier as the characteristics of model are remained constant.

Pooled OLS model have unbiased estimates of parameters when the HLM (hierarchical linear modelling) specification is positive and lead to

inefficient estimates and biased standard errors (Raudenbush, 1995). Otherwise, it also had the incorrect variance and this will bring to the biased conclusions about the structure and relations between the parameters (Goldstein, 1995). It faces the problem of heterogeneous and it will cause the omitted variable correlated with explanatory variables. Consequently, biased and inconsistent results will happen when analysis the model by using pooled OLS model (Gujarati & Porter, 2009).

$$\mathbf{Y}_{i,t} = \boldsymbol{\alpha} + \boldsymbol{\beta}\mathbf{X}_{i,t} + \boldsymbol{\varepsilon}_{i,t}$$

Where,

$\boldsymbol{Y}_{i,t}$ = Dependent variable of firm (*i)* at period (*t)*

$\boldsymbol{\alpha}$ = Intercept

$\boldsymbol{\beta}$ = Coefficient X

$\boldsymbol{X}_{i,t}$ = Independent variable of firm (*i)* at time (*t)*

$\boldsymbol{\varepsilon}_{i,t}$ = Error term

3.5.1.2 Fixed Effect Model (FEM)

Fixed effect model are usually worked as parameters and explained by least-square dummy variable (LSDV) or covariance estimation. It is because of the dummy variable is used for constructing the model with an error term that consist of zero mean It has the constant slopes but have different intercepts and time invariant. But, some un-adequate dummy variables included in the model will influence the degree of freedom of the model then lead to losing some important information (Rendon, 2002). It can use for estimating the parameters, averaging the estimates over individuals and let the unrestricted heterogeneity pass through the individual when the mean is equal to the individual's variance (Allison & Waterman, 2002) The bias of fixed effects in dynamic panels can be influenced by the incidental trends and cross-sectional dependence because

it will make the bias of fixed effects become more serious. But, the bias of fixed effects can be minimized by putting in more trends (Phillips & Sul, 2007).

The fixed effect model can be represented by the equation below:

$$\mathbf{Y}_{i,t} = \alpha + \beta \mathbf{X}_{i,t} + \mu_{i,t} + \varepsilon_{i,t}$$

Where,

$\boldsymbol{Y}_{i,t}$ = Dependent variable of firm (*i)* at period (*t)*

α = Intercept

β = Coefficient X

$\boldsymbol{X}_{i,t}$ = Independent variable of firm (*i)* at time (*t)*

$\mu_{i,t}$ = Firm fixed effect

$\varepsilon_{i,t}$ = Error term

3.5.1.3 Random Effect Model (REM)

Random Effect Model (REM) stated that the intercept of a subject is randomly drawn from large population with a constant mean value and the specific effect of random variable is not correlated with the explanatory variable (Penny & Holmes, 2003). Unobserved heterogeneity will bring correlation in the REM (Gardiner, Luo & Roman, 2008). The estimators from the REM are more efficient than the fixed effect model (FEM). The comparison and decision on choosing which model should be applied can determine by using a Hausman test and decide which model should be applied (Gardiner et al., 2008). Clark and Linzer (2012) said REM does not involve any dummy variables so the mean and standard deviation of individual effects can save a lot of degree of freedom. But, the separate individual effects are not estimated by REM and will cause the bias in parameter estimates. REM can be interpreted easily as compared to FEM

because REM arranged the data on the basis of complexity of the data (Clark & Linzer, 2012). In the REM, the multicollinearity problem can minimize as the unknown parameters in the model are decreasing (Laird & Ware, 1982).

$$\mathbf{Y}_{i,t} = \boldsymbol{\beta}_{1i} + \boldsymbol{\beta}_{2i}\mathbf{X}_{i,t} + \boldsymbol{\mu}_{i,t}$$

$$\mathbf{Y}_{i,t} = \boldsymbol{\beta}_{1i} + \boldsymbol{\beta}_{2i}\mathbf{X}_{i,t} + \boldsymbol{\mu}_{i,t}$$

$$\mathbf{Y}_{i,t} = (\boldsymbol{\beta}_{1} + \boldsymbol{\varepsilon}_{i}) + \boldsymbol{\beta}_{2i}\mathbf{X}_{i,t} + \boldsymbol{\mu}_{i,t}$$

$$\mathbf{Y}_{i,t} = \boldsymbol{\beta}_{1} + \boldsymbol{\beta}_{2i}\mathbf{X}_{i,t} + \boldsymbol{\varepsilon}_{i} + \boldsymbol{\mu}_{i,t}$$

$$\mathbf{Y}_{i,t} = \boldsymbol{\beta}_{1} + \boldsymbol{\beta}_{2i}\mathbf{X}_{i,t} + \mathbf{W}_{i,t}$$

Where,

$\boldsymbol{\beta_1}$ = Mean value for intercept

$\boldsymbol{\beta_2}$ = Slope of independent variable X

$\boldsymbol{X_{i,t}}$ = Independent variable X

$\boldsymbol{\varepsilon_i}$ = Cross-section or individual-specific error component

$\boldsymbol{\mu_{i,t}}$= Combination between time series and cross sectional error component

$\boldsymbol{W_{i,t}}$= Composite error term ($\varepsilon_i$and $\mu_{i,t}$)

3.5.1.4 Poolibility hypothesis test

Poolability hypothesis test can used to examine high N and low T panels data (Baltagi, 2003). According to Baltagi, Hidalgo and Li (1996), this test was conducted to determine which empirical model, Pooled OLS model or FEM is the most suitable model to estimate the model.

H_0: There is common intercept on all firms

H_i: There is no common intercept on all firms

Significant level: 10%

Decision rule: Reject null hypothesis (H_0) if probability of F-statistics smaller than significant level, 10%. Otherwise, do not reject null hypothesis (H_0).

The null hypothesis gives the result that Pooled OLS is better to estimate the equation. When reject null hypothesis indicates that the FEM is more suitable than Pooled OLS for estimating the equation. As a conclusion, reject null hypothesis means FEM should be applied while do not reject null hypothesis means Pooled OLS should be applied.

3.5.1.5 B.P Lagrange Multiplier Test

Breusch-Pagan test (B.P.) is the test for whether the equation suitable evestimate by Pooled OLS or REM (Akbar et al., 2011). The null hypothesis tests that the Pooled OLS is better against the REM.

H_0: $\sigma_T = 0$
H_1: $\sigma_T \neq 0$

Significant level: 10%

Decision rule: Reject null hypothesis (H_0) if p-value is smaller than significant level, 10%. Otherwise, do not reject null hypothesis (H_0).

Reject null hypothesis shows the REM is more suitable for model estimators. If not rejecting null hypothesis, which means Pooled OLS is better for estimating the equation. As a conclusion, reject null hypothesis means REM should be applied while do not reject null hypothesis means Pooled OLS should be applied.

3.5.1.6 Hausman Test

Many of applications in econometrics differentiate REM and FEM is more suitable to use as estimators based on Hausman test (Baltagi, 2003). This test can be used to determine which model, REM or FEM is better to estimate the equation. The null hypothesis is test REM is more suitable against FEM for estimating an equation.

H_0: The random effect is consistent and efficient; Cov (αi, Xit) = 0
H_1: The random effect is not consistent and efficient; Cov (αi, Xit) $\neq$ 0

Significant level: 10%

Decision rule: Reject null hypothesis (H_0) if probability of H-statistics smaller than significant level, 10%. Otherwise, do not reject null hypothesis (H_0).

The null hypothesis indicates that the random effect is consistent and efficient. Thus, REM is more suitable as estimators of equation. If reject null hypothesis gives the result FEM is more appropriate to use for estimating the model compare to REM. As a conclusion, reject null hypothesis means FEM should be applied while do not reject null hypothesis means REM should be applied.

3.6 Diagnostic Test

The purpose of conducting diagnostic test in this research is to detect the existence of econometric problems for this model. The potential problems that may occur in the model are non-normal distribution of error term, multicollinearity and autocorrelation.

3.6.1 Normality

According to Gujarati & Porter (2008), the Classical Normal Linear Regression Model (CNLRM) assumes that each error term is normally distributed. There are few reasons on the normality assumption according to the authors. Firstly, as the Central Limit Theorem (CLT) states when the number of independent variables is very large, the distribution of their sum will more likely to be normal. Secondly, one of the properties of normal distribution is that the linear function of normally distributed variables will also become normally distributed; the OLS estimators are the linear functions of error terms, so when error terms are normally distributed, the estimators will also be normally distributed. Thirdly, the normally distributed OLS estimators allow the conduct of hypothesis testing, such as t-test, F-test and chi-squared test.

When the error terms are normally distributed, the OLS estimators will be unbiased, having minimum variance, consistent even the sample size increased, and follow standard normal distribution (Gujarati & Porter, 2008).

For the assessing of normality for error terms, Ghasemi & Zahediasi (2012) suggested few approaches which can be grouped by visual methods or normality tests. The example of visual methods are P-P plot (probability-probability plot), stem-and-leaf plot, frequency distribution (histogram), boxplot, and Q-Q plot (quantile-quantile plot) while the normality tests include Kolmogorov-Smirnov test , Shapiro-Wilk test Anderson-Darling test, Cramer-von Mises test , D'Agostino skewness test , Anscombe-Glynn kurtosis test , D'Agostino-Pearson omnibus test , and the Jarque-Bera (JB) test.

Jarque-Bera test will be used in this research as Domański and Gwosdz (2010) found that the capability of the test increase when the size of the sample population increase. The hypothesis testing for JB test is as follow:

H_0= the error term is normally distributed

H_1= the error term is not normally distributed

Decision rule: Reject H_0 if the p-value of Jarque-Bera statistic is smaller than the significance level; do not reject H_0, otherwise.

3.6.2 Multicollinearity

According to Gujarati and Porter (2008), multicollinearity problem arises when there is linear relationship between some or all independent variables in the regression model. The existing of the problem indicates that there is high inter correlation among the independent variables. Multicollinearity problem creates a threat to the regression model, and it is the sign of poor experimental design (Farrar & Glauber, 1967). There are several causes of multicollinearity problem, such as the method applied in data collection process, the constraints imposed on the model or the sample population, the model specification and the overdetermined model (Gujarati & Porter, 2008).

According to Williams (2015), when there is serious multicollinearity problem, the confidence intervals will be very wide, and t-statistics become smaller, so it will be more difficult for researchers to reject the null hypothesis. Then, the slope coefficients for the highly and positively correlated independent variables will be highly and negatively correlated, so a different sample will tend to produce opposite results. However, even though there is serious multicollinearity problem, the OLS estimators are still unbiased BLUE (Best Linear Unbiased Estimators).

In order to detect the multicollinearity problem, Gujarati and Porter (2008) suggested few indicators. Firstly, the R^2 value of the regression is high, but there is few significant t-ratios. R^2 value that exceeds 0.8 is considered high, so if the individual t-test shows that majority of the partial slope

coefficients is insignificant; researchers may suspect that the multicollinearity problem exists. Secondly, there is a high pair wise correlation between the independent variables. The pair wise correlations table can be produced by using Eviews, when the pair wise correlation between two independent variables exceed 0.8, regardless the sign of correlation, it may suggests the occur of multicollinearity problem among the combination of independent variables. Thirdly, Variation Inflation Factor (VIF) can also be introduced to detect the multicollinearity problem. The formula for VIF is:

$$\mathbf{VIF_j = 1/ (1-R^2_j)}$$

Where,

$\mathbf{R^2_j}$ = The R^2 value for each auxiliary regression in which each independent variables become the dependent variable and regress with other independent variables.

The range of VIF is between one to infinity. A VIF value that is greater than 10 indicates that there is serious multicollinearity problem on the variable, while VIF value that is lowers than 10 shows the opposite. Lastly, the Tolerance Factors (TOL) is another approach to measure the degree of multicollinearity problem. The value is calculated by:

$$\mathbf{TOL= 1 / VIF_j}$$

Where,

$\mathbf{VIF_j}$= The VIF value for each independent variables computed in the respective auxiliary regressions.

The range of TOL is zero to one, and the closer the value to zero indicates the more serious multicollinearity problem. In this research, pair-wise

correlation and VIF method are used to test the existence of multicollinearity problem, which is also applied by Buigut et al. (2015).

3.6.3 Autocorrelation

Autocorrelation happened when the error terms between the observations from two periods are correlated, so the error term will capture the factors that cannot be explained by the independent variables (Gujarati & Porter, 2008). According to the authors, there are two types of autocorrelation which is pure and impure serial correlation. Pure serial correlation is caused by the distribution of the error terms of the true specification of an equation while impure serial correlation is caused by the specification bias such as omitted variables or incorrect functional form of equation. The general causes of autocorrelation included inertia, excluded variable specification bias, incorrect functional form, Cobweb phenomenon, manipulation of data, data transformation and nonstationarity.

When there is autocorrelation problem, the OLS estimators remained unbiased and consistent, but they are no longer efficient, in the other words, the variance of the estimators will be underestimated. Then, the larger standard errors will produce a larger t-statistic, which caused the hypothesis testing of significance of variables to be invalid, as there is higher tendency to reject null hypothesis.

In order to detect the presence of autocorrelation problem in the model, Durbin-Watson d Test can be applied, as one of the advantages of using this test is that the data required which is the Durbin-Watson stat, is commonly computed in regression analysis (Gujarati & Porter, 2008). As supported by Haery, Bahrami and Haery (2013), when the Durbin-Watson stat falls between the ranges of 1.5 to 2.5, it indicates that there is no autocorrelation problem.

The hypothesis testing is as follow:

H_0: There is no autocorrelation.

H_1: There is a problem of autocorrelation.

Decision Rule: Do not reject H_0, when the Durbin-Watson stat value is between 1.5 and 2.5. Otherwise, reject H_0.

3.7 Conclusion

In conclusion, secondary data of 57 companies from 2009 to 2013 are used in this research. Data of managerial compensation are collected from Malaysian Business Magazine while data of other independent variables (board size, board independence, CEO's ownership, CEO duality and dividend payout ratio) and control variables (company size and company profitability) are obtained from corporations' annual report published in Bursa Malaysia official website and Bloomberg. The flow of data processing, data analysis and diagnostic checking are conducted in this chapter as well. After computing data needed, tests will be run with Eview 8.0 to determine the relationship between corporate governance; dividend payout policy and managerial compensation in next chapter. The result of each test will be discussed in Chapter 4.

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CHAPTER 4: DATA ANALYSIS

4.0 Introduction

Descriptive analysis for managerial compensation and other variables will be discussed in this chapter with sample of 285 observations. This study will be carried out with FEM and REM model to analyse the relationship between dependent variable and independent variables. Eviews 8.0 is used to identify whether the models encounter Normality, Multicollinearity and Autocorrelation problems. Poolability test, Breusch-Pagan test and Normality test were also conducted to ensure this study exempt from econometric problem. Explanation on relationship between each regressand and regressors are included in this chapter as well. The data will be presented in table and graph form with explanation.

4.1 Descriptive Analysis

The used samples in this research are 57 public listed companies in Bursa Malaysia from year 2009 to 2013. Table 4.1 illustrates the mean, median, standard deviation, skewness and kurtosis for managerial compensation and the independent variables (board independence, board size, CEO duality, CEO ownership, dividend payout ratio) as well as the control variables (company profitability and company size) in this study.

Table 4.1: Descriptive Analysis of All Variables (2009-2013)

	COM(RM)	BI(%)	BS	DUA	OWN(%)	DPR(%)	CP(%)	LOGCS
Mean	7316507.1860	45.5574	9.3544	0.1158	2.1129	96.9015	17.8018	9.0340
Median	2750001.5000	44.4400	9.0000	0.0000	0.0572	41.5500	13.9300	9.0435
Std. Dev.	16603620	12.3682	2.3340	0.3205	6.2390	519.3274	25.5516	1.7069
Skewness	5.1278	0.2698	0.4071	2.4015	3.5627	11.3428	3.1438	0.3606
Kurtosis	32.1624	2.3137	2.3302	6.7673	15.4791	141.2568	24.4136	2.4233

Notes: COM = Managerial Compensation, BI = Board Independence, BS = Board Size, DUA = CEO Duality, OWN = CEO Ownership, DPR = Dividend Payout Ratio, CP = Company Profitability, CS = Company Size

4.1.1 Managerial Compensation

The median value of managerial compensation is RM 2,750,001.5 while the value of standard deviation is RM 16,603,620. The value of compensation is skewed to the right by approximately 5.13. The direction of the skewness is determined by the positive value of skewness. The kurtosis value of managerial compensation is 32.16 which indicates the data is leptokurtic distribution as excess positive kurtosis that higher than kurtosis of normal distribution 3.

The average value of managerial compensation of this research is RM 7,316,507.19. It is higher than the average value of RM 2,999,064 in the research of Chiang et al. (2015). They studied 38 consumer products companies founded in Malaysia from year 2009 to 2013 in their research. There is another research carried out by Chen et al. (2013) who have studied on 1189 non-listed companies in Taiwan Stock Exchange (TSE) from year 2005 until 2008 in Taiwan. They obtained average value of managerial compensation NT$12,065,000. In term of currency exchange, both of the researches above demonstrate lower average value of managerial compensation than this research. Brick et al. (2006) obtained lower average value of $1,059,593 which demonstrated by investigating on 1441 companies during the period of 1992 to 2001 in U. S.

There are some researches show higher managerial compensation than average value of managerial compensation in this research. For example, Yim (2013) who studied on S&P 1500 companies in year 1992 to 2007 in U.S., has demonstrated higher average value of managerial compensation for $4,353,000. Canyon (2006) who studied the general pattern of U.S. executive pay using the population of firms in the ExecuComp data set, obtains higher average annual remuneration which is approximately $4.5 million.

4.1.2 Board Independence

The median and standard deviation of board independence are 44.44% and 12.67% respectively. It skewed to the right due to the positive value of skewness which is 0.27. The 2.31 kurtosis value shows flatter curve than normal distribution curve in this research.

According to Bursa Malaysia Listing Requirements (2001), there must be a minimum of one or two-third of the independent directors to board of directors ratio. This is one of the prevention or reduction to the occurrence of agency problem. The average of board independence in this research is 45.56% which comply with the Bursa Malaysia Listing Requirements (2001). Based on the research of Chiang et al. (2015), their average proportion of the board independence is 43.17% which is derived by studying 38 consumer products companies founded in Malaysia from year 2009 to 2013.

The average proportion of the board independence in this research is lower than the value in Yang and Zhao (2014) research. They obtained 64% of board independence from 1926 U.S. companies over the period from 1979 to 1998. There are six sectors which are consumer products, construction, industrial product and technology, mining and plantation, properties, services and trading sectors, are included in the study by Saleh, Iskandar and Rahmat (2005). They studied 561 samples which gave the 58.90% average proportion of board independence to total boards. These researches above are higher than the average proportion of board independence in this research.

4.1.3 Board Size

The descriptive analysis results show that the median and standard deviation of board size are 9 members and 2.33 members, respectively.

The value of board size is skewed to the right, is resulted by positive skewness value 0.41. Platykurtic distribution is demonstrated by 2.33 excess negative kurtosis value that show lower peak than curvature of normal distribution.

The mean value of board size in this research is 9.35 (around 9 members) which are relatively close to mean value of research of Ran, Fang, Luo and Chan (2015). They have average 9.25 (around 9) members for their board size variable which is obtained by studying study on 2379 public listed companies from year 1999 until 2012 in China. Ozkan (2007) who studied 414 large companies on the fiscal year of 2003 and 2004 in United Kingdom, has obtained similar average number of nine members of board size with the average number of board size in this research.

There is no specific restriction implied by MCCG about the exact number of board size member (MCCG, 2012). Therefore, in the research of Maliza, Shafee, and Samsuddin (2014) had average number of 7.25 (around 7) members of board size in their research which carried out by investigating the listed companies in sectors such as consumer, industrial product, trading/services and properties in the Main Market of Bursa Malaysia for year 2009 and 2010. Matolcsy, Shan and Seethamraju (2012) who studied on top 500 Australian companies from 2001 until 2009, has average number of 6.20 (around 6) members of board size. Rehman and Ali Shah (2013) has gained average members of board size at 2.14 (around 2) which is significantly lower than average member of board size in this research. They have conducted their study on 80 listed companies in Pakistan from the year 2005 until 2009. The researches above have obtained lower average number of board size than this research. But, researches like Nam & Nam (2004) discovered that the average board size is about ten which is larger than result of this research. They have studied a total of 307 firms from Malaysia, Thailand, Korea and Indonesia for year 2003.

4.1.4 CEO Duality

Based on 57 top listed companies in Malaysia, the descriptive result shows that the skewness and Kurtosis of CEO duality in this study are 2.4015 and 6.7673 respectively. Distribution skewness of CEO duality with value of 2.4015 indicated that this variable is positively skewed. For kurtosis, this study obtained excess kurtosis with the value of 6.7673, which also known as lepokurtic distribution.

As shown in Table 4.1, the average value of duality is 0.1158 (11.58%). This indicated that there is 11.58% of top executives in 57 of Malaysia top listed companies are holding dual positions. Comparing to other researches, a research from Arlman (2004) with sample from U.S firms listed in S&P 500 has concluded that 76% of top executives out of 486 companies are the chairman of board as well. The average value of CEO duality in this research is lower. Besides, another research from Yang and Zhao (2012) with sample period from 1979 to 1998, resulted that there are 61.28% of top executives out of 1927 U.S firms had combined titles. Studying CEO duality and corporate governance, Vintila (2013) stated that there are 40% of top executives in BSE listed Romanian companies having dual titles. Westby (2014) found that there are 55% of top executives in Canada TSX listed corporations have duality role. On average, the average value of CEO duality in this research is relatively low.

4.1.5 CEO Ownership

With sample of 57 top listed companies in Malaysia for the period 2009 to 2013, this research obtained the median value of CEO ownership is 0.057%. The value of standard deviation for CEO ownership is 6.24%. The value of skewness and Kurtosis of CEO ownership are 3.5626 and 15.4791, respectively. Distribution skewness of CEO Ownership is

positively skewed. While for Kurtosis of CEO ownership, the value of 15.4791 is excess kurtosis and entailed a peak distribution.

As shown in Table 4.1, the average value of CEO ownership is 2.1128%. This value indicated that the average CEO ownership in this study is 2.1128%, among 57 top listed companies in Malaysia. According to a study from Jensen and Murphy (1990), top executives of firms listed in S&P 1500 held 5% or more ownership of their company in 2010, on average. With sample of 205 publicly traded U.S. firms, Core et.al. (1999) also concluded that top executives have at least 5% of ownership in their company. Booth, Cornett and Tehranian (2002), found that the average CEO ownership in 300 largest firms from different industries as at 1999 is 5.6%. With sample of 205 publicly traded U.S. firms, Core et.al. (1999) concluded that top executives have at least 5% of ownership in their company, on average. As compared to these researches, the value of CEO ownership in this study is relatively lower.

4.1.6 Dividend Payout

The median value of dividend payout in this study is 41.5500 while the standard deviation is 519.3274. The value of skewness for dividend payout ratio is 0.4071, indicating that it is skewed to the right. Moreover, the dividend payout kurtosis value is 2.3302 which reveal that the data is excess negative kurtosis.

In addition, Bhattacharyya and Elston (2009) reported that the average value of 0.57 is lower than the average number of 96.9015 in this research. They studied about 1159 total number of observations from the companies listed in Germany during 1970 and 1986. Besides, Eisdorfer, Giaccotto and White (2015) who studied on 272 companies in US from 2000 to 2009, has average number of dividend payout at 0.329 which is lower than average number of dividend payout ratio in this research.

Moreover, the mean value of dividend payout in this research is 96.9015 which are higher than the mean value of Fenn & Liang (2000). They have average number of 0.025 for their dividend payout variable which is obtained by studying on 1108 companies from the Standard & Poor 1500 during 1993 and 1997 and excluded the financial, utilities and phone services companies from the sample. Kubo and Saito (2006) who analyzed 1818 companies listed in Japan from 1990 to 1996, has reported the average value of 0.54 which are lower than the average value of dividend payout in this research.

4.1.7 Company Profitability

The company profitability is determined by return on equity (ROE). ROE is used to detect the capability of company to create profit by using the funds of shareholders and the formula is the percentage of net profit after tax divided by the total shareholder equity. The median value of company profitability is 13.9300% while the standard deviation of company profitability is 25.5515%. The skewness value of company profitability is 3.1439 which indicated that skewed to the right. Moreover, the company profitability's kurtosis value is 24.4136 which reveal that the data is excess positive kurtosis.

Otherwise, the average value of company profitability in this research is 17.8018% which is higher than the average value of research of Abraham, Harris and Auerbach (2014) in US. They have average value of 9.5% which is obtained by analyzing about 431 companies listed in NASDAQ stock market during 1993 and 2011. They excluded the non-US companies and the companies that focused on the marketing of technology.

In addition, the average value of company profitability in this research is higher than the average value of 10.9% found by Cole and Mehran (1991) by analyzing the 500 companies from the thrift industry during 1987 and

1989. However, the mean value of company profitability at 17.80% in this research is closer to the mean value found by Rehman and Ali Shah (2013). They have mean value of 16.86% which is obtained by analyzing 80 non-financial corporations listed at Pakistan in the Karachi Stock Exchange during 2005 and 2009 and selected the companies from different sectors such as chemical, oil, engineering and others. The mean value of company profitability in this research is lower than the mean value in Tariq (2010) research. They have average value of 26.28% by analyzing 30 largest companies in Sweden with 150 observations during 2004 and 2008. Vittanemi (1997) selected 48 listed companies from 500 largest companies listed in Finland stock market during 1988 and 1993 and obtained the mean value of 9.59% which is lesser than the mean value of company profitability in this research.

4.1.8 Company Size

The company size data is expressed in the natural logarithm of total assets. Firstly, the median value of company size is 9.0435 while the standard deviation of company size is 1.7069. The skewness value of company size is 0.3606 which indicated that skewed to the right. Moreover, the company size's kurtosis value is 2.4233 which reveal that the data is platykurtic distribution.

Moreover, the average value of company size in this research is 9.0340 which are higher than the average value of research of Jian and Lee (2015). They obtained mean value of 7.6470 from 1680 companies with CSR investment from 3000 largest US companies. Otherwise, the average value of 17.26 studied by Pandey, Vithessonthi and Mansi (2015) in India is higher than the average value of company size in this research. They studied about 269 listed companies from top 500 companies in Bombay Stock Exchange in 2011. Kuo, Li and Yu (2013) who studied about 216 non-financial companies from Standard & Poor 500 from 1994 to 2008,

has obtained similar average value of company size at 9.0372 with the average value of company profitability in this research.

In addition, the average value of company size in this research is lower than the average value of 17.970 found by Matolcsy, Shan and Seethamraju (2012). They analyzed the sample that consisted of 2288 companies-year observation during 2001 and 2009 in Australia and selected the companies from several industries such as energy and utilities, mining, industrials, telecommunications, real estate and others.

4.2 Panel Data Analysis

4.2.1 Poolability test

Table 4.2: Result of Redundant Fixed Effect Tests

	Cross section Chi square	**Decision**
Model 1	582.0276***	FEM
Model 2	428.7953***	FEM
Model 3	-	-

*Notes:*1. The asterisks * implies significant at 10%; ** implies significant at 5%; *** implies significant at 1%.

Poolability test is conducted to determine which empirical model, Pooled OLS model or FEM is the most suitable model to estimate the model. From Table 4.2, Model 1 and Model 2 are significant at 1%, which rejects the null hypothesis. In other words, there is sufficient evidence to prove that there is no common intercept on all firms, FEM is more suitable than Pooled OLS for estimating these two model. For Model 3, the Poolability test could not be conducted as the model failed to be estimated with fixed

effect, so the decision is invalid, and conclusion will be drawn after the test in the following section.

4.2.2 Breusch-Pagan Lagrange Multiplier Test (BPLM Test)

Table 4.3: Result of B.P Lagrange Multiplier Test

	BPLM test statistic	**Decision**
Model 1	316.8246***	REM
Model 2	104.3650***	REM
Model 3	44.6338***	REM

*Notes:*1. The asterisks * implies significant at 10%; ** implies significant at 5%; *** implies significant at 1%.

BPLM test is adopted to test whether the model is suitable to be estimated using either Pooled OLS model or REM. Based on the result in Table 4.3, all three models are significant at 1% which shows that the null hypothesis for each model will be rejected, so each model is more suitable to be estimated using REM instead of Pooled OLS model.

4.2.3 Hausman test

Table 4.4: Result of Hausman test

	Chi-Square Statistic	**Decision**
Model 1	45.5474***	FEM
Model 2	37.9376***	FEM
Model 3	4.3252	REM

*Notes:*1. The asterisks * implies significant at 10%; ** implies significant at 5%; *** implies significant at 1%.

Hausman test can be adopted to determine which model, REM or FEM is better to estimate the equation. From Table 4.4, Model 1 and Model 2 are significant at 1%, which shows that the null hypothesis is rejected. In other words, there is sufficient evidence to prove that the random effect model is not efficient and consistent so FEM should be applied instead of REM in these two models. As for Model 3, it is not significant at 10%, which indicates that the null hypothesis is not rejected. In other words, there is insufficient evidence to prove the random effect model is not consistent and efficient. Therefore, it is concluded that Model 1 and Model 2 will be estimated by FEM, while Model 3 will be estimated by REM.

4.3 Diagnostic Checking

4.3.1 Normality test

Table 4.5: Result of Normality test

	Jarque-Bera Statistic	**Decision**
Model 1	34.8002***	Not normally distributed
Model 2	51.6450***	Not normally distributed
Model 3	0.0517	Normally distributed

Notes: The asterisks * implies significant at 10%; ** implies significant at 5%; *** implies significant at 1%.

Jarque-Bera test (JB test) is used to examine the normality of the distribution of error terms. Table 4.5 tabulated the JB test statistic for each model, whereby Model 1 consists of the data from the period of year 2009 to 2013; while Model 2 consists of data before the implementation of MCCG 2012; and Model 3 consists of data after the implementation. From the result, it is concluded that Model 1 and Model 2 are significant at 1%; while Model 3 is not significant at 10%. Hence, null hypothesis in Model 1

and Model 2 are rejected, while in Model 3, null hypothesis is not rejected. So, it can be concluded that there is sufficient evidence to prove that the error terms are not normally distributed in the Model 1 and Model 2, and there is insufficient evidence to prove that error terms in Model 3 is not normally distributed.

However, Gujarati and Porter (2009) defined the Central Limit Theorem which concluded that when there is a sample size as large as 100, the error terms can be assumed to be normally distributed. In the Model 1 and 2, the total observations are 285 and 171 respectively, which shows that the error terms are normally distributed even though it failed the Jarque-Bera test.

4.3.2 Multicollinearity

Table 4.6: Pair-wise Correlation of All Variables in Model 1

	LOGCOM	BI	LOGBS	DUA	OWN	DPR	CP	LOGCS
LOGCOM	1.0000							
BI	0.1511	1.0000						
LOGBS	0.0968	-0.2790	1.0000					
DUA	0.3699	0.1863	-0.2225	1.0000				
OWN	-0.2463	-0.0194	-0.2572	0.1635	1.0000			
DPR	-0.0363	-0.0198	-0.0392	0.0300	0.0389	1.0000		
CP	0.0426	-0.0821	-0.1208	-0.0141	-0.0304	0.0129	1.0000	
LOGCS	0.4567	0.3335	0.2053	0.0271	-0.1980	-0.0124	-0.2530	1.0000

*Notes:*1. LOGCOM= Logarithm Managerial Compensation, BI = Board Independence, LOGBS= Logarithm Board Size, DUA = CEO Duality, OWN = CEO Ownership, DPR = Dividend Payout Ratio, CP = Company Profitability, LOGCS= Logarithm Company size

Table 4.7: Pair-wise Correlation of All Variables in Model 2

	LOGCOM	BI	LOGBS	DUA	OWN	DPR	CP	LOGCS
LOGCOM	1.0000							
BI	0.1828	1.0000						
LOGBS	0.0463	-0.2387	1.0000					
DUA	0.3906	0.1958	-0.2765	1.0000				
OWN	-0.2308	-0.0479	-0.2400	0.2132	1.0000			
DPR	-0.0085	0.0233	-0.1203	0.1910	-0.0379	1.0000		
CP	0.0302	-0.0673	-0.1477	-0.0048	-0.0612	-0.0124	1.0000	
LOGCS	0.4406	0.3425	0.2194	0.0157	-0.1957	0.0101	-0.2433	1.0000

*Notes:*1. LOGCOM= Logarithm Managerial Compensation, BI = Board Independence, LOGBS= Logarithm Board Size, DUA = CEO Duality, OWN = CEO Ownership, DPR = Dividend Payout Ratio, CP = Company Profitability, LOGCS= Logarithm Company size

Table 4.8: Pair-wise Correlation of All Variables in Model 3

	LOGCOM	BI	LOGBS	DUA	OWN	DPR	CP	LOGCS
LOGCOM	1.0000							
BI	0.0825	1.0000						
LOGBS	0.1791	-0.3426	1.0000					
DUA	0.3550	-0.1776	-0.1379	1.0000				
OWN	-0.2689	0.0264	-0.2832	0.0855	1.0000			
DPR	-0.0761	-0.0577	-0.0037	-0.0466	0.0868	1.0000		
CP	0.0664	-0.1018	-0.0829	-0.0296	0.0125	0.0300	1.0000	
LOGCS	0.4700	0.3106	0.1887	0.0504	-0.2000	-0.3628	-0.2658	1.0000

*Notes:*1. LOGCOM= Logarithm Managerial Compensation, BI = Board Independence, LOGBS= Logarithm Board Size, DUA = CEO Duality, OWN = CEO Ownership, DPR = Dividend Payout Ratio, CP = Company Profitability, LOGCS= Logarithm Company size

From Table 4.6, it can be seen that in Model 1, the highest positive correlation exists between LOGCOM and LOGCS, and the lowest positive correlation is between DUA and LOGCS, which having the value of +0.4567 and +0.0271 respectively. On the other hand, the combination of BI and LOGBS has the highest negative correlation, while DPR and LOGCS has the lowest negative correlation; which is -0.2790 and -0.0124 respectively.

In Model 2, LOGCOM and LOGCS is also having the highest positive correlation, while DPR and LOGCS has the least positive correlation, along the value of +0.4406 and +0.0101 respectively. In contrast, LOGBS and DUA have the highest negative correlation and DUA and CP has the least negative correlation, with each having the value of -0.2765 and -0.0048.

From Table 4.8, once again LOGCOM and LOGCS has the highest positive correlation in Model 3, while OWN and CP has the lowest positive correlation, the values for each combination of variables are +0.4700 and +0.0125 respectively. Then, the highest negative correlation in Model 3 is between BI and LOGBS, while the lowest negative correlation is between LOGBS and DPR, which having the value of -0.3426 and -0.0037.

Table 4.9: VIF of Each Independent Variable in Model 1

	R^2	$VIF_j = 1/(1-R^2_j)$	Conclusion
BI_{it}	0.2510	1.3351	No serious multicollinearity
$LOGBS_{it}$	0.2450	1.3245	No serious multicollinearity
DUA_{it}	0.0834	1.0910	No serious multicollinearity
OWN_{it}	0.1154	1.1305	No serious multicollinearity
DPR_{it}	0.0041	1.0041	No serious multicollinearity
CP_{it}	0.0801	1.0871	No serious multicollinearity
$LOGCS_{it}$	0.2578	1.3473	No serious multicollinearity

Table 4.10: VIF of Each Independent Variable in Model 2

	R^2	$VIF_j = 1/(1-R^2_j)$	Conclusion
BI_{it}	0.2768	1.3827	No serious multicollinearity
$LOGBS_{it}$	0.2647	1.3600	No serious multicollinearity
DUA_{it}	0.0449	1.0470	No serious multicollinearity
OWNit	0.1159	1.1311	No serious multicollinearity
DPR_{it}	0.0136	1.0138	No serious multicollinearity
CP_{it}	0.0767	1.0831	No serious multicollinearity
$LOGCS_{it}$	0.2508	1.3348	No serious multicollinearity

Table 4.11: VIF of Each Independent Variable in Model 3

	R^2	$VIF_j = 1/(1-R^2_j)$	Conclusion
BI_{it}	0.2768	1.3827	No serious multicollinearity
$LOGBS_{it}$	0.2647	1.3600	No serious multicollinearity
DUA_{it}	0.0449	1.0470	No serious multicollinearity
OWNit	0.1159	1.1311	No serious multicollinearity
DPR_{it}	0.0136	1.0138	No serious multicollinearity
CP_{it}	0.0767	1.0831	No serious multicollinearity
$LOGCS_{it}$	0.2508	1.3348	No serious multicollinearity

From the VIF value of independent variables in Model 1, 2 and 3 that tabulated in Table 4.9, 4.10 and 4.11, it can be seen that in each model, DPR has the lowest VIF value, as of 1.0041, 1.0572 and 1.0138 respectively. As for both Model 1 and 2, LOGCS has the highest VIF value, which is 1.3473 and 1.3507; while BI with the VIF value of 1.3827 is the highest VIF in Model 3.

Table 4.12: Summarized Results of Multicollinearity of 3 Models

	Correlation		**VIF**
	Minimum	**Maximum**	**Maximum**
Model 1	-0.2572	+0.4567	1.3473
Model 2	-0.2765	+0.3906	1.3507
Model 3	-0.3426	+0.4700	1.3827

From the summarized results of pair-wise correlation and VIF results in Table 4.12, the minimum correlation between the variables in Model 1 , 2 and 3 are -0.2572, -0.2765 and -0.3426 respectively, which is less than the benchmark value of -0.8000. In the other hand, the maximum correlation of the variables in these models are +0.4567, +0.3906 and +0.4700 respectively, which do not exceed the benchmark value of +0.8000. So it can be confirmed that no multicollinearity problem exists in all three models, however in order to further justify the results, VIF for each variables in all three models have been calculated. From the table, only the maximum VIF values for each variable in the models are tabulated, this is because the decision is that the VIF value that is greater than 10.0000 indicates that there is serious multicollinearity problem. So, it can be concluded that all three models do not expose from multicollinearity problem as the maximum VIF values of 1.3473, 1.3507 and 1.3827 in these models do not exceed 10.0000.

4.3.3 Autocorrelation

Table 4.13: Result of Autocorrelation Test

	Durbin-Watson Statistic	**Decision**
Model 1	1.5573	No autocorrelation
Model 2	2.2888	No autocorrelation
Model 3	2.0208	No autocorrelation

From the result in Table 4.13, the Durbin-Watson statistics for the three models are 1.5573, 2.2888 and 2.0208 respectively. As they fall in the range of 1.5 to 2.5, the null hypotheses are failed to be rejected (Haery et al., 2013) as there is insufficient evidence to prove that these models suffer from autocorrelation problem.

4.4 Inferential Analyses

4.4.1 Empirical Result

In order to study the relationship between corporate governance, dividend payout and managerial compensation, data collected from 57 public listed companies in Bursa Malaysia from year 2009 to 2013 were run by Eviews 8.0. The following Table 4.14 show the coefficient and r-squared value for Model 1, Model 2 and Model 3.

Table 4.14: Regression Results

Independent Variables	**Dependent variables: Managerial Compensation**		
	Model 1	**Model 2**	**Model 3**
BI	0.009558**	0.01557***	0.002004
	(0.0039)	*(0.0051)*	*(0.0056)*
LOGBS	0.1477	-0.009546	0.3143
	(0.2264)	*(0.3009)*	*(0.3346)*
DUA	-0.2755	-0.2828	1.265***
	(0.2055)	*(0.3728)*	*(0.3714)*
OWN	0.01398	0.02383	-0.03420**
	(0.0113)	*(0.0247)*	*(0.0144)*
DPR	-0.0000	-0.00019*	-0.0000
	(0.0000)	*(0.000106)*	*(0.0000)*
CP	0.003614	-0.0000828	0.005765
	(0.0024)	*(0.00257)*	*(0.0036)*
LOGCS	0.7661***	0.9328***	0.2638***
	(0.0991)	*(0.1868)*	*(0.0706)*

C	7.2475	5.8607	11.7892
	(0.9906)	*(1.6973)*	*(0.9485)*
R^2	0.924996	0.953194	0.2748
Adjusted R^2	0.903614	0.925635	0.226909
F-statistics	43.2619***	34.5878***	5.7381***

Notes: 1. LOGCOM= Logarithm Managerial Compensation, BI = Board Independence, LOGBS= Logarithm Board Size, DUA = CEO Duality, OWN = CEO Ownership, DPR = Dividend Payout Ratio, CP = Company Profitability, LOGCS= Logarithm Company size
2. The asterisks * implies significant at 10%; ** implies significant at 5%; *** implies significant at 1%.

4.4.2 R-square

The value of R-square determines the degree of variation of managerial compensation that can be explained by the corporate governance and dividend payout. Based on Table 4.14, the R-square value for Model 1 is 0.924996, which indicate that there is 92.50% of managerial compensation variation can be explained by board independence, board size, CEO duality, CEO ownership, dividend payout, company profitability as well as company size from year 2009-2013.

In Model 2, the R-square value is 0.953194 which indicated that there is 95.32% managerial compensation variation can be explained by the deviation of explanatory variables from 2009-2011. However, the R-square value of Model 3 is only 0.2748 indicates that there is 27.48% managerial compensation variation can be explained by the deviation of explanatory variables from 2012-2013.

4.4.3 Adjusted R-square

This value show that the managerial compensation degree of variation which explained by independent variables after taken degree of freedom into account. The value for Model 1 is 0.903614, indicates that 90.36% variation of managerial compensation can be explained by board independence, board size, CEO duality, CEO ownership, dividend payout, company profitability as well as company size after taken degree of freedom into account from 2009-2013.

Based on the Table 4.14, the adjusted R-square for Model 2 and Model 3 is 0.925635 and 0.226909 accordingly. This two figures show that there is 92.56% and 22.69% variation of managerial compensation can be explained by variation of explanatory variables before and after MCCG 2012 was implemented, respectively.

4.4.4 F-statistics

H_0: All explanatory variables are not significant in explaining managerial compensation.
H_1: At least one of the explanatory variables is significant in explaining managerial compensation.

The probability of F-statistics, 0.0000 is smaller than significant level, 10%, reject null hypothesis. Thus, there is sufficient evidence to conclude that Model 1 has at least one of the explanatory variables is significant at 1% in explaining managerial compensation for the 57 public listed companies in Malaysia from year 2009 to 2013. In Model 2, F-statistics of 0.0000 is smaller than significant level, 10%. Thus, there is enough evidence to conclude there is at least one of the explanatory variables is significant at 1% in explaining managerial compensation for Model 2. Based on Table 4.14, the probability of F-statistics is 0.0000 as well for Model 3. Thus, there is

enough evidence to conclude there is at least one of the explanatory variables is significant at 1% in explaining managerial compensation for Model 3.

4.4.5 T-statistics

4.4.5.1 Board Independence

H_1: There is positive relationship between board independence and managerial compensation.

Based on Table 4.14, the result shows that there is sufficient evidence to reject null hypothesis, the board independence in this study has a positive significant relationship with managerial compensation at significant level, 5% for Model 1. The coefficient of board independence (0.009558) indicates that if the board independence increases by 1%, on average, the managerial compensation will increase 0.9558%, holding other variables constant.

For the Model 2, the result implies that there is positive significant relationship between board independence and managerial compensation at 1% significant level. Thus, the result reject null hypothesis as well. The coefficient of board independence (0.01557) indicates that when holding others variables constant, if the board independence increase by 1%, the managerial compensation will increase by 1.557%. However, the result show that there is insufficient evidence to reject null hypothesis and there is positive insignificant relationship between board independence and managerial compensation at 10% significant level for Model 3. The coefficient of board independence (0.002004) indicates the board independence raise by 1%, the managerial compensation will raise by 0.2004% while holding others variables constant for Model 3.Although

there is a positive relationship between board independence and managerial compensation, but there do exist an insignificant relationship.

4.4.5.2 Board Size

H_2: There is positive relationship between board size and managerial compensation.

From the Table 4.14, the result proved that there is not enough evidence to reject null hypothesis for all Model 1,2 and 3 in this study. Thus, there is positive and insignificant relationship between board size and managerial compensation at significant level, 10% for Model 1. The coefficient of board size (0.1477) indicates that if the board size increase by 1%, on average, the managerial compensation will increase 0.1477% while holding other variables constant, but the result is insignificant in this model.

On the contrary, there is negative insignificant relationship between board size and managerial compensation at 10% significant level for Model 2. The coefficient of board size (-0.009564) means if the board size increase by 1%, on average, the managerial compensation will decrease by 0.009564%, holding other variables constant. But Model 2 proved the insignificant relation between board size and managerial compensation.

The result shows that there is positive insignificant relationship between board size and managerial compensation for Model 3 at significant level, 10%. The coefficient of board size (0.3143) indicates that when holding others variables constant, if the board size raise by 1%, on average, the managerial compensation will raise by 0.3143% but the result is insignificant in this model.

4.4.5.3 CEO Duality

H_3: There is positive relationship between CEO duality and managerial compensation.

In Model 1, there is insufficient evidence to reject null hypothesis and therefore the CEO duality has a negatively insignificant relationship with managerial compensation at significant level, 10% as shown in Table 4.14. The coefficient of CEO duality (-0.2755) shows that when the top executive also serve as Chairman, on average, the managerial compensation will be 27.55% lower compared to those who do not, holding other variables constant. However, Model 1 proves the insignificant relationship between these two variables.

By referring to Table 4.14, the coefficient of CEO duality (-0.2828) means when the top executives hold dual titles at a same time, they will have has 28.28% lower managerial compensation compare to those hold one position only for Model 2. However, there is insufficient evidence to reject null hypothesis as well and there is negative insignificant relationship between duality of top executives and managerial compensation for Model 2 at 10% significant level. For the Model 3, the duality of top executives has a positive significant relationship with managerial compensation at significant level, 1%. The coefficient of CEO duality (1.265) shows that those who hold two positions at a same time, on average, the managerial compensation will increase 126.5% compared to those who has separate titles, holding other variables constant.

4.4.5.4 CEO Ownership

H_4: There is negative relationship between CEO ownership and managerial compensation.

In Model 1 and Model 2, there is insufficient evidence to reject null hypothesis. Hence, there shows a positive insignificant relationship between CEO ownership and managerial compensation at significant level, 10% based on the result in Table 4.14. While holding other variables constant, the coefficient of CEO ownership (0.01398) implies that if the CEO ownership rise by 1%, on average, the managerial compensation will raise by 1.398%, but the result is insignificant in this model.

Based on Table 4.14, the CEO ownership has positive insignificant with the managerial compensation in Model 2 which the coefficient of CEO ownership (0.02383) implies that when the CEO ownership increase by 1%, on average, the managerial compensation will increase by 2.383%, holding other variables constant, but it is insignificant as well in this model. But for Model 3, there is negative and significant relationship between the CEO ownership and managerial compensation at significant level, 5%. Null hypothesis is rejected. The coefficient of CEO ownership (-0.0342) implies that if the CEO ownership increase by 1%, on average, the managerial compensation will decrease by 3.42% while holding others variables constant.

4.4.5.5 Dividend Payout Ratio

H_5: There is negative relationship between dividend payout ratio and managerial compensation.

By referring to Table 4.14, the result implies that for Model 1, the dividend payout ratio is negatively related to managerial compensation at significant level, 10%. There is insufficient evidence to reject null hypothesis. The coefficient of dividend payout ratio (-0.0000226) means when the dividend payout ratio increase by 1%, on average, the managerial compensation will lessen by 0.00226%, holding other variables constant, but the result is insignificant in this model.

The coefficient of dividend payout ratio (-0.000190) for Model 2 shows that when holding others variables constant, the dividend payout ratio increase by 1%, on average, the managerial compensation will decrease by 0.019%. There is negative significant relationship between dividend payout ratio and managerial compensation at 10% significant level. Hence, null hypothesis is rejected in this Model 2. Besides, Model 3 also shows the negative relationship between dividend payout ratio and managerial compensation but it is insignificant. There is insufficient evidence to reject null hypothesis. The coefficient of dividend payout ratio (-0.0000173) indicates if the dividend payout ratio increase by 1%, on average, the managerial compensation will decrease 0.00173% holding others variables constant.

4.4.5.6 Company Profitability

As shown in the Table 4.14, there is insufficient evidence to reject null hypothesis for all three models. Thus, return on equity (ROE) as measurement of company's profitability for Model 1 has a positive and insignificant relationship with managerial compensation at significant level, 10%. The coefficient of company profitability (0.003614) indicates that when the company profitability increases by 1%, on average, the managerial compensation will increase by 0.3614% while holding other variables constant. However, the company profitability has insignificant relationship with managerial compensation in Model 1.

Besides, there is insignificant relationship between company profitability and managerial compensation for both Model 2 and Model 3. However, company profitability has negative relationship with managerial compensation for Model 2, and for Model 3, there is positive relationship between these two variables at 10% significant level. For Model 2, the coefficient of company profitability (-0.0000828) indicates that when it increased by 1%, on average, the managerial compensation will decrease

by 0.00828%, holding others variables constant, but this result is insignificant in this Model. For Model 3, when holding others variables constant, the coefficient of company profitability (0.005765) implies that when it increased by 1%, on average, the managerial compensation will increase by 0.5765%. To conclude, there is an insignificant relationship between company profitability and managerial compensation in our study.

4.4.5.7 Company Size

Based on the result, there is sufficient evidence to reject null hypothesis for all three models. Total assets as the measurement of company size for Model 1 is positively associated with managerial compensation at significant level, 1%. While holding other variables constant, the coefficient of company size (0.7661) means that if the company size increase by 1%, on average, the managerial compensation will increase by 0.7661%.

There is positive and significant relationship between company size and managerial compensation for both Model 2 and Model 3 at significant level, 1%. The coefficient of company size (0.9328) indicates that when company size increase by 1%, on average, the managerial compensation increase by 0.9328%, holding others variables constant for Model 2. Furthermore, for Model 3, the coefficient of company size (0.2638) implies that if the company size increases by 1%, on average, the managerial compensation increase by 0.2638% while holding others variables constant.

4.5 Conclusion

Data collected from 57 companies from FTSE Bursa Malaysia Top 100 Index have been analyzed in this chapter. With total 285 sample size in this study, the

regression results showed that the relationship between each independent variable, control variables and dependent variable vary in full period, before and after the implementation of MCCG 2012. The results showed that board size, CEO duality, CEO ownership and dividend payout ratio has insignificant relationship with managerial compensation, while only board independence significantly affects the managerial compensation in full period. However, the impact of each independent on managerial compensation has different pattern before and after the implementation of MCCG 2012. The hypothesis outcome will be discussed in Chapter 5 with reasonable reasons and insights.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 Introduction

The aim of this research is to study the relationship between corporate governance, dividend payout policies and managerial compensation. This chapter discussed the significance results of the independent variables. A summary of major findings on the relationship between managerial compensation and each independent variables will be discussed in this chapter, follow by the discussion on the implications of this research. Besides, this chapter will also discuss the limitation of this study and recommendation for future research as well. An overall conclusion will be presented in the end of this chapter.

5.1 Summary of Statistical Analysis

Table 5.1: Summary of Major Findings

Hypothesis of the study	Decision		
	Model 1	**Model 2**	**Model 3**
H_1: There is positive relationship between board independence and managerial compensation	Reject H_0	Reject H_0	Do not reject H_0
H_2: There is positive relationship between board size and managerial compensation.	Do not reject H_0	Do not reject H_0	Do not reject H_0
H_3: There is positive relationship between CEO duality and managerial compensation.	Do not reject H_0	Do not reject H_0	Reject H_0

H_4: There is negative relationship between CEO ownership and managerial compensation.	Do not reject H_0	Do not reject H_0	Reject H_0
H_5: There is negative relationship between dividend payout and managerial compensation.	Do not reject H_0	Reject H_0	Do not reject H_0

5.2 Discussion of Major Findings

5.2.1 Board Independence and Managerial Compensation

The analysis results of this research have shown that board independence of Model 1 and Model 2 has positively significant relationship with top executive compensation. The results of Model 1 and Model 2 shows the relationship is before implementation of MCCG 2012. The top executive compensation will increase when the board has more independent directors. The ineffectiveness of outside directors who are lack of information, may depend more on the top executive. This may induce the outside directors to willingly pay more to the top executives.

Before implementation of MCCG 2012, the positively significant relationship of Model 2 of this research are supported by Adam et al. (2010) who state that when firm-specific knowledge of inside directors is significant, the firm values and effectiveness might be decreased by requiring most of the directors are independent in the board. They have implicitly explained that the more director independence in the board may ineffectively increase the top executive compensation, when firm-specific knowledge of inside directors is significant. According to Hwang and Kim (2009), if outside directors are hand-picked by top executive or if firm comply with new regulations by using “box-checking” approach, they

might not be effective monitors. Researchers (e.g., Jensen 1993; Harrast and Mason-Olsen 2007; Duchin et al. 2010) state that the lack of information of outside directors has hindered their effectiveness, unless the cost of information acquisition for them is low. Therefore, when the more independent board tend to be more aggressive on top executives removal, it induces higher performance compensation. The board wishes to acquire the private information about projects prospects from the top executives, so as to be able to make a better decision on CEO replacement. The payments to the top executive for obtaining the information are higher when the board is more independent. The board is weak when they are rely information possessed by the top executives, it will results higher top executive compensation (Bebchuk and Fried 2003, 2004).

According to MCCG 2012, it recommends that the adequacy and the integrity of the management information and internal controls system should be regularly reviewed by the board of the company. This may improve the acquisition of information of the board and the flow of information in the company which will decrease the dependency of board on top executive. The effects of implementation of MCCG 2012 may be shown in relationship change between board independence and managerial compensation in Model 3.

The results of Model 3 show that board independence has positive insignificant relationship with top executive compensation after the implementation of MCCG 2012. After implementing and adopting of MCCG 2012, the integrity of the management information and internal controls system have been improved. Thus, board will not pay higher compensation to top executives due to lack of information. The weak positive significant effect in Model 2 may be offset to become positive insignificant relationship after adopting MCCG 2012. The insignificant relationship is also supported by Anjam and Svanberg (2011) who states that there is insignificant relationship managerial compensation and board

independence, as the top executive are unable to utilize its power to influence the board.

The results of board independence for Model 1 are parallel with managerial power theory which state that the top executive can decide on their own compensation. The action of the top executives towards their compensation is not necessary controlled by the more independent directors. According to Saleh et al. (2005), when there is larger board independence, the top executive can still decide their own compensation. Johari, Salleh, Jaafar and Hassan (2008) also find that company's performance will be improved when there is most directors of independent in the board that will offset the agency problem. Due to the improved performance of company, the top executives may receive more compensation.

5.2.2 Board Size and Managerial Compensation

As the results shown in Table 5.1, the board size of Model 1 and Model 3 has positively insignificant relationship with managerial compensation. On the other hand, Model 2 has negatively insignificant relationship with managerial compensation.

Before the implementation of MCCG 2012, the relationship between board size and managerial compensation is negatively related. But somehow, the relationship was shown to be insignificant in Model 2 of this study. According to John and Senbet (1998), they found that overpay managerial compensation will occurred when the board size is not large enough. Therefore, as the board size become larger, overpay of managerial compensation might be able to be prevented with more directors joined and increased board monitoring. But at the same time, this benefit had been offset by the increased cost of poorer communication and longer period of decision-making as the board size becomes larger. So, the

relationship between board size and managerial compensation is insignificant in Model 2.

After the implementation of MCCG 2012, board size has positive relationship with managerial compensation in Model 3, but the relationship was still resulted insignificantly. According to Ozkan (2007), larger board size can lead to higher managerial compensation due to inefficient decision making in a large board. A study from Jensen (1993) also supported positive relationship as larger board size might cause time consuming of decision making and might having free-riding problems among board of directors, and thus affecting the structure of managerial compensation.

However, in this study, the relationship between board size and managerial compensation was insignificantly related. Which indicated that the variable board size do not affect much on the setting process of managerial compensation. The changes from negative relationship to positive relationship between these two variables in Model 2 and Model 3 might be due to other factors such as financial crisis burst in year 2008. The impact of MCCG 2012 on the relationship between board size and managerial compensation is insignificant, this might because MCCG 2012 only encourage listed companies in Bursa Malaysia to examine the number of directors but did not provide the exact number of directors in the board. The specification of the guidelines in MCCG 2012 for board size still unclear which may results insignificant MCCG effect on this variable.

The relationship between board size and managerial compensation in this study is consistent with the agency theory. As shown in Model 1 with full period, board size has positively insignificant relationship with managerial compensation. This can be explained as when the board size becomes larger, the board's internal control might be weaker as the increased number of directors might lead to poorer communication. And thus, top executives might be able to manipulate the setting process of managerial

compensation and benefits themselves with higher amount paid, with less concern on the interest of shareholders.

5.2.3 CEO Duality and Managerial Compensation

The relationship between CEO duality and managerial compensation was shown to be negatively insignificant related in Model 1 and Model 2. While in Model 3, CEO duality has positive and significant relationship with managerial compensation.

Before the implementation of MCCG 2012, the relationship between CEO duality and managerial compensation was negatively insignificant. According to Conyon and Peck (1998), top executives with dual titles might not have much power on affecting the setting process of managerial compensation. Krause, Semadeni and Cannella (2014) supported this statement with stating that CEO duality is not an important driver that determines the managerial compensation. And thus, the relationship is said to be insignificant in Model 2. During the year period from 2009 to 2011, corporations in Malaysia might still in suffer dealing with the financial crisis burst in year 2008. Company might focus on reforming the company's financial position with more cash flow distribution. The managerial compensation for top executives might then be lesser, even with holding dual titles. The top executive might have not much power in determining their own compensation. Therefore, the negative relationship between CEO duality and managerial compensation in Model 2 might be due to the effect of financial crisis.

The relationship between these two variables becomes positively significant in Model 3, after the implementation of MCCG 2012. MCCG 2012 focuses on reinforcing the independence between top executives and chairman of the board. But somehow, there is no actual legislation for those who hold dual titles at the same time. It was believed that the

significant relationship between CEO duality and managerial compensation might be caused by the power of those top executives with dual titles that is not restricted by MCCG 2012. During year 2012 to 2013, corporations in Malaysia might have recovered much over the financial crisis with better financial position. Therefore, top executives with dual titles might be able to control the firm's cash flow distribution again with setting higher managerial compensation that is beneficial to them. This result is in line with previous findings from Ya'acob (2016), stating that top executives with dual position has positive relationship with managerial compensation.

The relationship between CEO duality and managerial compensation is not consistent with the theory of managerial power since top executives with dual titles have not much power on affecting the managerial compensation in Model 1 and Model 2. But in Model 3, after the implementation of MCCG 2012, the relationship between CEO duality and managerial compensation is consistent with the theory of managerial power, as the top executives have the power to benefits themselves with high pay.

5.2.4 CEO Ownership and Managerial Compensation

The results from the regression model show that in Model 1 and 2, the relationship between the CEO ownership and managerial compensation is positive but insignificant. But, Model 3 is showing negatively significant relationship between CEO ownership and managerial compensation after implantation of MCCG 2012.

The positive and insignificant relationship in Model 1 and 2 can be explained by one of the principles of MCCG 2012 that recommended the board to conduct poll voting. The top managers who hold a large portion of shares in the company possess greater power, particularly in the poll voting session of company during the annual general meeting. Due to this

power, the board of directors will consider the voting power of top executives when they determine the top executives' compensation. As the consequences, it is possible that the top executives will receive higher compensation when they have larger ownership in the company, which may increase the possibility that the poll voting result to be inclined to the advantages of the board. However, the positive relationship is insignificant is resulted by many factors which show that the top executives' ownership is not the sole factor in determining their compensation. Others factors such as company profitability, company size, top executives' productivity and performance are also affecting top executives' compensation. The findings is similar to Jensen and Murphy (1990), which they stated that CEO stock ownership is not one of the factors in determining the CEO compensation. The positive relationship is supported by previous researches such as Holderness and Sheehan (1988), which concluded that top managers with high ownership possess more power to utilize the resources to benefit themselves.

MCCG 2012 advised the company to strengthen the relationship with the shareholders. In order to building up the good relationship between company and shareholders, the company might utilise more resources to distribute more profits to shareholders in dividend form. Sharing profit by distributing dividends may increase the confidence of shareholder on the company and it is more consistent to the shareholders' objective.

The results of Model 3 show that CEO ownership and managerial compensation are negatively and significantly related. The negative relationship might cause by the recommendation in MCCG 2012, which advised the company to strengthen the relationship with the shareholders. Thus, more profits are distributed to shareholders in dividend form which may result in decreasing of cash flow available in the company. As the top executives possess large shareholdings in the company, they will receive more dividends, which in turn increased the expenditure of company. As the results, the board might come out with the decision to reduce the top

executives' compensation, in order to apply the freed resources for dividend distribution. The findings are supported by Lin et al. (2013), which concluded that there is substitution effect between CEO ownership and CEO compensation.

In Model 1 and 2, the relationship between CEO ownership and managerial compensation are positively insignificant which consistent to agency theory. It may indicate that with larger ownership of top executives, they may concentrate their own benefits instead of shareholders' objectives. But, this effect tends to be small as the results show that the relationship is insignificant. In Model 3, the variable is said to be inconsistent with agency theory, as the top executives hold a large shareholdings in the company, they act as one of the owners in the company besides than fulfilling the role of agent that hired by the owners. Consequently, top executives might execute their responsibilities in the benefits of the company's owners after implantation and adoption of MCCG 2012.

5.2.5 Dividend payout ratio and Managerial Compensation

According to the summary of major finding in Table 5.1, dividend payout ratio shows a negative yet insignificant relationship towards the managerial compensation in Malaysian Top l00 listed corporations in Model 1 and Model 3.

In Model 2, the dividend payout ratio is negative and significantly related to managerial compensation. This negative relationship indicated that corporations with high dividend payout ratio will have lower managerial compensation, on average. The negative and significant result of Model 2 is same with the outcome of a study did by Bhattacharyya et al. (2008), claiming that dividend payout are negatively associated with managerial compensation. The author explained the negative relationship with

marginal productivity theory. It was said that high productivity top executives will generate more positive NPV projects, the available earnings were then distributed more on future potential investments instead of dividend payout to shareholders. Therefore, top executives with higher marginal contribution will get higher compensation as a reward on their works. In contrast, top executives with lower marginal productivity tend to distribute more earnings to dividend as they do not have high NPV projects. Therefore, the inverse relationship between dividend payout ratio and managerial compensation is consistent with the marginal productivity theory. Besides, the negative relationship between these two variables can also be explained with agency theory. A research from DeAngelo, DeAngelo and Stulz (2004) supported this negative relationship between dividend payout ratio and managerial compensation with factor of agency issue. The author concluded that dividend payout policies are widely used by many corporations in U.S to mitigate agency issue between managers and shareholders.

According to Kowalewski, Stetsyuk and Talavera (2007), corporate governance was said to be an important role in explaining the dividend policies of a company. As known, MCCG 2012 focuses on strengthening the compositions and roles of board. Therefore, with complying MCCG 2012, the standards of corporate governance in Malaysian companies might gain greater improvement.

Therefore, the result of Model 3 shows the negative yet insignificant relationship between dividend payout ratio and managerial compensation. This insignificant relationship might be caused by the implementation of MCCG 2012. Due to the improved corporate governance in Malaysian companies after implementing MCCG 2012, it might weaken company's boards or top executives' powers, and yet reduce their influence on the company's cash flow. The managerial compensation setting process and dividend payout policies might then not affected much by boards or top executives forces. Besides, the agency problems of companies might be

able to reduce with compliance to MCCG 2012. If top executives decision making process are better monitored and oversight, not only shareholders' interests can get better protection but top management's' personal wealth are also able to reasonably distribute. Therefore, the impact of dividend payout on managerial compensation was found to be insignificant in Model 3 of this study with the effect of MCCG 2012 implementation.

5.2.6 Company Profitability and Managerial Compensation

Based on the empirical result, Model 1, Model 2 and Model 3 imply an insignificant relationship between company profitability and managerial compensation. In the other words, the firm profitability does not directly influence the managerial compensation.

There is negative but insignificant relationship between company profitability and managerial compensation. The negativity is because of some companies will allocate their return to future investment instead of increasing the managerial compensation. It is because the companies believe that the capability of managerial can bring more profit to the companies. Although the compensation does not increase, but those companies prefer to give incentive like stock options as another kind of compensation (Bhattacharyya et al., 2008). Eleyan, Lau and Myer (2001) also supported there is insignificant relationship between firm profitability and managerial compensation.

Although there is insignificant relation between profitability and managerial compensation in all three models, but Model 1 and Model 3 proved the positive relationship between profitability and managerial compensation while Model 2 implies a negative relationship. The change of relationship from negatively significant to positively significant might be caused by the financial crisis in year 2008 which leads to the economic recession. Economic conditions are one of the key factors to measure the

relation between companies' profitability and managerial compensation (Yang, Dolar & Mo, 2014). When there is a financial crisis, the whole economics will definitely face the downturn. The companies will receive the pressure from their shareholders or regulators come out with policies to recover from the financial crisis as well. Thus, those companies under these pressure might reduce the managerial compensation in order to allocate more funds to placate their shareholders. Besides, those funds also can be used in adapting the companies themselves to the new policies and recover from financial crisis. Furthermore, Bertrand and Mullaiathan (2001) also proved the negative relation between companies' profitability and managerial compensation based on their previous studies.

However, there is a positively insignificant relationship between company profitability and managerial compensation in Model 3. This might be caused by recovery of profitability of the company from financial crisis in year 2008. Economy may tend to recover gradually after the financial crisis, thus profitability may also increase with the recovery of economy. Cash flow available for the firm may also increase and company may pay more to compensate the hard work of top executives. According to Sigler (2011), the higher company profitability can increase the managerial compensation. Besides that, there are other researchers, Michaud and Gai (2009) also claimed that top managerial able to improve the company profitability will get higher compensation in their study.

There is always a chance that the top managerial can use the company's' asset or profit to benefit themselves instead act on behalf to the investors or shareholders. Thus, the insignificant relationship between company profitability and managerial compensation is not parallel with agency theory in this research.

5.2.7 Company Size and Managerial Compensation

From the results shown in Table 5.1, the company size of Model 1, Model 2 and Model 3 have positively significant relationship with managerial compensation. It meant that the company size has positively related with managerial compensation.

As MCCG (2012) did not mention about company size, there are no changes of relationship between the periods before and after implemented MCGG (2012). The MCCG (2012) has no restriction on company's total assets which can be used to determine company size by computing natural logarithm of its book value. So, it can be concluded that MCCG (2012) do not affect the relationship between company size and managerial compensation, as company size itself is a key factor in determining the amount of managerial compensation, which also been documented by previous researchers as follow.

Lau and Vos (2004). stated that when the firm size is larger as compared to others, they are willing to pay higher compensation for the top executives. Finkelstein and Hambrick (1989) also stated that the larger the firm size will pay higher compensation because the top executives are able to manage the substantial resources and know how to fully utilise the resources effectively and efficiently. In addition, Nulla (2013) stated that the concept "bigger the firm size pays more to top executive" is widely adopted through all the firms. It is because the companies might believe that top executives deserve higher compensation when dealing with such the large as well as complexity organization and human capital. Otherwise, Sigler (2011) stated the larger companies need to pay higher compensation to hire high ability top executives who are able to control the complexity operation of larger companies.

The positive significant relationship between company size and managerial compensation may not in line with the marginal productivity theory. The

size of company determines the complexity of company. Sigler (2011) stated the larger company might have complexity structure and top executives need to manage the company's operation with some skill set. But, the skill set might not suitable with the top executives and it might results in poor productivity. So, the company did not pay a higher compensation for top executives with poor productivity.

5.3 Implication of Study

This study will gives contribution to policy makers, corporations' management team, investors as well as the future researchers. This is very important because the amount of managerial compensation can provide significant effect or impact to the corporations.

There is negative and insignificant relationship between CEO duality and managerial compensation for Model 1 and Model 2 but the result provides positive and significant relationship in Model 3. This result indicates that after the MCCG 2012 was implemented, the top executives with dual titles may abuse their power on deciding the managerial compensation. Thus, policy makers may use these findings as guidelines to further making better recommendations or regulations for those who serve these two positions at the same time by referring to this study. These amendments must make sure the power of those top executives that own dual titles are restricted.

Moreover, CEO ownership has positive and insignificant relation with managerial compensation in Model 1 and Model 2. However in Model 3, there is negative significant relationship between CEO ownership and managerial compensation. The negative relationship between CEO ownership and managerial compensation showed that the top management act on behalf their shareholders instead of themselves. With this result, it actually provides some guidelines or benchmark for investors to make their investment decisions. A corporation which act on behalf their shareholders will be a better choice because the corporations will

always seek profit or benefits to their shareholders as well as the greater security for the investment.

In addition, this research showed that the board independence, CEO ownership and dividend payout policy have change in relationship with managerial compensation after the implementation of MCCG 2012. For example, the board independence change from positively significant to positively insignificant relationship may due to improvement of internal control system after implementation and adoption of MCCG 2012. The change of relationship may indicate that the MCCG 2012 is effective in improving the independent variable towards managerial compensation. Therefore, this research provides the policy maker the benefit to evaluate the effectiveness of MCCG 2012.

Otherwise, board size has positive and insignificant relationship with managerial compensation in Model 1 and 3 while has negative insignificant relationship with managerial compensation in Model 2. The insignificant relationship might because of MCCG 2012 only encouraged companies to examine the board size instead of provide exact number of directors in the board. So, this research is important for the policy maker because it provides guidelines make amendments into the MCCG 2012 in order to control the size of board in the company. This make sure some problems can be prevented in the board and beneficial to the operation of the company.

Furthermore, dividend payout ratio has negative and insignificant relationship with managerial compensation in Model 1 and 3 while has negative and significant relationship with managerial compensation in Model 2. The insignificant relationship indicated that the dividend payout ratio did not influence the managerial compensation. It might because of managerial directors with dual titles have more powers on deciding dividend payout, so they might pay more on their own compensation and pay lesser dividend to the shareholders. It acts as a benchmark for investors because it provides guidelines that can be used by investors in the decision making.

5.4 Limitation of Study

There are insufficient of journals support that specifically study on top executives' compensation in Malaysia. There are few researchers carry out similar research about how the factors like especially corporate governance affect the top executives' compensation in Malaysia. So, this research has abundantly referred to the journals that are focus on other different industries and countries instead of Malaysia. Therefore, the actual outcome of this research may deviate from the expected result which due to the different corporate culture, region and rules and regulations of various countries.

Many different industries and sectors are studied in this research. Due to limitation of availability of data, the numbers of companies for each industry are different which may cause the results not fully reflect the top executive compensation trend of every industries in Malaysia. For example, there are more companies are from plantation industries (eg. Sime Darby, Genting Plantation, Kulim and Hap Seng Plantation) compared to medical and healthcare industry (eg. KPJ Healthcare). Each sector has its characteristics and culture. Thus, the information and the result are more suitable to the policy maker, investor, regulators and company managers who wish to access to the overall instead of specific industry trend of top executives' compensation in Malaysia.

There are few journals that examine the effect of MCCG 2012, but there is lack of information that quantifies and shows the adoption of MCCG 2012 in Malaysia companies. Therefore, assumption will be made in this research based on the increase of average of number of independent directors in the board, since MCCG 2012 encourage that the board should be made up from most independent directors. For example, the average numbers of outside directors in board only increase from 4.13 (from year 2009 to 2012) to 4.25 (year 2012 and 2013) which indicate there is low adoption of MCCG 2012. This may result inaccurate estimation in adoption of MCCG 2012 because board may adopt MCCG 2012 by improving disclosure requirement on information rather than increase the number of independent directors in the board.

Different accounting periods in the sample of this research may produce less reliable results because of the less precise yearly data set. The announcement of annual report at different times will increase the difficulties in acquiring the data and information based on same ending date in Malaysia's public-listed companies. For example some accounting period end at 28/29 February of the year (eg. Genting, KPJ Healthcare, and Public Bank) while others may end by 31 May or 31 October (eg. IJM Corporation, Gamuda and Top Glove Corporation). Therefore, inaccurate yearly data set collected may probably cause the result to become inefficient.

5.5 Recommendation for Future Research

This research focused on companies listed in the FTSE Bursa Malaysia Top 100 Index. Future researchers are recommended to expand the research area to more listed companies in order to have better understanding on the trend of managerial compensation in Malaysia. And by then, future researchers can add in more companies from different sectors and industries, and able to explore the effect of the factors in managerial compensation in cross-industries public listed companies in Malaysia. Future research is also recommended to make comparisons between different industries to provide more accurate result on vary managerial compensation trends.

Besides, this research recommended future researchers to have more detailed studies on the MCCG and corporate governance practices conducted by each company to capture better effect of corporate governance on managerial compensation. Instead of rely on information regarding corporate governance from annual reports or official websites, future researchers can also analyse the corporate culture or religion of each company to better reflect the company's managerial compensation setting process.

Furthermore, future researchers are recommended to increase the length of sample period. This research collected data with sample period from 2009 to 2013. Future

research should study this topic with longer sample period in order to better capture the results on the relationship between variables in this study. Apart from this, future researchers should also collect data based on same ending financial year. Annual reports of different companies might have varied financial period, and this might lead to bias results. Therefore, future research should conduct data collection in a more consistent way, by selecting same companies with same financial period in lengthened sample period.

Lastly, future researchers are also suggested to add in more variables to better capture the relationship between corporate governance, dividend payout and managerial compensation. Variables such as family ownership can be added to examine the impact of corporate governance on managerial compensation in different regimentation.

5.6 Conclusion

The main objective of this study is to examine the relationship between corporate governance, dividend payout policies and managerial compensation. Using data from 57 public listed companies in FTSE Bursa Malaysia Top 100 Index, this study concluded that the impact of each independent variable on managerial compensation vary before and after the implementation of MCCG 2012.

As a conclusion, the effect of board size, CEO duality and CEO ownership towards managerial compensation was found to be insignificant before the implementation of MCCG 2012. In contrary, board independence and dividend payout have significantly effect on managerial compensation after the implementation of MCCG 2012. By comparing the results between models before and after implementation of MCCG 2012, the impact of board size was found to be constant and insignificant in both models, while other variables have different impact on managerial compensation in both models. The impact of CEO duality and CEO ownership were found to be significant after the implementation of MCCG 2012, while board independence, dividend payout and managerial

compensation were insignificantly related after the implementation of MCCG 2012. However, the results from this study are supported by both agency theory and marginal productivity theory.

This study provided useful empirical evidences to policy makers, corporations' management team, investors as well as future researchers. However, this research might be restricted by several limitations, such as insufficient journal support, problem of data collection and lack of information on specific variable. Future researchers are recommended to expand the research area, lengthen the sample period and increase or exchange of independent variables.

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Appendix 1: List 100 companies from FTSE Bursa Malaysia Top 100 Index

1. AEON CREDIT SERVICE (M) BERHAD
2. ALLIANCE FINANCIAL GROUP BERHAD
3. AIRASIA BERHAD
4. AMMB HOLDINGS BERHAD
5. ASTRO MALAYSIA HOLDINGS BERHAD
6. AXIATA GROUP BERHAD
7. BIMB HOLDINGS BERHAD
8. BERJAYA CORPORATION BERHAD
9. BERJAYA SPORTS TOTO BERHAD
10. BOUSTEAD HOLDINGS BERHAD
11. BRITISH AMERICA TOBACCO (M) BERHAD
12. BUMI ARMADA BERHAD
13. BURSA MALAYSIA BERHAD
14. CALSBERG BREWERY (M) BERHAD
15. CAPITALAND MALAYSIA MALL TRUST
16. CIMB GROUP HOLDINGS BERHAD
17. DAYANG ENTERPRISE HOLDINGS BERHAD
18. DIALOG GROUP BERHAD
19. DIGI. COM BERHAD
20. DRB-HICOM BERHAD
21. DUTCH LADY MILK INDUSTRIES BERHAD
22. EASTERN AND ORIENTAL BERHAD
23. FELDA GLOBAL VENTURES HOLDINGS BERHAD
24. GAMUDA BERHAD
25. GAS MALAYSIA BERHAD
26. GENTING BERHAD
27. GENTING MALAYSIA BERHAD
28. GENTING PLANTATION BERHAD
29. HAP SENG CONSOLIDATED BERHAD
30. HAP SENG PLANTATION HOLDINGS
31. HARTALEGA HOLDINGS BERHAD
32. HONG LEONG BANK BERHAD

33. HONG LEONG FINANCIAL GROUP BERHAD
34. IGB CORPORATION BERHAD
35. IGB REAL ESTATE INVESTMENT TRUST
36. IHH HEALTHCARE BERHAD
37. IJM CORPORATION BERHAD
38. IJM LAND BERHAD
39. IOI CORPORATION BERHAD
40. JCY INTERNATIONAL BERHAD
41. KLCC MALAYSIA BERHAD
42. KUALA LUMPUR KEPONG BERHAD
43. KOSSAN RUBBER INDUSTRIES BERHAD
44. KPJ HEALTHCARE BERHAD
45. KULIM (M) BERHAD
46. LAFARGE (M) BERHAD
47. MAGNUM BERHAD
48. MAH SING GROUP BERHAD
49. MALAYAN BANKING BERHAD
50. MALAYSIA AIRPORTS HOLDINGS BERHAD
51. MALAYSIA BUILDING SOCIETY BERHAD
52. MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS
53. MALAYSIAN BULK CARRIERS BERHAD
54. MALAYSIAN RESOURCE CORPORATION BERHAD
55. MALAYSIA AIRLINE BERHAD
56. MAXIS BERHAD
57. MBM RESOURCES BERHAD
58. MEDIA CHINESE INTERNATIONAL LIMITED
59. MEDIA PRIMA BERHAD
60. MISC BERHAD
61. MMC CORPORATION BERHAD
62. MUDAJAYA GROUP BERHAD
63. MULPHA INTERNATIONAL BERHAD
64. OSK HOLDINGS BERHAD
65. PADIBERAS NASIONAL BERHAD

66. PADINI HOLDINGS BERHAD
67. PARKSON HOLDINGS BERHAD
68. PAVILION REAL ESTATE INVESTMENT TRUST
69. PERISAI PETROLEUM TEKNOLOGI BERHAD
70. PETRONAS CHEMICALS GROUP BERHAD
71. PETRONAS DAGANGAN BERHAD
72. PETRONAS GAS BERHAD
73. POS MALAYSIA BERHAD
74. PPB GROUP BERHAD
75. PUBLIC BANK BERHAD
76. QL RESOURCES BERHAD
77. RHB BANK BERHAD
78. RIMBUNANA SAWIT BERHAD
79. SAPURAKENCANA PETROLEUM BERHAD
80. SIME DARBY BERHAD
81. S P SETIA BERHAD
82. SUNWAY BERHAD
83. SUPERMAX CORPORATION BERHAD
84. TA ANN HOLDINGS BERHAD
85. TA GLOBAL BERHAD
86. TDM BERHAD
87. TELEKOM MALAYSIA BERHAD
88. TENAGA NASIONAL BERHAD
89. TH PLANTATIONS BERHAD
90. TIME DOTCOM BERHAD
91. TOP GLOVE CORPORATION BERHAD
92. TROPICANA CORPORATION BERHAD
93. TSH RESOURCE BERHAD
94. UEM SUNRISE BERHAD
95. UMW HOLDINGS BERHAD
96. UOA DEVELOPMENT BERHAD
97. WCT HOLDINGS BERHAD
98. YTL CORPORATION BERHAD

99. YTL POWER INTERNATIONAL BERHAD

100. ZHULIAN CORPORATION BERHAD