Group A27

THE IMPACT OF CEO CHARACTERISTICS AND BOARD GOVERNANCE TOWARD CEO COMPENSATION: EVIDENCE ON MALAYSIA'S LISTED CONSUMER PRODUCT SECTOR

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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 30,327 words.

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LIST OF ABBREVIATIONS

ADF	Argumented Dickey-Fuller
BS	Board Size
CEO	Chief Executive Officer
CCM	Companies Commission of Malaysia
COM	Compensation
CP	Company Profitability
CS	Company Size
CLT	Central Limit Theorem
DUA	Duality
EViews 7	Electronic View 7
FEM	Fixed Effect Model
FSMP	Financial Sector Master Plan
GDP	Gross Domestic Products
GLS	Generalized Least Squares
GMM	Generalized Method of Moments
JB	Jarque-Bera
LM	Lagrange Multiplier
LOG	Logarithm

MCCG	Malaysia Code of Board Governance
MPT	Managerial Power Theory
NASDAQ	National Association of Securities Dealer Automated Quotation
NYSE	New York Stock Exchange
OLS	Ordinary Least Square
OWN	Ownership
REM	Random Effect Model
S&P	Standard & Poor
SC	Securities Commission of Malaysia
SEC	Securities and Exchange Commission
SOPs	Stock Ownership Policies
TEN	Tenure
U.S.	United States
VIF	Variance Inflation Factor
WLS	Weighted Least Squares

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PREFACE

This research paper is submitted as a part of the requirement to fulfill for the Bachelor of Business Administration (HONS) Banking and Finance course. The title for this research project is "The Impact of CEO Characteristics and Board Governance toward CEO Compensation: Evidence on Malaysia's Listed Consumer Product Sector".

There are many previous researchers have study the factors that influence CEO compensation especially in foreign countries. However, there are rare researchers conduct similar studies about the factors influence CEO compensation in Malaysia. Due to this motivation, this research is conducted in order to provide more meaningful evidence and knowledge to Malaysia's consumer product sector. This research can provide contribution and significance to shareholders, policy makers, investors, company and board of directors.

Furthermore, this research has included the overview of compensation package, CEO characteristics and board governance. It also touches on the research objective, the determinants and its effect, data analysis, empirical major findings and recommendations for future research.

ABSTRACT

This research project is aimed to examine the impact of CEO characteristics and board governance toward CEO compensation in Malaysia's consumer product sector from year 2009 to 2013. CEO age, CEO tenure, CEO duality and CEO ownership are group in CEO characteristics while board size and board independence are group in board governance. This research has conducted secondary data and chosen 38 consumers product sector companies after filtered 126 companies. Besides, this research used panel random effect model (REM) to study the model in this research. As the result, CEO age and board size are positively insignificant toward CEO compensation. Furthermore, CEO tenure is positively significant towards CEO compensation while CEO duality is negatively insignificant towards CEO compensation. This research also found that the relationship between CEO compensation and CEO ownership is negatively significant. On the other hand, board independence is also negatively significant towards CEO compensation. The findings of this research can provide significant insight to policy makers, investors and companies that in consumer product sector.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

The purpose of this study is to investigate elements that will influence the Chief Executive Officer (CEO) compensation of Malaysia's public listed company particularly in consumer product sector. These elements categorised into CEO characteristics include CEO age, CEO tenure, CEO duality, CEO ownership and board governance such as board size and board independence. This chapter will include research background, research objective, and hypothesis of study, significance of study and chapter layouts.

1.1 Research Background

1.1.1 Overview of Compensation Package

As pointed out by Bereskin and Cicero (2013), the CEO compensation is become a debatable topic in financial economics as well as from general public. Compensation is a critical component of the employment relationship. According to Bernadin (2007), compensation includes the financial payment and benefit. There are two forms of compensation which is direct form compensation and indirect form compensation (Taras, 2012). Section 5 of Radiation Exposure Compensation Act 1990 in United States (U.S.) states that indirect form of compensation such as medical benefits are provided to the employees who suffer from illness that caused by exposure to radiation or beryllium. In Malaysia, under Workmen's Compensation Act 1952 Section 5(1), the compensation is paid to the family of employee in the event of fatal accident or contracting an occupational disease. On the other hand, the direct form of compensation consists of the non-

monetary benefits and financial payment provided to the employees as compensation for their work (Taras, 2012). Bergstresser and Philippon (2006) recognize that short term and long term incentives are considered as compensation packages of direct form of compensation. Short term incentive compensation involves the basic salary and bonus (Taras, 2012). Moreover, the stock option is considered as the long term incentive compensation (Heisler, 2007).

1.1.1.1 Base Salary

Base salary is expenditure for company to hire a CEO in order to operate the businesses and company will prefer to set lower base salary when bonus available for CEO (Kate, 2014). Salaries pay according to contract is known as the compensation agreed from the initial of the year and with a duty of performing higher quality job that was stated in the contract (Rayburn, Fullilove, Scroggs & Schrader, 2011). Ciscel and Carroll (1980) claim that apart from company performance, the CEO base salary is influence by other external factors. Furthermore, CEO base salaries are more likely associated with the scope of operations instead of the company gains (Baumol, 1967) and serve as a measurement for cash compensation (O' Connor & Rafferty, 2010). Total components of CEO compensation are the sum of bonus and salary (Unite, Sullivan, Brookman, Majadillas & Taningco, 2008).

In U.S., median of $700,000 CEOs' base pay has improved to $2.2 million from 1970 to 2000 (Murphy & Zabojnik, 2004). Further evidence from Conyon and Murphy (2000)'s paper find that CEOs' compensation in U.S. is twice above against the CEOs' compensation in United Kingdom. Size of company plays an important role in determining the CEO compensation as there is a positive relationship exists between them (Bloom & Van Reenen, 2007). Furthermore, the latest reformation of policy has drawn awareness on board governance in which the policy allows CEO compensation more publicity and measureable (Conyon, 2014). U.S. companies are require to reveal the total compensation of all workers, total compensation of CEO in yearly basis, the ratio of average for total

compensation of employees to the total compensation of CEO, which is the CEO pay-ratio (Dodd-Frank Wall Street Reform and Consumer Protection Act, 2010).

Table 1.1: Top 10 CEO Pay Ratio for 2012 in U.S.

Ranking	CEO	Company	Pay Ratio
1	Ronald Johnson	JC Penney Corporation	1,795
2	Michael Jeffries	Abercrombie & Fitch Company	1,640
3	Lawrence Ellison	Oracle Corporation	1,287
4	Howard Schultz	Starbucks Corporation	1,135
5	Ralph Lauren	Ralph Lauren Corporation	1,083
6	Mark Parker	NIKE Incorporation	1,050
7	John Hammergren	McKesson Corporation	733
8	Gregg Steinhafel	Target Corporation	664
9	Leslie Wexner	L Brands Incorporated	656
10	David Cote	Honeywell International Incorporated	633

Source: Smith, Kuntz and Whiteaker (2013)

As show in above Table 1.1, Ronald Johnson is the CEO from JC Penney Corporation who is the top one CEO with the highest pay ratio, whereas David Cote from Honeywell International Incorporated has the lowest ranking in top 10 companies.

According to Gabaix and Landier (2008), they claim that CEO compensation is increase over time and across companies. In Malaysia, more companies switch their CEO compensation schemes to long-term incentives and pay-for-performance incentives as part of the CEO compensation packages ("Hay Group: Salary package", 2014). Furthermore, long term rewards bring more benefits for companies that wish to change their business operations and diminish probability of losses. Without long term reward, company will be more difficult to attract more talents to CEO position ("CEO salary packages rising", 2014). However, Dogan and Smyth (2002) find that CEO compensation is more likely linked to the company size and company growth in future.

Table 1.2: Top 10 Malaysia's Highest Paid Directors in 2012 and 2013

Rank	Company	Sector	Directors	Total Director Payout (RM'000)		
				Change (%)	2013	2012
1	Genting	Gaming	Tan Sri Lim Kok Thay	20.32	140,900	117,100
2	YTL Corporation	Construction	Tan Sri Yeoh Tiong Lay	19.09	70,570	59,259
3	IOI Corporation	Plantations	Tan Sri Lee Shin Cheng	7.75	56,570	52,500
4	Tropicana Corporation	Property Development	Tan Sri Tan Chee Sing	234.89	54,407	16,246
5	Public Bank	Banking/ Financial Services	Tan Sri Teh Hong Piow	16.47	44,486	38,195
6	Dayang Enterprise Holdings	Oil and Gas	Datuk Hasmi Hasnan	110.41	36,387.901	17,293.865
7	SP Setia	Property Development	Tan Sri Liew Kee Sin	23.79	33,124	26,758
8	Dialog Group	Oil and Gas	Dr Ngau Boon Keat	-9.74	24,850	27,532
9	KSL Holdings	Property Development	Ku Hwa Seng	92.58	24,480	12,711.131
10	Mah Sing Group	Property Development	Tan Sri Leong Hoy Kum	25.03	21,078.896	16,859.609

Source: Mohd Yussof and Abdul Rahim (2014)

The above Table 1.2 shows that Genting director leading in term of the highest payout in Malaysia with RM140, 900,000 in year 2013. Except Dialog Group director, other companies in list of Top 10 directors' compensation increase from year 2012 to 2013 especially the director from Tropicana Corporation recorded

the highest increase with 234.89% followed by the director of Dayang Enterprise Holdings from oil and gas sector with 110.41%. Four companies from property development sector are listed in Table 1.2. For instance, there are huge increase of director payout in Tropicana Corporation and KSL Holdings with around 234.89% and 92.58%, while SP Setia only 23.79% increases. Followed by two companies from oil and gas sector, Dayang Enterprise Holdings director's payout has increase of more than double. However, Dialog Group from oil and gas sector, the director's payout has decrease about 9.74%. Other companies with directors' payout with less than 21.00% incremental in their payout are from gaming, construction, plantations and banking or financial sectors. Hence, it is interesting to explore the issue of compensation in this particular study.

1.1.1.2 Bonus

Bonuses denote an element of the CEO's short-term compensation (Bushman & Smith, 2001; Murphy, 2000). The bonuses are paid based on the performance of CEO. According to Masli (2011), a CEO does not receive a bonus payout until a company performance threshold is complied with the typical bonus plan. Once a CEO meets the company's goal, he or she will receive the bonus. However, if the company performance is not satisfied, the CEO will not receive any bonuses. Healy (1985) finds that a bonus gives incentive to increase earnings. This will motivate the CEO to improve the company performance. Bonuses can also help a company to retain the excellent employees (Wang, 2014). So, the bonuses are important to CEO as well as the company.

However, some of the companies will have moral hazard in the distribution of their profit. For instance, they try to structure the CEO bonuses to avoid paying taxes on corporate earnings (Wang, 2014). Because of this, U.S. has introduced legislation in year 2013. According to Reed (2015), Senators Jack Reed (D-RI) and Richard Blumenthal (D-CT) are introduced the Stop Subsidizing Multimillion Dollar Corporate Bonuses Act. A major loophole in present corporate tax law by putting an end to unlimited tax write-offs on performance-based CEO pay will closed by this legislation in U.S. On the other hand, under Malaysia Employment

Act 1955, salary that payable in cash to an employee does not include any annual bonus.

According to Hay Group (2010), over the last 15 years, bonus trends for Malaysians across the board from clerical to executive management have been relatively flat, suggesting the lack of discrimination between high and low performers. Similarly, the gap between senior management and lower ranking staff bonuses is small in year 2014 ("Bonus payment seen to", 2014).

1.1.2 Overview of CEO Characteristics

According to Ismail, Yabai and Low (2014), CEO is a person who appointed and selected by Board of Director in order to do the unstructured decisions such as planning, organizing, leading and controlling the high-level strategies as well as acting as the middleman between Board of Directors and the management level in a company. Therefore, CEO is playing an important role on the structure of a corporation. Furthermore, all CEOs' models have the heterogeneous characteristics qualities as they acting as an essential to their corporations (Gabaix & Landier, 2008; Murphy & Zabojnik, 2004; Rosen, 1981). Hence, it is widely accepted that the characteristics of CEO have been considered noteworthy nowadays. In addition, Graham, Li and Qiu (2012) state that CEO characteristics can be differentiated as observable characteristics and unobservable characteristics. The example of observable characteristics is the age, tenure and gender of CEO, whereas the example of unobservable characteristics is the personality and the leadership style of CEO.

1.1.2.1 CEO Age

Generally, CEO age is one of the demographic and observable characteristics of CEO. When the CEO age increase, they will enhance their intellectual capabilities since they gained the valuable knowledge and experience over time (McKnight, Tomkins, Weir & Hobson, 2000). Therefore, the CEO age is considered as an important variable on the variation within the company.

Apart from that, the amendments in 1978 to the U.S. Age Discrimination in Employment Act advocates that the retirement age of employee was prolonged to 65 years old and above at the same time expressed the employers' concerns to prolong the retirement age of employee to 70 years old (Gitt, 1980). Recently, the Business Roundtable which is an association that comprises of CEOs from certain large scale companies in U.S. pushing the plan in order to extend the full retirement age to 70. Besides, the death of Melvin Gordon at age of 95 who was the founder and former CEO of Tootsie Roll Industries Inc. was created the public gaze on greying American CEOs ("U.S. CEOs push plan", 2013). On the other hand, David Larcker's study (as cited from Green & Turner, 2015) suggests that many of the CEOs still hold their position into their 80s if they are founders or undertake the family-owned businesses. Table 1.3 shows that many of the CEOs are still holding CEO position after they are 80s and this is consistent with the idea of David Larcker.

Table 1.3: The Oldest CEOs of Publicly Held Companies in U.S.

Rank	Company	Name	Age*	Founder/Family-owned Business
1	Sonic Automotive Incorporated	Bruton Smith	87	Yes
2	Citizens Insurance	Harold Riley	86	Yes
3	Berkshire Hathaway Incorporated	Warren Buffett	84	No
4	21st Century Fox Incorporated	Rupert Murdoch	83	Yes
5	Tootsie Roll Industry	Ellen Gordon	82	Yes
6	B. F. Saul Company	Bernard Francis Saul II	81	Yes
7	Las Vegas Sands Corporation	Sheldon Adelson	81	Yes
8	M&T Bank Corporation	Bob Wilmers	80	No

Source: Green and Turner (2015)

*: Information from respective companies' official website.

Table 1.4: The Highest Payout of CEOs in Malaysia (2013 & 2012)

Rank	Company (Sector**)	Name of CEO	Total Payout (RM'000)			Age*	Tenure*
			2013	2012	Change (%)		
1.	Genting (Trading/Service)	Tan Sri Lim Kok Thay	140,900	117,100	20.32	62	37
2.	SP Setia (Property Development)	Tan Sri Liew Kee Sin	33,124	26,758	23.79	54	17
3.	Mah Sing Group (Property Development)	Tan Sri Leong Hoy Kum	21,078.896	16,859.609	25.03	56	22
4.	Hong Leong Financial Group (Finance)	Choong Yee How	17,415.749	19,595	-11.12	57	8
5.	British American Tabacco (M) (Consumer Product)	Datuk William Toh Ah Wah	17,142.710	13,408	27.85	56	4
6.	Bumi Armada (Trading/Service)	Hassan Assad Basma	16,004	17,047	-6.12	57	8
7.	SapuraKencana Petroleum (Trading/Service)	Tan Sri Shahril Shamsuddin	15,607	6,923	125.44	52	2
8.	Berjaya Corporation (Trading/Service)	Datuk Robin Tan Yeong Ching	13,129	23,532	-44.21	39	3
9.	Sime Darby (Trading/Service)	Tan Sri Mohd Bakke Salleh	12,932	11,200	15.46	59	3
10.	Gamuda (Construction)	Datuk Lin Yun Ling	12,698	8,777	44.67	58	32

Source: Mohd Yussof and Abdul Rahim (2014)

*: Information from annual report of corporations in year of 2013.

**: Information from Bursa Malaysia.

Based on the research of Ishak, Ku Ismail and Abdullah (2012) that carry out in Malaysia, they include the CEO with the age less than 54 is the younger CEO and the CEO with the age more than 55 years old is deemed as older CEO. Therefore, seven CEOs which stated in Table 1.4 is considered as old CEOs, whereas 3 CEOs from Table 1.4 is considered as young CEOs. In particular, the youngest CEO in the top ten highest CEOs payout in Malaysia is Datuk Robin Tan Yeong Ching with the aged of 39 is receiving wide concerns in Malaysia. In addition, Table 1.4 also shows that the top ten highest CEOs payout in Malaysia for the year of 2013 and 2012 with the mean of 55 years old is same with study of McKnight et al. (2000).

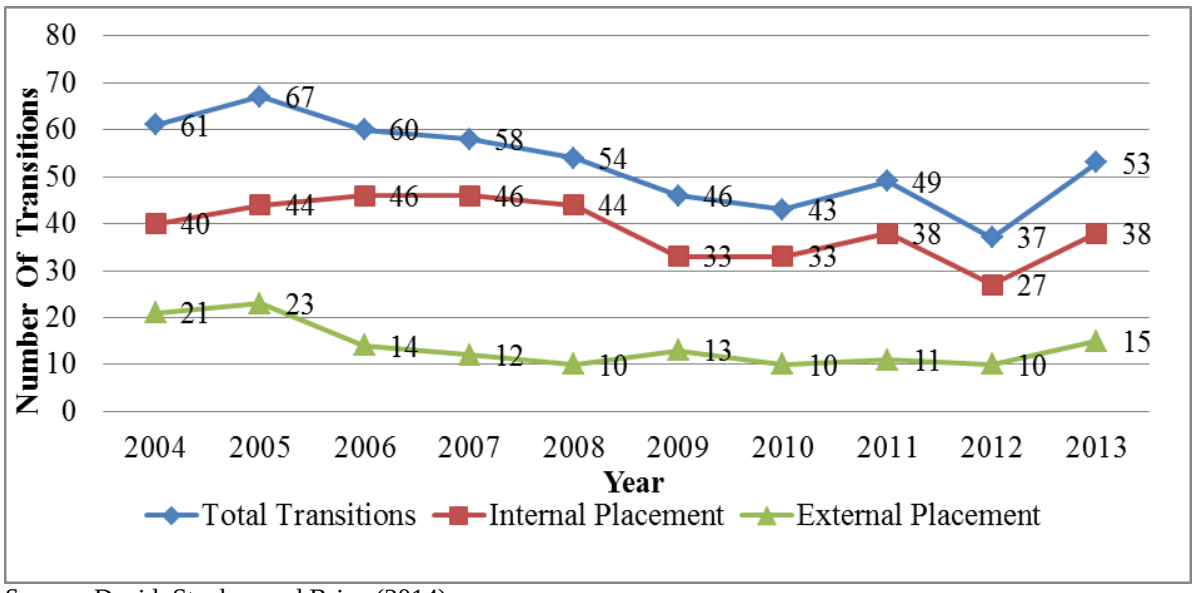
1.1.2.2 CEO Tenure

CEO tenure is defined as the years or duration being as current CEO (Bushman, Dai & Wang, 2010). In reality, CEO tenure plays several important roles influence the company in every aspects strategic planning and corporate performance (Finkelstein, Hambrick & Cannella, 2009). Commonly, CEO tenure do affects a company strategic planning because CEO working as top executive level in a company, they bearing ultimate commitment in strategic formulation and implementation of cooperation via their intuition (Weng & Lin, 2014). In consistent with this, turnover of CEO tenure will always affect company strategic changes and initiatives. Mostly, CEO attention and behaviour in a company may change or distinctive across various his or her tenure in the position (Hambrick & Fukutomi, 1991). For example, long tenure CEO prefer maintains existing strategy but short tenure CEO may tend to adopt new strategy (Weng & Lin, 2014). Thus, CEO tenure may affect an organizational strategic pattern which indirectly influences the organizational performance as well as their compensation. Furthermore, a new-appoint CEO may encounter a series of challenges when he or she taking up the office. Thus, they require to show higher capability in adapt and develop their relationship quickly with other executive members and powerful stakeholders. Overtime, with longer tenure, they establish their role and show leadership capability in a company (Ishak et al., 2012). This may encourage CEO

exercise their influence over the whole company which indirectly fulfil their own preferences (Hill & Phan, 1991).

According to Table 1.4, it shows that the increase in payout ratio of Tan Sri Shahril Shamsuddin who only has two years working experience as CEO with SapuraKencana Petroleum, but the increase in payout from the year of 2012 to 2013 is 125.44%. As a comparison, the increase in payout of Tan Sri Lim Kok Thay who is the CEO of Genting with the tenure of 37 years is only 20.32% and it is relatively lower than the increase in payout of Tan Sri Shahril Shamsuddin. Apart from that, CEO and Chairman of Genting, Tan Sri Lim Kok Thay owns the highest total payout of RM140,900,000 in year of 2013 with the longest tenure among the top ten CEOs in Malaysia.

Figure 1.1: Standard &Poor 500 CEO Transitions (2004-2013)



Source: David, Stephen and Brian (2014)

The above Figure 1.1 shows that the Standard & Poor (S&P) CEO transitions from year 2004 until year 2013. Transition represents the frequency of CEO being change in each year. From Figure 1.1, it consists of two types of transitions which are internal placement and external placement. Internal placement shows that internal employees being promoted as CEO. In another way, external placement means external employees being promoted as CEO. For internal placement, the

highest number of transition was recorded in year 2006 and 2007 with 46 times. But, the number of transitions is start to decrease from year 2008 onward and after it is fluctuating over the last five years. However, in year 2012 shows the lowest number of transitions for internal transitions is 27 times. On the other hand, for external placement, the highest number of transition which is 23 times repeated in year 2005 while the lowest number of transitions for external placement is 10 times in year 2012. Furthermore, the highest number of transition for total transition is in year 2005 with 67 times while the lowest number for total transitions is 37 times in year 2012. In sum up, the year 2012 has lowest number of transition and year 2005 has the highest number of transitions.

1.1.2.3 CEO Duality

CEO duality refers to the condition when the CEO also holds the position of the chairman of the board. This can reduce information cost and promote command leadership (Brickley, Smith & Zimmerman, 1997). CEO duality supports financial performance and minimizes collision in decision-taking (Syriopoulos & Tsatsaronis, 2012). According to Boyd (1995), CEO duality may be advantage under situations of shortage in resource and unpredictability of environmental change. Difference parties have their own view on CEO duality. Agency theory implies that CEO duality harmful for performance because it compromises the controlling and monitoring of the CEO. Stewardship theory, in contrast, debates that CEO duality may be good for performance due to the unity of mandate it presents (Peng, Zhang & Li, 2007).

The practice of CEO duality does not encouraged by the Malaysian Code of Board governance (MCCG, 2007) due to the conflict of interest may happen (Saleh, Iskandar & Rahmat, 2005). Under MCCG paragraph 4.18 which suggest that both roles should be clearly separate. Therefore, there is a requirement of balance of power and authority between Chairman and CEO so that no individual has unfettered powers of decision (MCCG, 2007). According to Malaysia Deposit Insurance Corporation Act 2005, the responsibilities of executive are act honestly

and in the discharge of the duties of his office; and also shall not make inappropriate use of any information obtained by virtue of his position as a executive to gain, directly or indirectly, an advantage for himself or any other person; or do, say, release anything which may be harmful to the interest of the company. On the other hand, CEO shall be liable to the affairs of the corporation and day-to-day business administration.

The trend of company converting from CEO duality to non-dual CEO structure is increasing in U.S. (Chen, Lin & Yi, 2008). This tendency shows that CEO duality is becomes less popular in U.S. The number of non-dual CEO in U.S. increases from 3 in 2001 to 32 in 2004 (Faleye, 2007). This implies that the company in U.S. more prefer the non-dual CEO structure nowadays. Surprisingly, Hashim and Devi (2008) find that CEO duality has increased in Malaysia recently even thought MCCG (2007) suggests a separation role in order to assure balance and power.

1.1.2.4 CEO Ownership

Ownership is the condition or fact of being an owner and has legislative right of dominion or proprietary (Merriam-Webster's collegiate dictionary, 1993). According to Zulkafli, AdulSamad and Ismail (1999), ownership can be divided in the form of ownership and the ownership concentration. Individual, organization, country, foreign and managerial ownership are considered as the form of ownership. The ownership concentration is the main crucial of board governance (Zulkafli et al., 1999). Kim and Lu (2011) state that high degrees of ownership can diminish company value by defending the CEO and obstruct him from risk-taking.

With respect to Malaysian governance improved, Financial Sector Masterplan (FSMP) emphasis on the significance of company ownership and foreign ownership while restrict the individuals or family ownership (Zulkafli et al., 1999). After financial crisis, the stockholders request senior executives and directors to hold a minimum value of company stock until retirement in U.S. (Shilon, 2013).

Majority of the large American corporations' ownership is control separately. This separation arises because of CEO does not own majority shares in company. Shilon (2013) find that when a CEO's stock options is raise, the company will more likely to be involved in financial misreporting. However, the CEO's ownership of other compensation elements such as restricted stock or long-term reward is not associated with misreport (Shilon, 2013).

After financial crisis, U.S. introduces the CEO stock ownership policies (SOPs). Shilon (2013) found that 94% of SOPs reveal a target ownership framework while there is just 6% invoke a framework that requests onward stock retention. In Malaysia context, executive is also aroused to have their own portion of ownership in the company because it expected to have impact on audit quality (Wan Abdullah, Shahnaz Ismail & Jamaluddin, 2008). The CEO that holds a portion of ownership in company cans also minimize a gap between director's interest and the interest of shareholders.

1.1.3 Overview of Board governance

In Malaysia, board governance system is being existence to control and reduce agency problem which is arise resulting from adverse selection and moral hazard (MCCG, 2012) by monitoring the board of director, compensation of executive, shareholder, accounting expertise and internal audit. According to the MCCG (2012), the structure of board is determined by the company structure so that it can optimize its efficacy. Moreover, the board of director is a very important component in the board governance structure of the companies because the existence of board of directors is to ensure the consistent between the company objectives and activities (Masulis, Wang & Xie, 2012). Also, supervisory board whose exist with the purpose to monitor and control the executive and director (Li, Moshirian, Nguyen & Tan, 2007). Therefore, despite the personal characteristics of CEO, board governance characteristics also plays as the critical key to determine the CEO compensation of listed companies in Malaysia. There are two types of director which is executive director and non-executive director. According to Germain, Galy and Lee (2014), it describes that executive director

who is the director in charge in the daily operation of company whereas the non-executive director who is the director who do not holding any stock of the company and do not have any relationship with other directors. Overall, there is two type of measurement for board which is board size and board independence (Guest, 2009).

1.1.3.1 Board Size

According to Newton (2015), board size refers to the number of members who has the voting right on the governing body. Briefly, board size can be defined as the total number of the director on the board (Van Ness, Miesing & Kang, 2010). Moreover, based on the research of Kostyuk and Koverga (2006), it states that the board size is influenced by the size of the company. For instance, larger company needs to perform much more activities than smaller company so that it requires the large board size. Therefore, it determines that the number of the members for the board size plays an important role to control and monitor the company tasks effectively and also discipline the CEO (Li et al., 2007; Jensen, 1993). Additionally, board size is one of the elements to influence the level of the compensation of the CEO (Fama & Jensen, 1983; Ghosh & Sirmans, 2005). This is because Chalevas (2011) prove that there is significance impact of the board size on the compensation of the CEO. Like the research of Brick, Palmon and Wald (2006), it mentions that member of board of directors is designed to recommend and monitor the top executive and hence advise the compensation of executive as well as protect the shareholders' interests. As a result, board size of the company will influence the level of CEO compensation.

Furthermore, Muravyev, Berezinets and Ilina (2014) report that the election of the member of the board of directors is carrying through every annual shareholder meeting. At the same time, they mention that the minimum number for the board size should be five whereas there should not less than nine directors if their shareholders more than ten thousand in that particular company. On the other hand, Chalevas (2011) indicate that there is time consuming for management process when the board size is larger. It is consistent with the research of Guo and

KGA (2012) which evidence that there is more ineffectiveness for the large board size than the small board size because of the members are less willing to discuss and comment the management proposals as well as control on compensation matter of CEO is feeble due to dispute among the members when the boars size is larger (Ozdemir & Upneja, 2012). However, Goodstein, Gautam and Boeker (1994) show there is better performance with the large board size because of much more resources. On the other hand, there is more unite of common standard or purpose and easier to achieve board consensus when there is small board size (Van Ness et al., 2010). It is also suggested by Garg (2007), where small board size is more efficient whereas large board size lead to a bad performance.

According to the Johl, Kaur and Cooper (2015), board size is not same within each country as well as from company to another company. In Malaysia, MCCG (2012) determines that board should be set up by Nominating Committee which is constituted exclusively of non-executive directors and majority of members must be independent. Obviously, there are not an exact number of sizes for a board for each company in Malaysia. Instead, the MCCG (2012) suggest that company should examine its board size. Thus, company should make the consideration about how many number of board size is effective in proposal of their management. Like Ghosh and Sirmans (2005), they also suggest that it should drive a right board size to operate effectively.

1.1.3.2 Board Independence

Independence is a board member that is not currently hired by the company and no significant business relationship with the company (Etzel, 2003). Nathan (n.d.) states that the Malaysian defining independence in two concepts which are independence from management and independence from controlling the shareholder. Under New York Stock Exchange (NYSE), an independence director is the board who absolutely has no relationship with company directly as a partner, shareholder or officeholder in an organization. On the other hand, National Association of Securities Dealer Automated Quotation (NASDAQ)

defines independence director as the one who is non-executive officer or employee of a company and intervenes with the exercise of independent judgment ("Requirement for public company board", 2013).

Under MCCG (2012), the independence directors' tenure is limit to a maximum cumulative of nine years. Upon the end of nine years, they can be re-assigned as non-independence directors or in exceptional situations which the shareholder may determine that an independence director can remain in that capacity after ministry a cumulative of nine years. However, the board should give a strong reason to the shareholders in such exceptional situations. MCCG (2012) stated the period of tenure begin from the time the individual is first appointed as an independent director of a company. It is not advise that rotation of independent directors in a company. If it is failed to get shareholders' consent for the extension of the tenure of any independent director prior to the nine year term limit, the company must explain in the annual report.

According to Germain et al. (2014), Malaysia board independence has an upward trend in recent years. This is because when the company scale and complication increase, board independence has to increase in order to provide more information. On the other hand, Cautious (2013) stated that Bursa Malaysia may be reluctant to change the independent directors. However, there are several companies such as British American Tobacco (M) Berhad, Carlsberg Brewery Malaysia Berhad, Media Prima Berhad and Affin Holdings Berhad have seek the shareholder consent to independent directors serving in that capacity for more than nine years (Cautious, 2013).

1.2 Problem Statement

Executive compensation has long been a global controversial issue for many countries. According to Bebchuk and Fried (2006), due to bull market between year 1992 and 2000, average S&P 500 executive inflation-adjusted income has increased from $3.5million to $14.7million which increased more than quadruple. However, case of abuse and lapses among the executive as well as does not meet the standard has raised a lot of unnecessary cost upon shareholders and company. CEO compensation received a lot of attentions and spotlight as public believe that CEO compensation has been pushed out of average employee compensation level. According to Anderson, Collins, Klinger and Pizzigati (2011), in year 1990, average CEO pay contrast to average production workers pay is 107:1 rise to 325:1 with nearly triple increases as they state in "Executive Excess by the Institute of Policy Studies 2011".

Again, financial crisis of 2008 caused happen of protesters occupy the Wall Street and show their rage to the excessive executive compensation without performance as well as executive management considered as one of the financial crisis initiator ("Protesters against Wall Street", 2011). Unfortunately, such phenomenon also happen in Malaysia, one of the Malaysia iconic conglomerates and the world's largest public traded palm oil producer, Sime Darby has reported losses of RM964 million which is biggest ever loss for this state-control giant. Due to incapability of executive management in expect and control cost in several key projects such as the Sarawak Bakun Hydroelectric dam project and Maersk Oil Qatar project, former CEO, Ahmad Zubir Murshid has been asked to leave and quit before expiration of contract (Chew, 2010). Furthermore, Ahmad Zubir Murshid who acts as one of the government-linked company high pays CEO with the amount of RM2.05 million (Tee, 2008). Thus, these issues have raised the attention and awareness of public and policymaker and this research is conduct and focus on the CEO issue. In addition, MCCG (2007) recommends that the performance of executive should consistent with level of compensation. Other than performance, this research also attempts to evaluate other factors when setting CEO compensation.

Furthermore, many previous researches about CEO compensation have been conducted to evaluate factors influence CEO compensation especially foreign countries. In Australia, according to research of Heaney, Tawani and Goodwin (2010), 1144 of Australian public listed companies across various industries including energy, healthcare, financial, telecommunication and information technology have been chosen in form of cross-sectional data. In Germany, all listed companies in German HDAX have been included in the research about impact of other factors on CEO compensation (Britzelmaier, Frank, Landwehr & Reimer, 2014). However, there are rare researchers conduct similar studies about the factors influence CEO compensation in Malaysia. For example, Chu and Song (2012) studied 196 public listed company in Malaysia for the year 2009 only which focused on how CEO compensation influence over the investment. Thus, due to few such researches in Malaysia, this research is endeavouring to assess and evaluate impact of other factors in relation to CEO compensation.

Moreover, according to Shah, Javed and Abbas (2009), the number of years CEO stayed with the company has significantly impact on the CEO compensation. Based on the result in the Table 1.4, Tan Sri Shahril Shamsuddin from SapuraKencana Petroleum has been listed as top seventh and was recorded has two years remained as CEO with the company. In contrast, Datuk Lin Yun Ling who sit as part of CEO in Gamuda Berhad was reported consisting of 32 years remained with the company, yet Datuk Lin Yun Ling has been listed in top tenth among the ten companies. On the other hand, Tan Sri Lim Kok Thay from Genting Berhad who ranked top one with pay received RM140,900,000 in 2013 and has 37 years working with the company. Yet, Tan Sri Lim Kok Thay has tenure of only five years more than Datuk Lin Yun Ling who receives pay of RM12,698,000 at the same year. Hence, this research is conducted to assess factors impact on CEO compensation.

Last but not least, the top ten Malaysia CEOs payout in 2012 and 2013 quoted by Malaysian Business Magazine which based on Table 1.4 is dominated by the CEOs come from construction sector, property development sector, finance sector, trading or services sector and consumer products sector. However, with the large

private consumption, there is only one CEO comes from consumer products sector. Thus, this research is motivated and attempt to study CEO compensation particularly from consumer products sector.

1.3 Research Objective

1.3.1 General objective

To investigate and study on the CEO characteristics and board governance which will impact on the CEO compensation.

1.3.2 Specific Objective

- To examine the relationship between CEO age and CEO compensation.
- To examine the relationship between CEO tenure and CEO compensation.
- To examine the relationship between CEO duality and CEO compensation.
- To examine the relationship between CEO ownership and CEO compensation.
- To examine the relationship between board size and CEO compensation.
- To examine the relationship between board independence and CEO compensation.

1.4 Research Question

- Is there any significant relationship between CEO age and CEO compensation?
- Is there any significant relationship between CEO tenure and CEO compensation?
- Is there any significant relationship between CEO duality and CEO compensation?
- Is there any significant relationship between CEO ownership and CEO compensation?

- Is there any significant relationship between board size and CEO compensation?
- Is there any significant relationship between board independence and CEO compensation?

1.5 Hypothesis of the Study

There are some hypotheses to examine the significant relationship between the CEO characteristics and board governance toward CEO compensation.

H_1: There is a relationship between CEO age and CEO compensation.

H_2: There is a relationship between CEO tenure and CEO compensation.

H_3: There is a relationship between CEO duality and CEO compensation.

H_4: There is a relationship between CEO ownership and CEO compensation.

H_5: There is a relationship between board size and CEO compensation.

H_6: There is a relationship between board independence and CEO compensation.

1.6 Significance of Study

In this competitive era, the compensation has become very sensitive to everyone who contributes their hard work to the productivity of the company. In general, the level of compensation can be regarded as economics condition of one country. So, it is a critical issue to the financial economics and corporation as pay-for-performance. Compensation is consider as type of reward to employees in directly way. Thus, compensation is playing an important role in employee relationship. Therefore, this study discusses influence of the CEO characteristics and board governance as independent variables toward compensation of CEO as dependent variable in Malaysia consumer product sector. This research highlights the issue about CEO age, CEO tenure, CEO duality, CEO ownership, board size and board

independence toward CEO's compensation in consumer product sector from Malaysia.

There are few researches concentrate on the relationship between the CEO characteristics and CEO compensation in Malaysia. As common, there were many previous researcher carried out to investigate the impact of CEO characteristics but most of them are more focus on the relationship between the influence of CEO characteristics on company performance (Amran, Yusof, Ishak & Aripin, 2014). According to Lam, McGuinness and Vieito (2013) study the CEO gender in improving the performance of company in China. They provide the evidence with the independent variables in term of age, gender, ethnicity, education level and professional qualification on the company performance. Moreover, Guillet, Seo, Kucukusta and Lee (2013) also study the CEO characteristics such as duality on company performance in U.S. It can show that most of the researchers more interest to study the effect of CEO characteristics toward the company performance on developing country. Therefore, this research contributes to see the pattern of CEO compensation in Malaysia based on their characteristics.

On the other hand, the second significance of this study is to serve as a guideline for regulators and policy maker particularly Malaysia Government, Securities Commission of Malaysia (SC), and Companies Commission of Malaysia (CCM). For them to establish more effective and efficient rules and regulation or policy regard with CEO compensation. For instance, the government policy maker carries out an inspection on tax for each of the employee as well as employer to ensure they pay tax regularly. So, based on this research, policy maker may exactly know the range of the compensation for each CEO. Thus, CEO need pay their income tax accordingly so it can minimize the window dressing in every month indirectly. Thus, policymaker can receive the taxable revenue with amount stipulated and to ensure that have sufficient amount to use in investment project as prescribe by Malaysia Annual Financial Budget and to create a favourable economic situation.

The third significance of this study is to give a clearer picture to investors to make an accurate investment decision making. Based on this guideline, it may give

some ideas to investors whether that sector is good or not before making investment and help them to get the benefit from it. In reality, investors are less incentives to invest in the company in which the CEO with highest paid. There is a negative relationship between CEO pay and return on stocks due to the overconfidence of CEO ("The highest paid CEOs are the worst for", 2014). Because when CEO is overconfidence, they tend to demand higher compensation and involve high risks investment, thus lower the return on companies (Pathe, 2014). In doing so, the investors will consider the level CEO compensation as the benchmark for making decision.

Furthermore, company will acknowledge the importance of the CEO characteristic and board governance and how those characteristics influence the CEO compensation. Besides, this research also provides the companies mindset about deciding whether to increase or decrease their compensation according to the characteristics of CEO and board governance. They also might pay more attention to formulate a reasonable CEO compensation and to generate a better organizational culture. Thus, the companies can be more understanding about how much to pay the compensation based on their characteristics of the CEO and board governance.

1.7 Chapter Layouts

1.7.1 Chapter 1

This study divided into 5 sections which is chapter 1, 2, 3, 4 and 5. In chapter 1, there is the overview of compensation packages, overview of CEO characteristics and overview of board governance as the research background after presented the introduction of study. Follow by problem statement and research objective. For research objective, it is split into two parts which is general objective and specific objective. After that, research questions, hypotheses of the study, significance of the study and conclusion are discuss in this study.

1.7.2 Chapter 2

In this chapter will going to further discuss each independent variable. Giving the elaboration of the relationship between the independent and dependent variable in the Malaysia's consumer product as the literature review after presented the introduction. Besides, relevant theoretical models review, proposed theoretical framework, hypotheses development as well as conclusion will be conducted.

1.7.3 Chapter 3

This chapter is discussing about the methodology that will be conducted in this study. At first, introduction will be given and follow by research design, methods of data collection and sampling design. For sampling design that will be separate into three components which is target population, technique of sampling and sampling size. After that, data processing, data analysis and conclusion will be presented.

1.7.4 Chapter 4

This chapter included the introduction, descriptive analysis, scale measurement, inferential analyses and conclusion. For descriptive analysis will giving a brief description of the data.

1.7.5 Chapter 5

Same to other chapters, at the beginning of this chapter will also give an introduction. After that, will going to summarize all the result that show in the chapter 4 as statistical analyses summary. Next, major findings, implication of the study, limitations of the study, recommendation and conclusion will be discussed.

1.8 Conclusion

This study is to conduct the impacts of characteristics of CEO and board governance on the CEO compensation in consumer product in Malaysia. In chapter 1, introduction, problem statement, research objective, research questions, hypotheses of the study, significance of the study are conducted. For answering the questions of the research, chapter 2 will be conducted. In next chapter, literature review, theoretical model as well as theoretical framework will be investigated.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter includes review of literature on the previous researches about the CEO characteristics, board governance and CEO compensation. This study investigates about the relationship between CEO compensation (dependent variable) and other major independent variables which include CEO age, CEO tenure, CEO duality, CEO ownership, board size and board independence and control variables such as company profitability and company size. Thus, previous researches act as benchmark for this study to develop a conceptual framework and theoretical framework in order to further clarify research objectives and research questions.

2.1 Review of Literature

2.1.1 CEO Compensation and CEO Age

The influence of CEO age on CEO compensation has been widely investigated, but the results from previous researches show a mixed result. Thus, the impact of CEO age on CEO compensation remains inconclusive (McKnight & Tomkins, 2004).

Based on the study of 120 Forbes companies from the year of 1977 to 1981, Deckop (1988) finds that the CEO age has little or no effect on CEO compensation. In other words, CEO age is insignificantly affects the CEO compensation (Deckop, 1988).

Finkelstein and Hambrick (1989) challenge the finding of Deckop (1988) by conducting the research on CEO American companies for the year 1971, 1976,

1982 and 1983 respectively. Finkelstein and Hambrick (1989) state that the relationship between CEO age on CEO compensation is an inverted U-shaped relationship which imply that the CEO compensation will increase with the ageing process until 59 years old, then CEO compensation will start to drop when the CEO age becomes older. Furthermore, Finkelstein and Hambrick (1989) also claim that the CEO's demand of cash will increase for their housing and children's education expenses, but the need for cash will diminish with the ageing process due to the major expenditures are come to the end. Through the study of Finkelstein and Hambrick (1989), Cole and Mehran (2008) investigate the research on a U.S. nationwide representative of privately held companies in 1993 also document that there is an inverted U-shaped relationship between the CEO age and CEO compensation but it start to decrease after it reaches the peak of 55 years old. This can be illustrated as older CEO which is risk-averse would be more likely to retain the profit inside the company for internal expansion instead of extract the profit as their compensation.

However, the research of Becker (1975) on U.S. human capital states that older CEO should be paid with higher compensation as compared with younger CEO. This result also supports by Lazear (1989) where he states that the CEO from hawkish companies may take the chances to expand their experience while CEO becomes older. Since managerial labour market will adjust CEO compensation based on CEO capabilities, therefore the CEO compensation will become higher with the ageing process. In addition, the research of Jalbert, Furumo and Jalbert (2011) is consistent with the views of Becker (1975) and Lazear (1989). Based on the study of U.S. CEO compensation lists from the year of 1997 until the year of 2006, Jalbert et al. (2011) find that CEO compensation will increase when CEO becomes older. This is because the development of knowledge, experience and education level will be enhanced when the CEO age increase. Similarly, Laschever (2013) carry out the study in 2007 and 2008 notes that older CEO will get the higher starting compensation in S&P's 900 companies even with short tenure. This is because an older CEO is more renowned and full with specific industry experiences. This result is consistent with the finding of Jalbert et al. (2011).

Based on historical researches, this study expects that there is a significant and positive relationship between CEO age and CEO compensation since CEO can obtain the valuable knowledge from their position over time and the specific industry experience will acts as a springboard for CEO to receive a higher compensation.

2.1.2 CEO Compensation and CEO Tenure

There are several problems along with the CEO tenure in a company. Theoretically, CEO is responsible for stockholder value creation in a company. According to Hill and Phan (1991), the long-tenure CEOs will prefer to pursue their own interest rather than maximize their stockholders' wealth. In general, this may causes shareholders to protest against the underperformed CEO which will increase the likelihood of CEO leaving the company (Gregory-Smith, Thompson & Wright, 2014). Therefore, CEO who perceived as underperformed will receive lower compensation, such as lower salary raises, lower bonuses and fewer stock options (Wowak, Hambrick & Henderson, 2011). Thus, based on three previous researches, the longer CEO tenure will causes a reduction in CEO compensation and ultimately CEO will quit from the company.

In addition, Finkelstein and Hambrick (1989) indicate that there is curvilinear relationship between CEO tenure and CEO compensation from the Forbes Annual Report with 110 available proxy statements out of 115 companies in America. In this study, Finkelstein and Hambrick (1989) suggest two possibilities in the explanation of this curvilinear relationship. First possibility suggests that CEO may increase aggregate power in a while and then dwindle followed by less marketable in executive labour market. Furthermore, Finkelstein and Hambrick (1989) also provide the second possibility on the occurrence of curvilinear relationship which may due to CEO prefer other form of compensation instead of cash.

In consistent with Finkelstein and Hambrick (1989), based on 222 Fortune 1000 companies in U.S., Cordeiro and Veliyath (2003) also suggest that as the CEOs

tenure become longer, CEOs have more time to enhance their knowledge, build their power base and alliance as well as expand their influence over the company. Hence, CEO will be able to demand for higher compensation. The authors (e.g., Cordeiro & Veliyath, 2003; Finkelstein & Hambrick, 1989) indicate that once CEO beyond the optimal point after undergoes long tenure, CEO may tend to rigid and constrained by new strategic dilemma as company require CEO to think outside the box for rejuvenate and revitalize the way of operation in this fast-changing world. In this situation, CEO compensation will tend to fall further as the CEO tenure becomes longer. Significantly, this result shows that tenure will increase along with CEO compensation until an optimal point and then it starts to decline. An inverted U-shape curve shows the actual relationship between CEO compensation and CEO tenure is curvilinear.

Nonetheless, another study from Pfeffer (1972) shows that CEO generally nominate board member. Overtime, CEO will try to add in new director and replace existing members who are nominated by their predecessor (Finkelstein & Hambrick, 1989). Thus, long-tenure CEO influence over board will be higher than those short-tenure CEO so that they can demand higher compensation package. According to Wowak et al. (2011), board with minimal information about the short tenure CEO may find it is difficult to determine the worthiness of this CEO in the company as little historical record can be considered during making payment decision. With the passage of time, the longer tenure will shows a clearer picture of CEO compensation. Thus, sometime CEO compensation may adjust across their tenure depend on their performance in the position. The previous study indicates that the impact from CEO tenure towards CEO compensation is still remaining inconclusive.

Another study from Johnston (2012) investigates the impact of CEO tenure towards CEO compensation. This study includes top 500 sales companies out of Britain's 50,000 largest turnovers as well as adopt semi logarithmic model in Ordinary Regression model. Result from this research shows that CEO tenure and CEO compensation is positively related. Based on historical researches, this research forecast a positive impact from CEO tenure on CEO compensation.

2.1.3 CEO Compensation and CEO Duality

CEO duality is the circumstances where the CEO also serves as the board chair (Horner & Valenti, 2012). Core, Holthausen and Larcker (1999) find that CEO compensation is positively related with CEO duality. This means that CEO duality receive higher compensation. The previous researchers acquired the compensation data from a main compensation consulting companies. Core et al. (1999) use mail survey to collect these data originally. The information on salary, bonus paid and the awaited value of long-term elements of compensation rewarded are provided in the compensation data. They use regression model to study the relationship between CEO duality and CEO compensation.

In addition, Nulla (2013) also finds that CEO compensation is higher by 24% when a CEO also acts chairman. Dey, Engel and Liu (2011) document that the separation of CEO and chairman positions which caused by investor pressure will reduce announcements returns, poor performance and lesser dedications of investments to shareholder wealth. Therefore, the result of Dey et al. (2011) is consistent with the previous researchers which they also find that the compensation of CEO duality is higher than the compensation of non-duality CEO.

However, Ozdemir and Upneja (2012) find that the CEO duality will receive lower compensation. In Ozdemir and Upneja (2012)'s research, most of the data are collected from annual proxy statements. These data include compensation data and board structure data. Salary and bonus with all other types of compensation elements are accessible in the CEO compensation section of the proxy statements. Every year, companies are commanded to reveal the board members list and deliver information concerning new nominations for opening spots on the board (Ozdemir & Upneja, 2012). The board size, brief information of every board member such as age, the positions hold by them previously and currently will be revealed. Ozdemir and Upneja (2012) collect the board data through these disclosures for each board member of company in yearly basis. They estimate the model with ordinary least square regression (OLS). Ozdemir and Upneja (2012) also apply agency theory framework to investigate the role of board of directors on CEO compensation.

Besides, Chen, Yi and Lin (2013) also find that CEO duality receives less compensation because of the company performance will be deteriorated if CEO holding excessive power. Chen et al. (2013) gather the CEO duality and compensation data from S&P's ExecuComp database from 1999 to 2003. ExecuComp database comprises of executive compensation data for companies in the S&P 1500 index which includes the S&P 500, S&P 400 mid cap and S&P 600 small cap indices. Bugeja, Da Silva Rosa, Duong and Izan (2012) find that the CEO will receive lower compensation if they wield more managerial power. Previous studies establish CEO duality link to excessive CEO power and low company performance. Thus, CEO duality will receive less compensation as the result of low performance of company. The finding of Lin and Lin (2014) is consistent with the previous researchers by state that the CEO who also holds a board seat will not receive higher compensation. This is because the CEO also sitting on the board does not increase the CEO's power during the compensation negotiation process. The data of Lin and Lin (2014)'s study are also acquire from the S&P's ExecuComp database. Their study period is from 2007 to 2010 as the information of CEO compensation in ExecuComp database is more complete from year 2006 onwards.

Thus, the regulators may suggest the company implement CEO non-duality practice. This is because the CEO duality increases agency problems, leads to poor company performance and thus CEO duality receives lower compensation (Kwok, 1998). According to Yang and Zhao (2012), non-duality companies are outperforming duality companies in term of Return on Assets (ROA), Return on Equity (ROE) and sales growth when competition increases. This means that when the ROA, ROE and sales growth is increased, the non-duality CEO also receive higher compensation.

This study expects that CEO duality is negatively related with CEO compensation. This means that CEO duality will have lower compensation.

2.1.4 CEO Compensation and CEO Ownership

According to Lu, Xu and Liu (2009), CEO ownership refers to the percentage of shares hold by CEO in the company. CEO ownership has a significant relationship with CEO compensation (Murphy, 1999). The proportion of share outstanding owned by CEO is extremely low as the major source of CEO revenue is derived from cash compensation (Firth, Fung & Rui, 2007). Therefore, this result indicates that CEO compensation is higher when lesser shares are hold by the CEO. Moreover, changes in the CEO ownership probably will have impact on CEO compensation scheme (Davis, DeBode & Ketchen, 2013).

Cole and Mehran (2008) document the relationship between CEO ownership and CEO compensation is negative whereby this paper is conduct with sample based on 4637 private U.S. companies. This is because if dividends issued by company, more obvious impact would be on those company that is taxed respectively from the company's possessors, since company has to pay more tax if CEO holding more shares. Therefore, the result revealed that when there is a reduction in CEO ownership, compensation of CEO becomes more expensive. In another words, the CEO compensation represents a negative function of percent of shares hold by CEO.

The study of Core et al. (1999) on U.S. companies over the period of 1982 to 1984 also shows a negative correlation between CEO ownership and CEO compensation. This result is consistent with Lamber, Larcker and Verrecchia (1991)'s finding which state that lesser CEO compensation usually associated with larger ownership of CEO. This paper claims that the existence of the relationship is due to the condition with minimum of five percent of shares owned by block holder. In contrast, another study which examines CEO ownership is negatively influence towards CEO compensation document that shareholding of board members is no related to the CEO (Allen, 1981). On the other hand, Khan, Dharwadkar and Brades (2005) find that the compensation of CEO could be largely influenced by CEO ownership. Meanwhile, this result also indicates that the higher ownership of CEO will associate with lower CEO compensation.

The results from previous researchers (e.g., Cole & Mehran, 2008; Core et al., 1999; Khan et al., 2005; Lamber et al., 1991) are inconsistent with finding of Holderness and Sheehan (1988) which claims that the relationship between the compensation of CEO and ownership is positively related. The driving force behind this result is that as long as CEO takes part as bigger shareholders by owning minimum of 0.5 percent common stock in the public listed company will be rewarded higher compensation than other colleagues. The results acquired from Cohen and Lauterbach (2008)'s study on Israeli Companies is explicate that CEO who attached to the family lines with majority shares hold in the company is more likely to receive higher compensation as compared to the CEO who is outsider with no relationship to the company. Significantly, CEOs of family-owned companies will acquire external benefits in the appearance of inflated salaries. The CEO will take the advantages of their power as part of the owner in the company as a way to receive surplus compensation. Further evidence from the finding of Cyert, Kang and Kumar (2002), a study on publicly held companies in U.S. which is examined with sample selected of over thousands of companies. The authors report that the ownership of CEO accounted for large compensation which including salary and non-cash compensation.

Based on the review above, this research expects CEO ownership is negatively influence CEO compensation in which the higher CEO shareholding, the lower CEO compensation.

2.1.5 CEO Compensation and Board Size

Chen et al. (2013) show that the board size has no or small impact on cash compensation of CEO. This finding is consistent with the conclusion of Li et al. (2007) which show that board size is uncorrelated with the compensation of CEO after studying on China companies. Instead, their result shows the global managerial labour market has significant positive relationship with the compensation of CEO. Whereas, the result of Cyert et al. (2002) indicate that board size has indirect significant impact on the relationship between CEO compensation and company size by studied on the 1648 companies in year 1993

in U.S. Against the previous research (e.g., Chen et al., 2013; Li et al., 2007), Yermack (1996) finds that board size is negatively related with CEO compensation level based on the sample of 452 U.S. companies from year 1984 to 1991. Moreover, Firth et al. (2007) argue that there is no proof on board size is positively related with CEO compensation after studying over 549 listed Chinese companies from the year 1997 to 2000.

In contrast, Chalmenrs, Koh and Stapledon (2006) determine that board size is positively related with CEO compensation and this research was studied on the Australian company. It is consistent with the finding of Brick et al. (2006). They indicate that it is due to large board size reflect much more complex business and difficulties of monitoring so lead to demand high quality and performance of labour. So that, it associated to increase the level of CEO compensation. This result also accordant with the research of Core et al. (1999) whose studied on the 205 publicly traded U.S. companies over three years period and find board size is positively related with CEO compensation by suggesting CEOs at companies with greater agency problem due to weaker governance structure will cause them to receive higher compensation. Consequently, the larger the board sizes will positive relation with the pay ratio of the CEO. It means that the larger the board size, the higher the compensation of CEO (Newton, 2015). In addition, large board size will indicate the higher compensation of CEO, it reveals that a contra relationship exists between the board effectiveness and board size in monitoring (Core & Guay, 1999).

Furthermore, according to the Wang and Singh (2014), they find that board size has a positive impact on CEO compensation by showing that when there is large board size with large number of outside directors and the owner or founder is not in charge the daily management of the company thus its rely on the CEO to run the business (Shim, Eastlick & Lotz, 2000). Thus, it will lead CEO to face new and enormous challenges (Cameron, Kim & Whetten, 1987) and hence require CEO to conduct various programs in the company (Baird & Mesholam, 1988). Therefore, in order to motivate CEOs to initiate and pay more attention to cope with those tasks, companies will increase the level of the CEO compensation

(Wang & Singh, 2014). To address this, Sapp (2008) discover that the larger board size is significant positive relationship with the compensation level after conduct the study over 400 publicly listed Canadian companies from year 2000 until 2005. This result is consistent with the research of Bebchuk and Fried (2004) by states that the large board size will tend to be less integration and it is lead to increase the difficulty to cohesive between the board of directors within the board and thus rise the compensation for CEOs whose taking those challenges.

Similarly, Coakley and Iliopoulou (2006) find that larger boards size is tend to award with higher bonuses and salary as compensation to their CEOs in United Kingdom companies from the period of 1998 to 2001. Moreover, other studies such as Ozkan (2011) indicate that the board size has a positive and significant impact on CEO compensation. CEO with higher bonuses and salaries as the number of board members rises due to communication and cooperation problem exist in large board size which is hinders effectiveness of boards. Besides, board size has negative relationship with the company performance (Eisenberg, Sundgren & Wells, 1998). However, it is contrast with the result of Muller (2014) by argue that there is strong positive relationship with the board size and company performance. It can be defined as the better of the company performance will represent the higher of CEO compensation.

Based on historical researches were determined a positive correlation between board size and compensation, thus this study expect a positive correlation between board size and compensation of CEO as increase in the number of directors on the board, the level of CEO compensation will also increase.

2.1.6 CEO Compensation and Board Independence

Capezio, Shields and O'Donnell (2011) find that the director independence is positively related to CEO compensation. Board independence may responsible to adjust the CEO compensation. These previous researchers test their sample by using system Generalized Method of Moments (GMM) approach and dynamic panel data estimation. In addition, Ozdemir and Upneja (2012) also find that board

independence is positively influence on CEO compensation. They propose that board independence is positively significant to emphasize the control on the CEO. Thus, the larger the board independence, the more compensation CEO will receive. The Securities and Exchange Commission (SEC) and stock exchanges have command publicly listed companies to comply with the board independence regulations and policies that were set by the governing agencies (Ozdemir & Upneja, 2012). These previous researchers use the percentage of outside board members to total board members in order to account the board independence. Ozdemir and Upneja (2012) collect the data from Securities Exchange Commission (SEC). Compensation data and board independence data were acquired from annual proxy statements in the research of Ozdemir and Upneja (2012).

Furthermore, the research of Ryan and Wiggins (2004) report that CEO receives higher compensation when the company with more independent board members. These previous researchers use bargaining framework to investigate the relationship between CEO compensation and board of director independence. Ryan and Wiggins (2004) apply difference-in-means tests to analyse the CEO compensation and board independence. These previous researchers use ordinary least squares (OLS) regression to estimate the total CEO compensation. Besides, they collect the compensation data from S&P's ExecuComp databases while the board independence data from proxy statements. Furthermore, they also report that board independence will monitor on company performance. When boards lose independence, the company will underperform. Thus, CEO will receive less compensation. In other words, Ryan and Wiggins (2004) research show that CEO receives higher compensation when the company with more board independence members. The result of Boyd (1994) is consistent with the previous researchers which board independence will have positive impact towards CEO compensation.

However, Core et al. (1999) prove that CEO compensation is lower when there have larger board independence. Thus, this implies that board independence is negatively related with CEO compensation. These previous researchers measure the board independence by outside directors to the total number of directors in the

board. Core et al. (1999) acquire the compensation data from a compensation consulting company. The compensation data were collected by using mail survey with follow-up through telephone to ensure the accuracy while the board independence data collect from proxy statements.

On the other hand, Guthrie, Sokolowsky and Wan (2012) indicate that board independence does not influence the CEO compensation. This means board independence has no impact on CEO compensation. Guthrie et al. (2012) find that there is no causal effect of board independence to CEO compensation. CEO compensation is not depends on the board independence. Guthrie et al. (2012) also conclude that the effect of board independence is insignificant to CEO compensation. In the research, the data were collect from proxy statements.

This study expects that board independence is positively related to CEO compensation. Thus, the CEO receives higher compensation as the board independence is larger.

2.1.7 CEO Compensation and Company Profitability

Company profitability is measured based on the company accounting performance in term of ROE and ROA (Finkestein & Hambrick, 1988). Thus, this study used ROE as the measurement of company profitability. In general, company profitability is a major factor to determine the level of CEO compensation. Nevertheless, Jensen and Murphy (1990) said that compensation of CEO had a weak relationship with the profitability of company. In addition, Preibing, Southey and Laing (2013), Ciscel and Carroll (1980) and Haubrich (1994) which have also find that there is no or little impact of company profitability on the CEO compensation. Those conclusion are similar with the claim of McGuire, Chiu and Elbing (1962), they indicate that there is no evidence to prove that there is significance association between company profitability and compensation of CEO by showing that the level of compensation is more sensitive to the change of sales rather than to the change of profitability. However, these findings are contrast with the result of Bertrand and Mullaiathan (2001) which shows that company

have undergone high return are more likely to paid more compensation to their CEOs.

Contrast with the previous researchers (e.g., Bertrand & Mullaiathan, 2001; Ciscel & Carroll, 1980; Haubrich, 1994; Jensen & Murphy, 1990; McGuire et al., 1962; Preibing et al., 2013), Lewellen and Huntsman (1970) claim that there is significant association between the CEO compensation and company profitability after analyse 50 U.S. companies whereas Murphy (1986) indicates that there is negative relationship between CEO compensation and company profitability. After studied on 287 companies which selected from Fortune list and data collected from annual catalogue of Forbes, the study of Carroll and Ciscel (1982) acquire there is negative relationship between the company profitability and CEO compensation. Also, Aduda (2011) suggests that in case of ensure the shareholder maximization, company lead to compress the CEO compensation.

Against to the prior studies, Nourayi and Mintz (2008) indicate that is negative relationship between company profitability and CEO compensation in U.S. and this conclusion is consistent with several studies such as (Bertrand & Mullainathan, 2001; Conyon & Leech, 1994) whereas Conyon and Leech (1994) indicate that compensation of top executive is positive associated with the company profitability after examined the sample of 294 United Kingdom companies during the period of 1983-1986. Similarly, Barro and Barro (1990) determine the relationship between the CEO compensation and company profitability over the period from year 1982 until 1987 in U.S. and indicate that there is a positive relationship. Similarity, high compensation is the way of rewarding their CEO for a better performance in their job (Gritsch & Snyder, 2006). Furthermore, several studies also show that the company profitability and CEO compensation are positive relationship such as Frydman and Saks (2010), Hall and Liebman (1998), and Leech and Leahy (1991) which indicate that the importance of compensation in encouraging the CEOs which will lead to higher profitability of company. Likewise, Buigut, Soi and Koskei (2015) and Deckop (1988) document the similar result by showing that company profitability is positively associate with the compensation of CEO. While, Jensen and Meckling

(1976) and Widener (2006) suggest that the level of compensation of the CEO should be increase in the case of company that have achieving higher profitability based on the agency theory. As a result, it also documents that there is positive relationship between CEO compensation and company profitability.

Based on the historical researchers which determine a positive correlation between company profitability and CEO compensation, thus this study expects a positive relationship between company profitability and CEO compensation as increase in the profit of company, the level of CEO compensation will also rising.

2.1.8 CEO Compensation and Company Size

According to Nulla (2013), company size is correlated with CEO compensation. In this research, 120 New York Stock Exchange index company choose as sample and further divided into three groups by using method of stratified sample from year 2005 until 2010. Result implies that the company size will influence the correlation among the components of the CEO compensation as company size grows larger, the weaker the relationship among components of CEO compensation.

Moreover, Zhou (2000) who studies on U.S. suggests that the increment of CEO compensation with company size is significantly linked to performance of the company. This results obtained is parallel to Zhou (2000) finding on Canada companies between year 1991 and 1995, CEO compensation have strong positively relationship with the company size. The author documents that for each percent increase in the company gross revenue, most likely will lead to an increment of CEO compensation by above 0.20 percent. Abed, Suwaidan and Slimani (2014) also claim that pay-size relation is positive. This is because economic level boost up by widely trading could largely affect the CEO compensation (Chaykowski & Lewis, 1995). Roberts (1956) finds that the positive relationship could be explained in a situation where CEO will receives higher pay as company's sales increases indirectly making CEO focuses more on maximizing sales rather than profits of the company.

Based on 104 New Zealand Companies' CEO compensation over the period of 1998 through 2002, the relationship of company size and CEO compensation is positively related (Lau & Vos, 2004). From the result, CEO paid in cash raised by 0.39 percent for each percent increment of the sum of assets in the company. This study further explained by the elasticity of company size on CEO compensation tends to be greater with the size of the company. In other words, the larger the total assets, more elastic of company size on CEO compensation. The positive relationship related to as the company size grow larger, the company willing to pay higher for recruiting good quality CEO (Kostiuk, 1990).

Furthermore, Jensen (1986) states that this positive relationships could be explained by the merger and acquisition of the company. CEO will be rewarded higher pay for larger deal regarding with the accomplishment of merger and acquisition through company size maximization (Grinstein & Hribar, 2004). Further evidence from researcher Guest (2009), study conducted with data collected from merger and acquisition of companies on United Kingdom in the period between 1984 and 2001. The author claims that the larger size of the company is highly associated with the internal growth of the company through development in acquisition, thus the greater positive impact will be on compensation. After acquisition, following rise in pay of CEO is officially offset by drop in pay in first two year of acquisition.

However, different views of results obtained on Aduda (2011) finding, implies that negative yet significant relationship occurred between CEO compensation and company size. From this research conducted on nine Kenya commercial banks, when a bank size is growing, there is a need for adjusting CEO compensation in small banks for maximizing main shareholders' wealth to offset the reduction from their return.

After reviewing previous research, this research expects a positive relationship between company size and CEO compensation. Increase in size of the company leads to an increase in CEO compensation.

2.2 Review of Relevant Theoretical Models

2.2.1 Agency Theory

In the 1960s, the prior researchers discover the risk-sharing problem among individuals or groups (Wilson, 1968). Wilson (1968) also depicts that the risk-sharing problem occurs when cooperating parties have the different views of risk perceptions. Thereafter, Jensen and Meckling (1976) applied agency theory to further explain the risk-sharing dilemma by including agency problem. Agency relationship was defined by Jensen and Meckling (1976) as a contract whereby one or more persons (the principals) empower another person (the agent) in order to carry out service and make decision on behalf of principals. Thus, agency theory suggests that agency problem would be happens when the cooperating parties have different view of goals and risks (Jensen & Meckling, 1976; Ross, 1973). Apart from that, according to the book with the title of "Key Concepts in Organization Theory", agency theory is defined as a theory to determine on how to ensure the agents (e.g., executives, managers) act in the best interests of the principals (e.g., owners, shareholders) of an organization (Cunliffe & Luhman, 2013, p.1).

On the other hand, Jensen and Meckling (1976) also define the agency cost is the total of the monitoring expenses used by the shareholder, the bonding expenses by the executives and residual loss. Since the conflicts of interest are arisen between shareholders and executives, the shareholders who employ agents have to spend money which is also known as agency cost (Jensen & Meckling, 1976). As a result, the more variant of interests between shareholders and executives, the more agency cost the shareholders have to spent (Wasserman, 2006). The compensation package and monitoring cost can be used to reduce the agency costs (Jensen & Meckling, 1976).

Agency theory has been widely employed and adopted by many historical research papers in wide range of area, such as accounting, economics, finance,

marketing, political science, organizational behaviour and sociology (Eisenhardt, 1989). Likewise, Ross (1973) also states that the agency theory is in widespread use. Again, Eisenhardt (1989) also depict that agency theory is a supplement to the organizational theory and agency theory concepts on information systems, outcome uncertainty, risk as well as incentives provide great contributions to the organizational behaviours. For instance, agency theory can be used in explaining the relationship between shareholder and CEO whereby CEO are expected should be fully utilize the shareholders' funds in order to maximize shareholders' wealth (Habib & Hossain, 2013). As a corollary, agency theory can be applied whenever the disputes between principal and agents arise (Jensen & Meckling, 1976).

By using agency theory, two problems which normally arisen in agency relationship can be mitigated. The first problem could be mitigated by using agency theory is agency problem. Agency problem usually occurs when the conflicts of goals between principal and agent arisen or it is costly for principal to decide whether the behaviours of agent are appropriate or not. The second problem could be mitigated by using agency theory is problem of risk sharing. The problem of risk sharing will happened due to the different views of risk perceptions between principal and agents and thus different decisions was made by them (Eisenhardt, 1989).

In the light of agency theory, Joseph, Ocasio and McDonnell (2014) supports the agency theory by noted that the main purpose of agency theory for a company is to maximize the shareholders' welfare. In addition, few previous researchers (e.g., Fama & Jensen, 1983; Hermalin & Weisbach, 2003) expressed that the purpose of shareholders is to maximize the shareholders' welfare dominates over the interest of executives. Furthermore, Fligstein and Shin (2007) also asserts that company leaders have to use essential ways to align the executive's compensation with the shareholders' interests. Apart from that, Jensen and Murphy (1990) also promote the agency theory by stating that the governance arrangements that align the interest of executive with the objective of shareholders could mitigate the monitoring problem effectively through agency theory.

However, board of directors acting as the supervisor in monitoring CEO which bear the major responsibilities to ensure CEO act on behalf of shareholders. In line with this, agency theory indicates that board has the power to control over the CEO (Cook & Burress, 2013). Argument arises when more literatures include Bebchuk and Fried (2003); Adams, Hermalin and Weisbach (2010) suggest that this is opposite in reality. Likewise, researcher Mace (1986) also indicates that board members is an inefficient monitoring role to CEO inversely they are dominated and controlled by CEO. Again, in consistent with these previous researches, Fulton and Larson (2009) provide the reason which CEO dominance happen when CEO with high capability as well as inefficiency of board monitoring confront with growing intricacy and diversification.

Sometimes, CEO may misuse their superior position in order to pursue the excessive compensation package which is not consistent matched with the company performance at the cost of shareholders (Dyl, 1988). So, the issue on how to structure a proper CEO compensation package between the shareholder and CEO in the case of uncertainty and imperfect monitoring happens had begun to agitate in board governance (Jensen & Meckling, 1976). As a result, agency theory recommends that the CEO compensation package should be designed in the way of focus on narrow the incentives gap between the shareholders and CEO as well as the capabilities of delivering of high CEO compensation package as a reward of risk-taking (Bruce, Buck & Main, 2005).

Moreover, the phenomenon of excessive CEO compensation will occur if a company tends to pay more CEO compensation package for good sector performance as a result of good economic condition, but not based on the CEO contributions. Therefore, agency theory suggests that the company should pay a CEO based on CEO performances as compared to the other counterparties in the same sector (Skantz, 2012). Again, agency theory suggested that the CEO compensation package should be based on the achievement of CEO in maximizes the shareholders' wealth. Hence, the changes in shareholder wealth would be influence the CEO compensation package (Jensen & Murphy, 1990).

2.2.2 Managerial Power Theory

Managerial power theory (MPT) advanced by Bebchuk, Fried and Walker (2002), Bebchuk and Fried (2004, 2006). Bebchuk et al. (2002) document that MPT proposes that board does not manage executive compensation, rather, executives have authority to decide their own pay and they use that authority to collect leases. Therefore, MPT can be defined as CEOs has ability and effectively to adjust their own compensation by influencing the compensation-setting process. For instance, Finkelstein (1992) indicates that the managerial power refers to structural power or CEO power which is the ability of executive management to affects one's own pay.

Lambert, Larcker and Weigelt (1993) recommend that due to structural power and social- psychological mechanisms, CEOs frequently have more power than board members to influence the decision making about compensation of CEO as the board members scarcely take part in arm's-length transactions. The finding also support by the studies of Bechuk and Fried (2004) and Gabaix and Landier (2008). In doing so, when CEO possesses more power over the board, they use their privilege position to pursue their own interest and demand higher compensation because their compensation will be less reliant on their performance (Bebchuk & Fried, 2004).

Finkelstein (1992) determines four types of managerial power, including structural power, ownership power, expert power and prestige power. Firstly, structural power is affiliated to the power gains in the formal position in the company and it will becomes stronger as CEO move up to the higher level of the organization, which implied the stronger the structural power of the CEO, the greater will be the CEO's ability to control over their co-worker activity. Secondly, ownership power is a power accrues to CEO when he or she purchases the company's shares, thus can increase the CEO's power of ownership in which make it easier for the CEO to affects board decisions in setting CEO's pay (Lambert et al., 1993).With more shares hold in the company, more power will accrues to the CEO compared with CEO that without capacity of controlling the colleagues (Zald, 1969). Thirdly, expert power signifies the capability of the CEO to deal with environmental

eventuality and thus make contribution in achieving the company's goals, such seen as Hambrick (1981) and Hickson, Hinings, Lee, Schneck and Pennings (1971). Moreover, Tushman and Scanlan (1981) find that CEO's expertise plays important roles in decision making and providing opinion. Nevertheless, Hickson et al. (1971) argues that the expert power is well using for a company. Lastly, prestige power represents the CEO's reputation in the company and among the employees will affects others insight through their influence (Baum, 1975). Furthermore, Finkelstein (1992) documents that prestige power related to the CEO's degree of education.

On the other hand, Conyon (2006) states that MPT is the board and remuneration committee collaborate with the CEO and consent on inordinate compensation, settling on agreements that are not on behalf of shareholders' benefit. This inordinate compensation comprises of economic lease and the pay that larger than essentially to get a CEO to work in a company. Thus, CEO will receive higher compensation based on this theory. However, the CEO will lose their fame and face difficulty if caught extracting leases (Conyon, 2006). In like manner of Gumbel (2006), the board is not pay attention in the benefit of shareholders based on MPT as the board is virtually consents to reward the CEO rather than shareholders. Shareholders are worse off according to the MPT because they are contracted with a manager even they had no bargaining power (Gumbel, 2006). Gumbel (2006) proposed that legal requirements may help to avoid outright embezzlement and market forces may put a limit on managerial rent extraction, but both perhaps permit more latitude to CEOs than they actually do exert. Although this may be true, however, Bebchuk et al. (2002) conclude that managerial power is a significant role in the devise of CEO compensation and should be considering in any examination of executive compensation.

Against to the previous studies, sceptics of the efficiency of executive pay practices argue that MPT creates upward bias in CEO compensation (Kay & Van Putten, 2008). This is due to MPT suggests that boards prefer to adopt peer group benchmarking instead of market based process during setting CEO compensation. Kay and Van Putten (2008) discuss that majority of the boards use peer group

benchmarking to get the pay levels that offered by competitors. This is because if boards are overpaying the CEO, it will attract the attention of financial press and company shareholders. Thus, the financial press and company shareholders will advocate for change which is revising the company's rules to impose restrictions on compensation or voting a new slate of directors (Dorff, 2007). Besides, Dorff (2007) also argue that there is seldom occur in which the CEOs determine their own compensation. Furthermore, Murphy and Zabojnik (2004) determine that MPT is not so enough ability to impact the pay-setting process and thus it is less likely to influence the compensation level. Even so, there is insufficient testimony to proof that the inability of MPT to influence the compensation level.

Furthermore, MPT also refers to the character of CEO duality plays in the company and this theory adopts two situations in CEO duality. Firstly, this theory explains that the CEO with holding two positions in a company reflects a strong leadership (Frinkelstein & D'aveni, 1994). This is due to CEO duality will increase the discretionary powers of the CEO on the company resources and CEO ability to control over the internal and external stakeholders. With holding two positions in the company, he or she is representing a figurehead in a company (Ungson & Steers, 1984). Secondly, CEO duality is a combination identity of both CEO and Chairman which CEO being the head of manager and the head of board, thus can gives instruction for others to obedience and becomes more commitment to acts on behalf of the business entity in designing the CEO pay, automatically duality of CEO will offering them more chance to increase their own compensation and seek to reorganize the pay structure to make them less dependent on the performance in the company, such actions as by increasing the percentages of fixed pay over their overall pay (Bebchuk & Fried, 2004). Furthermore, MPT has posited that the expertise and resource of the directors is greatly influence the power of CEO.

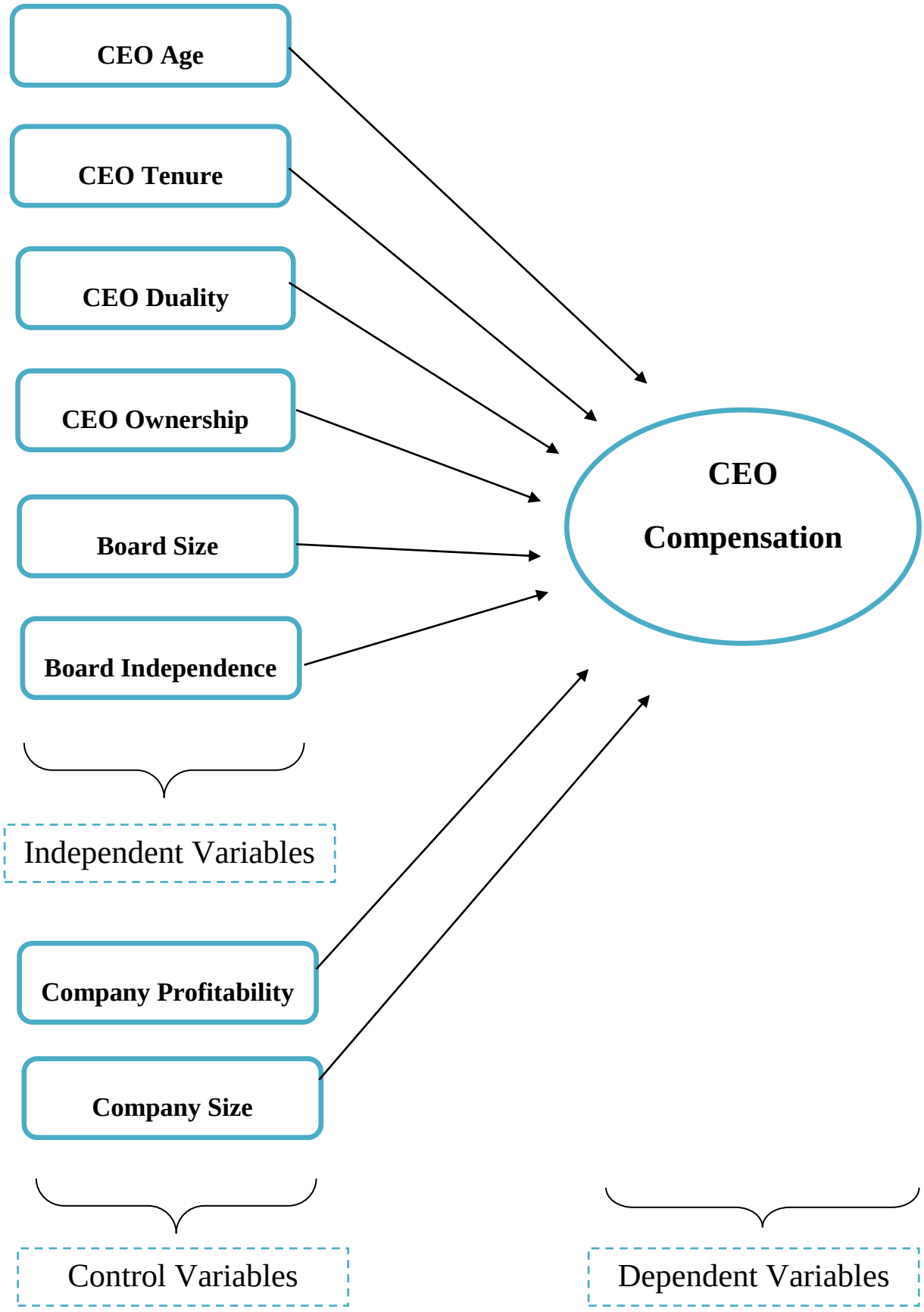
Nevertheless, the positive correlation between the managerial power and CEO compensation in relation to boards in term of board size, how hectic an average independence director is, number of executive director out of the board, the duality of CEO as well as executive represent a committees of compensation is

stated in the studied by Core et al. (1999). Moreover, Van Essen, Otten and Carberry (2012) document that board size and CEO duality are positive relationship with the CEO compensation by determining that CEOs have higher total compensation level when they expected to own large power over the pay setting process. However, board power such as institutional ownership and ownership concentration are having a negative relationship by indicating that board has more authority over the pay setting process so that CEO have lower pay. Overall, MPT is more appropriate in elaborating the level of CEO compensation.

2.3 Proposed Theoretical Framework

Theoretical framework will be proposed to investigate the relationship between CEO compensation and each variable in Malaysia consumer product industry from the year of 2009 to 2013. In this study, the dependent variable is CEO compensation while the independent variables are CEO age, CEO tenure, CEO duality, CEO ownership, and board size and board independence are control variables.

Figure 2.1: Theoretical Framework



2.4 Hypothesis Development

2.4.1 CEO Compensation and CEO Age

Jalbert et al. (2011) find that CEO compensation will increase when the age of CEO becomes older. This means that there is a positive relationship between CEO age and CEO compensation.

H_1: CEO age is positively significant with CEO compensation in Malaysia's consumer product sector.

2.4.2 CEO Compensation and CEO Tenure

Cordeiro and Veliyath (2003) suggest that as the CEO tenure longer, CEO has more time to build his power base and alliance, and enhance their own knowledge as well as expand their influence over the organization so that CEO able to demand for higher compensation. This signified a positive relationship between CEO tenure and CEO compensation.

H_2: CEO tenure is positively significant with CEO compensation in Malaysia's consumer product sector.

2.4.3 CEO Compensation and CEO Duality

Ozdemir and Upneja (2012) find that the CEO duality will receive lower compensation. This shows that CEO duality is negatively associates with between CEO compensation.

H_3: CEO duality is negatively significant with CEO compensation in Malaysia's consumer product sector.

2.4.4 CEO Compensation and CEO Ownership

When a reduction in ownership occurred, compensation of CEO through dividend distribution will becomes more expensive and cash compensation will be distributed to CEO (Cole & Mehran, 2008). This implies that CEO ownership is negatively related CEO compensation.

H_4: CEO ownership is negatively significant with CEO compensation in Malaysia's consumer product sector.

2.4.5 CEO Compensation and Board Size

Newton (2015) determines that the higher the compensation, the larger the board size. This indicates board size is positively influence between CEO compensation.

H_5: Board size is positively significant with CEO compensation in Malaysia's consumer product sector.

2.4.6 CEO Compensation and Board Independence

Ryan and Wiggins (2004) report that CEO receives higher compensation when the company with more board independence members. This show there is a positive relationship between board independence and CEO compensation.

H_6: Board independence is positively significant with CEO compensation in Malaysia's consumer product sector.

2.5 Conclusion

This chapter discuss the relationship of the CEO compensation related to the CEO age, CEO tenure, CEO duality, CEO ownership, board size, board independence, company profitability and company size by supporting the previous researchers' empirical result. The explanatory relationship between the dependent variable and each independent variable had stated in the review of the literature. Then, the relevant theoretical had outlined in this chapter and thereafter this chapter is conclude by providing the expected sign between both dependent and independent variable in term of hypothesis. Moreover, the methodology will be conducted and discussed in next chapter.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter provides the overviews of methodology applied for this research and briefly describing about how methodologies employ in this research. Thus, research design, data collection method, sampling design, data processing and data analysis will be discussed in this chapter. Furthermore, secondary data will be applied in this research which extracted from Datastream 5.1 and annual report from Bursa Malaysia website. Moreover, data will be analyzed by using Electronic View 7 (EViews 7) software. Three general regression models for panel data include Pooled Ordinary Least Square (Pooled OLS), Fixed Effect Model (FEM) and Random Effect Model (REM) will be discussed. Some general panel data test such as Poolability hypothesis testing and Hausman test will be introduced as well as other diagnosis checking.

3.1 Research Design

This study adopts quantitative research for further carrying out the finding by displaying results in a numerical form. Quantitative research is useful especially when require a better understanding about the phenomena (Westerman, 2014). Thus, this research will be conducted to evaluate impact of independent variables (CEO Age, CEO tenure, CEO duality, CEO ownership, board size and board independent) upon dependent variable (CEO Compensation) in term of quantitative data. The data in form of secondary collected from companies' annual report and DataStream 5.1. In this research, whole sample size consist 126 consumer product companies (Listed in Bursa Malaysia) with five years period range from year 2009 until 2013.

3.2 Data Collection Method

This research attempts to investigate the impact of CEO characteristics and board governance to CEO compensation in consumer product sector. CEO age, CEO tenure, CEO duality, CEO ownership, board size and board independence are chosen as independent variables. CEO compensation is dependent variable while company performance and company size are control variables. This research adopts secondary data which acquired from DataStream, Malaysian Business Magazine and companies' annual reports. All the independent variables are obtained from companies' annual reports, CEO compensation is obtained from Malaysian Business Magazine and the control variables are acquired from DataStream 5.1. Therefore, there are structured into the form of panel data with these data collected. On the other hand, secondary data provides more precise estimation which leads to trusty research outcomes and it is less time consuming compare to primary data (Boslaugh, 2007). So, the secondary data is adopted in this study.

Table 3.1: Description of Variables

Variables	Proxy	Definition	Measurement	Source
CEO Compensation	*LOG COM*	Logarithm of CEO compensation	Log (CEO Compensation)	Malaysian Business Magazine
CEO Age	*LOG AGE*	Logarithm number of year CEO has lived	Log (CEO Age)	Annual report
CEO Tenure	*LOG TEN*	Logarithm number of years an individual holding CEO position until departure	Log (CEO Tenure)	Annual report
CEO Duality	*DUA*	CEO holds position of the chairman or vice versa	1, if same people occupied both position; 0 for otherwise	Annual report
CEO Ownership	*OWN*	The percentage of sum of shares owned by the CEO	Percentage (%)	Annual report
Board Size	*LOG BS*	Logarithm total number of director on the board	Log (number of people)	Annual report
Board Independence	*BI*	The total number of independent director divided by board size	Percentage (%)	Annual report
Company Profitability	*CP*	The net profit after tax divided by the total equity capital	Percentage (%)	Data Stream
Company Size	*CS*	Logarithm of total asset	Log (total asset)	Data Stream

There is total of eight independent variables chosen to assess the impact toward compensation of CEO which is dependent variable for this study in Malaysia consumer product sector. The descriptions of those variables are show in Table 3.1.

3.3 Sampling Design

3.3.1 Target Population in Malaysia

Target population is refers to the overall set of units in which the data will be used to make judgments (Lavrakas, 2008). The target population for this research is mainly focuses on consumer product sector in Malaysia. Currently, there are 126 consumer products companies founded in Malaysia. Yet, 38 companies are used in this research due to the problem of inadequacies data for specific companies.

Consumer product sector has been selected as target sector because consumer product has becomes the second largest contribution sector in Malaysia gross domestic products (GDP) and manufacturing sectors is represented as one of the subsectors in consumer products sector base on the statistics stated in The Malaysian Economy in Figures 2013. Since many previous studies have examined on the largest sector in Malaysia such as (Arokiasamy, 2013; Ismail & Abidin, 2010; Ismail, Mohammad Noor & Awang, 2011; Ismail, Yussof & Uddin, 2012). Hence, this research is conducts to examine the second largest sector in Malaysia.

The period for this research is ranging from year 2009 until 2013. According to Chan (2014) document that the proportion of Malaysia's household with an annual disposable income of higher than US$10,000 has increase from 61.40% in 2009 to 75.70% in 2013. The five years consecutive rising in the number of Malaysia middle class households signal a great impact towards the consumer product sector. This is due to increase in income will come along with increase in spending which can cause a higher demand for consumer products.

Lastly, "2013 Outlook for the Retail and Consumer Products Sector in Asia" finds that increasing demand for consumer products in Asia countries includes Malaysia can be illustrated by the rising household income leading to the increasing for household consumption on goods and services. However, CEOs compensation in Malaysia consumer products sector has been excluded from the top ten Malaysia highest paid Directors in year 2012 and 2013 based on Table 1.2.

3.3.2 Sampling Size

Sampling size can be defined as the number of observations in a population used to conduct research. A consistent estimation that closer to truth and less dispensed around the truth will happen if the sample size is large enough to conduct investigation (Gujarati & Porter, 2009). There is 126 companies on consumer product sector are listed in Bursa Malaysia Main Market. Due to missing data, there is only 38 consumer product companies are included in this study. The time period in this study is start from 2009 to 2013. As a whole, the panel data is comprises of 38 companies with the time period from 2009 to 2013. Therefore, the total observation that used to determine the relationship between explanatory variables and explained variables is 170 observations which are consistent with the Central Limit Theorem of the study of Gujarati and Porter (2009). The details of number of observations are listed in Table 3.2.

Table 3.2: Number of Observation

	Number of Company	**Number of Observation**
Original Data	126	126 × 5 = 630
Missing Data	88	88×5 = 440
Final Data	38	38× 5 = 190

3.4 Data Processing

In this study, the data are collected from three sources which are annual report accessible in the Bursa Malaysia official website, DataStream 5.1 and Malaysian Business Magazine. This is due to the results that produced by these sources is more reliable. Bursa Malaysia official website is accessible via internet while the DataStream 5.1 and Malaysian Business Magazine are accessible in the main library of Universiti Tunku Abdul Rahman (UTAR). CEO compensation is obtained from the Malaysian Business Magazine. Besides, there are five main independent variables which are CEO age, CEO tenure, CEO duality, CEO ownership and board size and board independence. These data are retrieved from

the annual report that available in the Bursa Malaysia official website. On the other hand, the control variables, company profitability and company size are collected from DataStream 5.1. Afterward, the data collected will be reorganizing in the panel data collection framework.

There are 126 companies collected from consumer product sector in this study. The companies that are with incomplete data will be eliminating in the first level of filtration process. Thus, these 126 companies are further filtered and arrive at samples of 38 companies with 190 total observations. After that, these filtered data will be analysed by using EViews 7. Lastly, there will be interpretation of the results.

3.5 Data Analysis

In this study, the objective is to investigate the impact of two board governance variables which is board size and board independence; personal characteristic variables included age, duality, tenure and ownership while control variables involved company profitability and company size on the compensation in Malaysia consumer product from year 2009 to 2013. This study adopts EViews 7 software to conduct the regression model and diagnostic checking.

The regression model in this study as below:

Regression Model

$$LOG\ COM = \beta_0 + \beta_1 LOG\ AGE_{it} + \beta_2 LOG\ TEN_{it} + \beta_3 DUA_{it} + \beta_4 OWN_{it} + \beta_5 LOG\ BS_{it} + \beta_6 BI_{it} + \beta_7 CP_{it} + \beta_8 CS_{it} + u_{it}$$

COM = CEO Compensation

β_0 = Intercept of regression model

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8$ = coefficients of partial regression

AGE = CEO Age

TEN = CEO Tenure

DUA = CEO Duality

OWN = CEO Ownership

BS = Board Size

BI = Board Independence

CP = Company Profitability

CS = Company Size

u = Error term of regression model

3.5.1 Econometric Model

3.5.1.1 Panel Data Technique

According to Hsiao (2014), panel data is the combination between cross sectional and time series data. It provides multiple views on each individual in the sample. Since panel data involve individuals, companies, states and countries over time, there are bound to be heterogeneity in these units (Hsiao, 2014). By permitting subject-specific variables, panel data estimation can take the heterogeneity explicitly into account (Hsiao, 2014). Furthermore, panel data provides more informative data, more variability, more degree of freedom, more efficiency and less co linearity among variables. Besides, Baltagi (2008) states that panel data is suitable to study the dynamic of change such as causes of unemployment, labour mobility and job transition. Moreover, panel data can be used to investigate and estimate the effects that cannot be examined in pure cross-sectional or pure time series data (Baltagi, 2008). Also, panel data is applied to study more complicated behavioural models. It can reduce the bias that might result if the individuals or

company are sum into broad aggregates (Baltagi, 2008). The model that estimated by panel data can be written as:

$$\mathbf{Y_{it} = \beta_0 + \beta_1 X_{it} + \varepsilon_{it.}}$$

Where:

Y_{it}= Independent Variable

X_{it}= Dependent Variable

ε_{it}= Error Term

There are two types of panel data, which are balanced panel and unbalanced panel. Gujarati and Porter (2009) state that balanced panel data is the panel data comprise of each subject which equal to each other in number of observations. Balanced panel comprises of short and long balanced panel data (Gujarati & Porter, 2009). Short balanced panel data is the balance panel data that has the number of time period less than number of observations. However, long balanced panel data is the balance panel data that has the number of time period larger than the number of observations (Gujarati & Porter, 2009). On the other hand, unbalanced panel data is the panel data that has unequal number of observations for each subject. Unbalanced panel data can be obtained when the value of observation is missing at the particular time of period. Thus, this study applies the balanced panel data.

3.5.1.1.1 Pooled OLS Model

One of the options to measure panel data is pooled OLS regression model. Pooled OLS regression model also known as Constant Coefficients Model. According to Gujarati and Porter (2009), Pooled OLS regression model is assume that the independent variables are strictly exogenous with the error terms of the model. Apart from that, Pooled OLS regression model also assume that the intercepts and slopes are constant across the observations as well as time invariant or no time effect happens on the observations of the model (Baltagi, 2008). Thus, Pooled

OLS regression model is simple and easy apply when the nature of homogeneity occurs on the observations (Hsiao, 2014).

However, Pooled OLS regression model has the disadvantage as it will contort the true picture of the observations if the nature of heterogeneity exists. As a corollary, Pooled OLS regression model is unable to analysis the model precisely since the estimated coefficients will become biased and inconsistent (Gujarati & Porter, 2009).

3.5.1.1.2 Fixed Effect Model (FEM)

Fixed effect model also known as fixed effect least square dummy variable (LSDV) model which is consistent with researcher Rendon (2013) who propose that fixed is explained by LSDV model. This model is useful when there is heterogeneity among different subjects through the different intercept value or slope coefficient across each entity as each individual or cross sectional may has their own special characteristic. For example, two different aviation entities may different in market, managerial styles and business strategies. However, researchers Borenstein, Hedges, Higgins and Rothstein (2010) state that different subjects in LSDV model are sharing the common effect and fixed effect will be more effective in detecting relationship if the observation size is large. Moreover, one of the advantage of fixed effect model is this model has privilege in commanding no time effect variables (Amato & Anthony, 2014).Furthermore, we can adopt differential intercept dummy technique to show the fixed effect for each subject. This is supported by Wallace and Hussain (1969) which document that adoption of dummy variables is try to specify a regression model with zero mean error term.

Generally, in FEM, there have three scenarios which to detect different characteristics across different cross sectional in a model.

First scenario:

- Intercepts are different across companies

- Slopes are constant across companies
- Time invariant (no time effect)

$$\boldsymbol{Y_{it} = \alpha_1 + \alpha_2 D_{2i} + \alpha_3 D_{3i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \varepsilon_{it}}$$

The above FEM formula is testing 3 different subjects with the different intercept but same slope coefficient as well as time invariant. One of the assumptions for LSDV model is no time effect in independent variable (Amato & Anthony, 2014). Y_{it} represents the dependent variables for the three subjects. α_1 acting as the intercept for subject 1 as well as benchmark for this regression model to avoid dummy variable trap. α_2 represents the intercept for subject 2 and the dummy variable, D_{2i} = 1 if observations from subject 2, otherwise D_{2i} = 0. Dummy variable, D_{3i} = 1 if observations from subject 3, otherwise D_{3i} = 0.

Second scenario:

- Intercepts are different
- Slopes are constant
- Time variant

In this scenario, first scenario model can add in some time dummy variables into first scenario regression model. Number of time dummy variables are determined by number of years considered in research.

Third scenario:

- Intercept are different
- Slopes are different
- Time invariant

$$\boldsymbol{Y_{it} = \alpha_1 + \alpha_2 D_{2i} + \alpha_3 D_{3i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \gamma_1 (D_{2i} X_{2it}) + \gamma_2 (D_{2i} X_{3it}) + \gamma_3 (D_{3i} X_{2it}) + \gamma_4 (D_{3i} X_{3it}) + \varepsilon_{it}}$$

For third scenario, the model can be created by using first scenario model with additional slope dummy variables. Each slope dummy variable represents the different slope coefficient for different subject. This scenario is same with first scenarios but with additional slope dummy model can take into account the individual slope coefficient. γ represent the differential slope coefficient of each

individual if γ is statistically significant which show that all individual slope coefficients are different. However, if γ is statistically insignificant which mean that all individual slope coefficients are same.

3.5.1.1.3 Random Effect Model (REM)

According to Gujarati and Porter (2009), Random Effects Model (REM) is also called as Error Components Model (ECM). The purpose of random effects model is to forecast the mean of a distribution effects but not to estimate one true effect (Borenstein et al., 2009). Random Effects Model (REM) is applied when the intercept of each cross-sectional unit is unrelated with the independent variables (Gujarati and Porter, 2009). This can show by the model below:

$$\mathbf{Y_{it} = \beta_{1i} + \beta_2 X_{it} + u_{it}}$$

β_1 denotes the mean value of the whole cross-sectional intercept. It assumed that is a random variable with a mean value of β_1 and expressed as:

$$\mathbf{\beta_{1i} = \beta_1 + \varepsilon_i} \qquad \mathbf{i = 1, 2, \dots , N}$$

ε_i = A random error term with the mean value of zero and variance is σ_ε^2.

$$\mathbf{Y_{it} = (\beta_1 + \varepsilon_i) + \beta_2 X_{it} + u_{it}}$$

$$\mathbf{Y_{it} = \beta_1 + \beta_2 X_{it} + \varepsilon_i + u_{it}}$$

$$\mathbf{Y_{it} = \beta_1 + \beta_2 X_{it} + W_{it}}$$

Where:

W_{it} = Composite error term (Derive from two components, εi and u_{it})

ε_i = The individual specific error component

u_{it} = The combination of time series and cross section error component

On the other hand, Borenstein et al. (2009) find that the confidence interval of random effects model for the summary effect will be wider.

3.5.2 Hypothesis Testing for Model Selection

3.5.2.1 Poolability Hypothesis Test

Data covering higher number of observations with lesser time periods can be examined by using poolability test (Baltagi, 2013). Therefore, poolability test is carried out to determine which model is the best for the collected panel data and this test is conducted to determine whether FEM or Pooled OLS model is applicable. The poolability test showed as below:

H_0: There is a common intercept on all the companies.

H_1: There is no common intercept on all the companies.

Significance level: 10%

Decision Rule: Reject H_0 if F-statistic has probability of less than significant level of 10%. Otherwise, do not reject H_0.

The null hypothesis indicates that Pooled OLS model is better to apply. However, FEM model is better than Pooled OLS model when the null hypothesis is rejected. Thus, FEM should be applied.

3.5.2.2 Hausman Test

Hausman test is the test that helps to make a decision to choose a most appropriate model among the two different regressions model for random effect model (REM) and fixed effect model (FEM) in order to get a reliable result. It is important to mention that if the idiosyncratic term (W_{it}) is not correlated with any independent variables, both model are consider as consistent estimation. However, if

correlation between idiosyncratic term and independent variables are exist, this given that the FEM is solely consistent. By using the Hausman test, it enables to employ the most suitable model for estimating the equation.

H_0: REM is efficient and consistent; $\mathbf{Cov\ (\alpha_i\ ,\ X_{it}) = 0}$

H_1: REM is not efficient and consistent; $\mathbf{Cov\ (\alpha_i\ ,\ X_{it}) \neq 0}$

Significance level: 10%

Decision rule: Reject H_0, if the H-statistic is less than the significant level of 10%. Otherwise, do not reject null hypothesis.

If the decision making is reject null hypothesis then it means that the FEM is better than REM. However, if do not reject null hypothesis as decision making then indicated that both model is consistent estimations. Nevertheless, REM will be chosen due to the few number of explanatory variables so that less possibility of problem of multicollinearity. While, normally FEM cannot be chosen is because of small degree of freedom since there is included more parameters.

3.5.2.3 Unit Root Test

Unit root test was conducted to test the stationarity in data (Gujarati & Porter, 2009). Stationary indicates that the variance and means will not change throughout the periods. As unit root test has become widely adopted by many previous researchers using time series data, thus unit root tests should be applied not only for long run, but also can be applied in seasonal cycles (Diaz-Emparanza, 2014). Besides, Argumented Dickey-Fuller (ADF) tests and Dickey-Fuller (DF) tests are more frequently use for testing unit root (James, 1996). To allow various possible outcomes, DF tests can be conducted in three different patterns with three different null hypothesis and ADF test is conducted by adding lagged values of the regressand (Gujarati, 2003). However, Unit Root Tests has been excluded from this research, since most unit root tests are conduct by using time series data to tests the stationary of the data (Gujarati & Porter, 2009).

3.6 Diagnosis Checking

The diagnostic checking is necessary to conduct in order to avoid econometric problem in term of multicollinearity, heteroscedasticity and autocorrelation as well as normality problem exist in the regression model.

3.6.1 Normality Test

Under normality assumption, Central Limit Theorem (CLT) of statistics suggest that the normally distribution of sum is achieve as the number of independent variables is increasing (Gujarati & Porter, 2009). Moreover, Jarque-Bera for normality is frequently adopted in Generalized AutoRegressive Conditional Heteroskedasticity models (Jarque & Bera, 1980). Hence, the normality test is conducted to determine whether the error terms abide the normal distribution. Eviews 7 software will be used to conduct Jarque-Bera test for justifying the normal distribution of error terms.

H_0: Error terms are normally distributed.

H_1: Error terms are not normally distributed.

Significant level: 10%

Decision rule: Rejects the null hypothesis if p-value is less than significant level of 10%. Otherwise, do not reject the null hypothesis.

The null hypothesis cannot be rejected if the P-value is greater than significant level of 10% and thus the error terms are normally distributed. Normality test is better than other alternatives (Sarkadi, 1975). However, if the sample size has more than 100 observations, the normality test is not important (Gujarati & Porter, 2009).

3.6.2 Multicollinearity Test

In common, if there is relationship and correlation exists in the regression model will called it as muticollinearity. In term of multicollinearity, the model has less number of observations (*N*) than the numbers of independent variables as well as those regressors are highly correlated among explanatory variables in that particular regression model (Gujarati & Porter, 2009). This explanation is consistent with the researchers, Petrini, Dias, Pertile, Eler, Ferraz and Mourao (2012), they describe the term of multicollinearity problem by having the relationship between the exogenous in the regression model.

According to Gujarati and Porter (2009), there have four reasons for the problem of multicollinearity which include over determined or underdetermined model, specification of model, model constrictions and the method employed for data collection (Mason & Perreault, 1991). These causes will lead the regression model into either perfect collinearity; serious or non- serious; or no collinearity whatsoever. Yet, there is no specific method to detect the problem of multicollinearity in reality. But, several thumb of rules can be used as a guide to detect whether multicollinearity problem incur or not. Those rule of thumbs include Variance Inflation Factor (VIF) and pair-wise correlation coefficient analysis (*r*).

Pair-wise correlation coefficient analysis (*r*) indicates that if there is a high pair-wise correlation between the independent variables then the model can be said that the model is incurs multicollinearity. Gujarati and Porter (2009) apply *r* to measure strength of the association between two exogenous variables in order to detect the problem of multicollinearity. The highly correlation and multicollinearity problem will exist in the model if value of correlation coefficient is exceeding ± 0.80. Moreover, any two independent variables are uncorrelated when *r* equal to zero. At the same time, it will determine whether it is positive correlation or negative correlation by showing the positive *r* or negative *r*.

Rather than pair-wise correlation coefficient analysis, another suggested rule of thumb is The VIF show how estimator variance is inflated when there is incurred of multicollinearity problem (Gujarati & Porter, 2009). Moreover, it can detect whether the model has serious multicollinearity problem or not.

$$\mathbf{VIF = 1/ (1 - r_k^2)}$$

Where:

$\boldsymbol{r_k^2}$ = the goodness of fit of the linear model for x_k based on all other variables.

As a rule of thumb, if the VIF of a variable greater than ten, which happened if R_j squared greater than 0.90, then model will consider as serious multicollinearity. Otherwise, it will consider as no serious multicollinearity problem happen for the independent variables. However, if the VIF test result is equal to one, there is no multicollinearity problem exists in the model (Gujarati & Porter, 2009).

According to Gujarati and Porter (2009), regression model will encounter some of the consequences by having multicollinearity problem. First, the OLS estimator is difficult to make an accurate estimation even though the model is best linear unbiased estimator (BLUE). Second, it tends to become wider confidence intervals due to larger standard error thus will lead to high chance to do not reject null hypothesis so that the statistics is insignificant. Also, it can become very susceptible to the small changes in the data for the OLS estimators and standard errors. Therefore, there are some ways to solve the problem of multicollinearity by enlarge sample size or dropping of variables, combination of time series and cross-sectional data, transformation the variables, or redesign the econometrics model. Thus, in case of multicollinearity, this thesis will try to add more sample size or redesign the model.

In this research, VIF and pair-wise correlation coefficient analysis is used to test the multicollinearity problem and this method also applied by Kemalbay and Korkmazoglu (2012).

3.6.3 Autocorrelation

Autocorrelation is the error term for whichever observation is associated to the error term of other observation (Gujarati & Porter, 2009). There are two types of autocorrelation: pure serial correlation and impure series correlation. According to Gujarati and Porter (2009), one of the effects of autocorrelation on the OLS estimators are OLS estimators are still unbiased and constant. Second, the OLS estimators will be inefficient and therefore no longer BLUE (Best, Linear, Unbiased, Efficient estimator). Third, the hypothesis testing is no longer appropriate because the estimated variances of the regression coefficients will be biased and inconsistent (Gujarati & Porter, 2009). Thus, Durbin-Watson test, Durbin's h test and Breusch-Godfrey LM test are proposed to detect autocorrelation.

In this research, the Durbin-Watson test is used to detect autocorrelation because this test is easy to compute, reliable in small samples and have optimal power properties against first-order serial dependence (Dufour & Dagenais, 1985). So, the hypothesis testing of Durbin-Watson test as below:

H_0: There is no autocorrelation problem.

H_1: There is autocorrelation problem.

Decision rule: Do not reject H_0 if DW test statistic value is within 1.50 to 2.50. Otherwise, reject H_0 (Prusty, pg 55, 2010).

3.6.4 Heteroscedasticity

The existence of heteroscedasticity problem is due to the unequal of spread or the error terms are not constant. In other words, there is unequal variance happens on the model. According to Gujarati and Porter (2009), once the problem of heteroscedasticity arisen, then the Ordinary Least Square (OLS) estimators will be affected. Heteroscedasticity will cause the variances as well as the standard deviation of the estimator being underestimated or overestimated (Breusch & Pagan, 1979).Then, this may result a higher or lower expected value of t-statistics

or *F*-statistics. As a result, heteroscedasticity will make the hypothesis testing of t-statistics or *F*-statistics become invalid and unreliable anymore since the heteroscedasticity problem leads the result reject the null hypothesis too often (Hayes & Cai, 2007). As a whole, the model will be considered as inefficient (Antonakis & Dietz, 2011).

Apart from that, there are several reasons that make the heteroscedasticity happened. The main reason is the existence of outliers in the observations. The outliers in an observation will give a wide impact especially when the sample size is small and this consequently affects the regression analysis results. On the other hand, the human behaviour is also another main reason that causes the heteroscedasticity problem. This situation is typically obvious on the example of discretionary income. Distinction in human behaviour may cause the observations having the problem of heteroscedasticity. Therefore, heteroscedasticity is typically occurs in cross-sectional data (Gujarati & Porter, 2009).

Based on the theory, if the heteroscedasticity problem is detected, there are two ways to solve heteroscedaticity problem which is generalized least squares (GLS) and weighted least squares (WLS) (Hayes & Cai, 2007).By using GLS or WLS, a new and more efficient set of parameter estimates with the correct set of covariance will come out. However, both of the ways can only be used when the error variances for observations is known (Gujarati & Porter, 2009). Moreover, the heteroscedasticity problem can be minimized if the sample size is large enough to conduct research (Nedorezov, 2014). If the error variances for observations is unknown, White's Heteroscedasticity-Consistent Variances and Standard Errors method which also known as robust standard errors can be used to solve the problem of heteroscedasticity (Baltagi, 2008). Since the error variances for this study is unknown, this study using the White's Heteroscedasticity-Consistent Variances and Standard Errors method in order to control the problem of heteroscedasticity.

3.7 Variables Specification

3.7.1 Dependent Variable

3.7.1.1 CEO Compensation

CEO Compensation is a dependent variable in this research model. CEO Compensation includes base salary and bonus (Unite et al. 2008). In Ozdemir and Upneja (2012) research, they also state that CEO compensation is constituted of two components: base salary and bonus. According to Renneboog and Zhao (2011), base salary is normally paid out in cash and normally in the form a fixed payment. Bonus normally paid when specific targets or goals achieved over the past year (Renneboog & Zhao, 2011). Gregory-Smith (2012) applied the logarithm of CEO compensation as measurement of CEO compensation. This measurement is also similar to the study of Lin and Lin (2014). This variable is obtained from the Malaysian Business Magazine. Thus, this study measure CEO compensation in logarithm of CEO compensation.

CEO Compensation = CEO Base Salary + CEO Bonus

CEO Compensation = log (CEO compensation)

3.7.2 Independent Variables

3.7.2.1 CEO Age

Literally, CEO age will reflect the age of CEO (Lin & Lin, 2014). Age is computed at the time of a focal entry and it is measured in the form of number of years (Xie, 2014). Age is a readily observable and it can be derived from the annual reports of the company involved. In contrast with the other characteristics

of CEO, CEO age is easily measureable to apply in all CEOs and it increases over time (Serfling, 2014). There is a positive relationship between the CEO age and CEO compensation, but the CEO compensation increasing rate is diminishing as the CEO age increase (McKnight et al., 2000). Serfling (2014) applies the logarithm of age as the measurement for the CEO age. In short, the method to calculate the CEO age is the logarithm age of CEO.

$$CEO\ age = Age\ of\ CEO$$

$$Log\ (CEO\ age) = Log\ (Age\ of\ CEO)$$

3.7.2.2 CEO Tenure

Previous research Lin and Lin (2014) suggest that there is positive relationship between CEO tenure and CEO compensation. This means that the shorter tenure come along with lower compensation. In the following, another research Gong (2011) indicates that a longer tenure CEO will likely to enhance company value as well as satisfy shareholders. Thus, CEO compensation aggregate over their tenure. Furthermore, according to researchers Hill and Phan (1991), they measure the CEO tenure represented in the number of years an individual holding CEO position. In line with this, another research Wang, Davidson and Wang (2010) also show the CEO tenure in term of year an individual being appointed as CEO until the he or she stepping down. Moreover, majority researchers, Fahlenbrach (2009), Ryan and Wiggins (2004) as well as Core and Guay (1999) indicated that tenure should be in logarithm form.

CEO Tenure= number of years being as CEO until departure

Log (CEO Tenure) = Log (number of years being as CEO until departure)

3.7.2.3 CEO Duality

Another variable in this research is CEO duality. CEO duality is a dummy variable (Chen et al., 2008). This variable takes a value of one if CEO also holds the chairman position; otherwise it takes a value of zero. CEO duality can be determined by taken from annual report of the company. This measurement is similar to the study by Nulla (2013) and this researcher find that CEO duality role had received higher compensation compare to non-duality CEO. This result is consistent with the study of Vemala, Nguyen, Nguyen and Kommasani (2014). So, CEO duality is a dummy variable in this study.

CEO Duality = 1 if CEO also holds the chairman position, 0 if otherwise

3.7.2.4 CEO Ownership

Musteen, Datta and Herrmann (2009) reported that executives who own part of equity in their company would tend to align their objective with shareholders. CEO ownership will be affected if any factors that affect the insider ownership (Kim & Lu, 2011).The data of CEO ownership can be collected from the annual report of the company.CEO ownership is the percentage of sum of shares owned by the CEO (Xie, 2014). This measurement also applied by Tong (2008) in which using the number of shares owned by CEO divided by the outstanding shares.

$$\textit{CEO ownership} = \frac{\textit{Common shares owned by the CEO}}{\textit{Total common shares outstanding}}$$

3.7.2.5 Board Size

In this research, board size is applied to measure the board for that particular company. In the case of resignation, director who resigned his or her position is not permitted to participant any conferences and deprive their voting right of the governance committee. Moreover, the size of directors will be reducing due to the resignation of director. Therefore, the resignation of director is not involved in this

study. The board size is measured by total number of directors on a board (Bonn, Yoshikawa & Phan, 2004). It is consistent with other researcher of Horvath and Spirollari (2012) and Arshad, Razak and Bakar (2014), which is defined the board size is the total number of director on the board for every accounting year while according to the historical research (e.g., Abdelsalam, El-Masrey & Elsegini, 2008; Garg, 2007; Rehman & Shah, 2013) they applied the logarithm of number of director on the board as measurement of board size. The data is collected from the annual report of the company in consumer product sector from year 2009 to 2013.

Board size= total number of directors on the board

Log (Board size) = log (total number of directors in board)

3.7.2.6 Board Independence

According to Bradley and Chen (2014), board independence defined as the outside director who is not the current stakeholder of that particular company or subsidiaries of the company. Board independence is reflecting the number of independence directors out of the total number of directors on the board (Al-Matari, Al-Swidi, Fadzil & Al-Matari, 2012). It is consistent with the research of Ibrahim and Samad (2011), the board independence measured by the total number of independent directors on the board. The data of the board independence is collected from the annual report of the company in consumer product sector from year 2009 to 2013.

Board independence= number of independent director to the total number of board directors

3.7.3 Control Variable

3.7.3.1 Company Profitability

Company profitability is measured by the Return on Equity (ROE) (Lin & Lin, 2014). The higher company profitability will results a higher CEO compensation. According to Lam et al. (2013), ROE can be defined as percentage of net profit after tax divided by the total equity capital (Lam et al., 2013). However, the percentage of ROE will be converted into decimal places in this study.

$$ROE = \frac{Net\ Profit}{Total\ Equity\ Capital} \times 100\%$$

3.7.3.2 Company Size

Gayle and Miller (2009) indicate that the pattern of CEO compensation could be largely explained by the company size. CEO compensation increases with the growing of the company size (Zhou, 2000). There is a positive relationship between CEO compensation and company size in which the company size is computed by total asset (Lin & Lin, 2014). This measurement is similar with Gayle, Golan and Miller (2011) in computing company size. Data of company size is obtaining from Datastream 5.1. Method to calculate company size is using the logarithm of total assets (Balafas & Florackis, 2014).

$$Company\ size = Log(total\ asset)$$

3.8 Conclusion

To sum up, the board governance variables, personal characteristic variables and control variables are mainly collected from company's annual report, Malaysian Business Magazine as well as DataStream during the year 2009 until 2013 in Malaysia's consumer product sector. At first, Bursa Malaysia shows there are 126

companies which are in the consumer product sector. Whereby, after filtered, there are obtained 38 companies in this study to conduct the regression model and hence data analysis. Subsequently, the data processing, description of variables and diagnostic checking are discuss in this chapter as well. For next chapter, the diagnosis checking and empirical result will be discussed.

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter provides the results and the interpretation on this study. The first part of this chapter discusses the descriptive analysis for CEO compensation and other variables that may possibly influences the CEO compensation by using the sample of 190 observations. The second part is scale measurement which employing Poolability and Hausman test to determine whether Pooled OLS, FEM or REM is suitable in running the panel regression model. After that, Breush-Pagan test is used to check the Poolability or REM. Later, there will be the diagnostic checking. Third part is the explanation on relationship between each regressand and regressors. In last part, there will be a conclusion of chapter four.

4.1 Descriptive Analysis

The interpretation for descriptive analysis has carry out to examine the characteristics of the data. The sample used by this study is 38 consumer products public listed companies on Bursa Malaysia from year 2009 to 2013. From Table 4.1, it illustrates the mean, median, maximum, minimum, standard deviation, skewness as well as kurtosis for CEO compensation and the independent variables in this study which are CEO age, CEO tenure, CEO duality, CEO ownership, board size and board independence.

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

No. of companies : 38 **No. of observations : 190**	**Mean**	**Median**	**Maximum**	**Minimum**	**Standard Deviation**	**Skewness**	**Kurtosis**
COM (Ringgit Malaysia)	2,999,064	1,991,432	17,142,710	249,464	2,485,521	2.2122	9.6617
AGE (Years)	56.0263	56.0000	82.0000	31.0000	9.0281	-0.1956	4.0728
TEN (Years)	11.2953	10.5550	40.1100	0.0200	6.7863	1.5236	7.4337
DUA	0.4211	0.0000	1.0000	0.0000	0.4950	0.3198	1.1023
OWN (%)	9.0214	2.4900	49.5700	0.0000	12.2009	1.4651	4.2120
BS (People)	7.5579	7.0000	12.0000	4.0000	1.7440	0.4489	2.5898
BI (%)	43.1711	41.4300	85.7100	16.6700	12.4356	0.8271	3.3885
CP (%)	15.8837	8.7050	431.1700	-41.7600	41.2684	6.6470	59.3565
CS	7.9643	8.3650	9.2400	5.2500	1.1544	-1.3771	3.4722

Notes: 1. COM = CEO Compensation; AGE = CEO Age; TEN = CEO Tenure; DUA = CEO Duality; OWN = CEO Ownership; BS = Board Size; BI = Board Independence; CP = Company Profitability; CS = Company Size

4.1.1 CEO Compensation

An approximation of the CEO compensation (COM), the median value and its standard deviation are RM1,991,432 and RM2,485,521 respectively. Furthermore, the minimum value and maximum value of CEO compensation are RM249,464 and RM17,142,710 accordingly. Moreover, skewness value of compensation is 2.21 which means that there is skewed right. Whereas, the variable of CEO compensation has kurtosis value of 9.66 which indicate that the data is leptokurtic distribution as excess positive kurtosis.

Besides, the average value of CEO compensation is RM2,999,064. In term of figure, this is higher than the average value of $1,059,593 which is reported by Brick et al. (2006) study on 1441 companies during the period of 1992 to 2001 in U. S. In addition, this result also shows higher than average value from the finding of Upneja and Ozdemir (2014). The authors use the sample of 12 lodging services companies during the period of 2002 to 2012 in U.S. and show that the average value of CEO compensation is $959,732. However, in term of currency value, CEOs from those countries receive more CEO compensation than Malaysia. Furthermore, the average value of CEO compensation revealed by the research of Ozdemir and Upneja (2012) is $987,009 by study on the 12 companies between the period of 2002 and 2008 in U.S. lodging industry which is higher than the average value of CEO compensation in this study. In contrary, Chen et al. (2013) demonstrate that the average value of CEO compensation is NT$12,065,000 after study on 1189 non-financial companies listed in Taiwan Stock Exchange (TSE) from the year 2005 until 2008 in Taiwan. In term of currency value, it can observe that the average value of CEO compensation in this study is higher than the average value of CEO compensation revealed by Chen et al. (2013). In addition, Yim (2013) notes that the average value of CEO compensation is $4,353,000 with sample based on S&P 1500 companies in year 1992 to 2007 in U.S. which is also higher than the average value of CEO compensation in this research. However, the average value for this research is lower than the average value of CEO compensation of $1,180,000 which noted by the study of Bulan, Sanyal and Yan (2010), they study on 917 U.S. manufacturing companies for the period of year

1992 to 2003. Thereby, this can be conclude that the CEO compensation in Malaysia is less than the CEO compensation in U.S. and higher than CEO compensation in Taiwan.

4.1.2 CEO Age

As for CEO age, the median value of CEO age is 56 years with the value of 82 years and the value of 31 years being the maximum and the minimum value, respectively. The standard deviation of CEO age is 9.03 years. In addition, according Table 4.1, distribution skewness of CEO age is -0.20 which means that this variable is skewed to the right. Kurtosis for standard normal distribution is equal to three ("Measures of skewness and kurtosis", 2013). Thus, the distribution is named as leptokurtic if kurtosis is over three. Inversely, if kurtosis is lowers than three, the distribution named as platykurtic ("Measures of skewness and kurtosis", 2013). For kurtosis of CEO age, the value of 4.07 is considered as excess kurtosis and entails a peaked distribution (leptokurtic).

The mean value of CEO age in this study is measured as 56.03 years, which indicates that the average CEO age is 56.03 years for 38 public listed consumer product companies in Malaysia from the year of 2009 to 2013. The mean value of CEO age is 53.5 years as reported by McKnight and Tomkins (2004) who carry out their study on 228 public listed companies in United Kingdom from the year of 1992 to 1997. This indicates that the mean value of CEO age in this study is higher as compared to the finding of McKnight and Tomkins (2004). Moreover, the mean value of CEO age is 55 years as reported by Lin, Kuo and Wang (2013). They investigate their study on 903 U.S. companies between the year of 2007 and 2010. Meanwhile, Lin et al. (2013) also note that the average CEO age with excessive compensation in U.S. is 56 years. As a comparison, the mean value of CEO age in this study is higher than the finding of Lin et al. (2013). On the other hand, the mean value of CEO age is 56.39 years as stated by Shin, Kang, Hyun and Kim (2015) by using sample from public listed companies on Korean Stock

Exchange from the year of 2000 to 2009. This shows that the mean value of CEO age in this study is higher than the finding of Shin et al. (2015).

4.1.3 CEO Tenure

From Table 4.1, based on 38 public listed consumer product companies in Malaysia, this descriptive result illustrates that the median and standard deviation of CEO tenure in this study are 10.55 years and 6.79 years, respectively. In addition, the maximum outcome for CEO tenure among Malaysia's CEOs from consumer products companies is 40.11 years, but the minimum CEO tenure is two months. Surprisingly, there is a huge tenure gap exist among 38 CEOs in Malaysia. Moreover, following the Table 4.1, distribution skewness of CEO tenure is 1.52 which means that this variable is positively skew. For kurtosis, the value of 7.43 considered as excess kurtosis and knows as leptokurtic or indicates a peaked distribution.

The average CEO tenure for this research is around 11.30 years which is higher than 4.48 years of CEO tenure as illustrated by Wowak et al. (2011). Their research includes sample size of at least five years tenure for all companies public listed in U.S. In Malaysia, 11.30 years is higher than the value of 8.88 years as stated by Shakir (2009) who conducts a research by collecting CEO tenure data from 81 Malaysia public traded property companies from the year of 1999 to 2005. However, 11.30 years is approximate to the average CEO tenure value of 11.69 years from the research of Finkelstein and Hambrick (1989), who adopt data from Forbes listed under "Leisure" American industry in year 1971, 1976, 1982 and 1983. Similarly, Bushman, Dai and Wang (2010) document a mean value of 12.07 years by using the ExecuComp data in U.S. for period range from year 1992 to year 2005. Thus, compare to average CEO tenure of Bushman, Dai and Wang (2010), 11.30 years is lower than the mean value of 12.07years.

4.1.4 CEO Duality

The standard deviation of duality is 0.50. The kurtosis value of 1.10 indicates that the duality is platykurtic distribution while the skewness value of 0.32 demonstrates that it was skewed positively.

The average value of duality is 0.4211 (42.11%). This means that on average there is 42.11% out of 38 consumer products sector companies in Malaysia have duality role. This is not in line with the MCCG (2012) which do not encourage the CEO duality. The result in Peng et al. (2007) show there are 0.58 (58%) of CEO duality in 403 samples in China from 1992 to 1996. This shows that on average, the duality role in this research sample is lower. Furthermore, Syriopoulos and Tsatsaronis (2012) study 43 shipping companies in U.S. over the period 2002 to 2008. The average duality in their research shows that 0.515 (51.50%). Thereby, the average of duality in this research (42.11%) is lower as compared to 0.515 (51.50%). In addition, Yang and Zhao (2014) research consist of 1926 companies in U.S. with sample period from 1979 to 1998. The authors find that on average there are 63.99% out of 1926 companies from tradable sector have duality role. The average duality in this research sample (42.11%) is relatively low compared to 63.99% that show in Yang and Zhao (2014) study. Besides, Horner and Valenti (2012) investigate 238 samples from 2002 to 2007. They document that the average value is 25% from 238 samples have duality role. This shows that on average, the duality role in this research sample is higher than the result in Horner and Valenti (2012) by 17.11%. Thereby, this can conclude that the average value of Malaysia has lesser duality role compare to U.S. and China.

4.1.5 CEO Ownership

Besides, this research reveals that the median of CEO ownership is 2.49% with 49.57% being the highest value (maximum). In addition, the value of standard deviation for CEO ownership is 12.20%. This research further report an average CEO ownership of 9.02% and this value is lower than the 15.20% average value in the research of Ishak et al. (2012). The authors conduct research with sample based on public listed companies in Bursa Malaysia from year of 2002 until 2005. Moreover, average CEO ownership for this research also shows a lower value compared with the finding of Wang, Sun, Yu and Zhang (2014) with sample of China's public listed companies from 2004 to 2005 which comprises a mean value of 28.30%. While the kurtosis value of 4.21 and skewness value of 1.47 illustrate that the distribution is peaked compared to the normal (leptokurtic) and skewed to the right.

However, the average of 9.02% from this research shows a significantly higher average value as compared with the value reported by Chung and Pruitt (1996) and Chen et al. (2008) by using the U.S. companies data obtained from S&P. Additionally, Chung and Pruitt (1996) report lower average values for CEO ownership by further categories average value of CEO ownership statistic into three patterns, including 1.29% (all companies), 4.96% (CEO is a founder of company), whereas 0.62% (CEO is not a founder of company).

4.1.6 Board Size

For the board size, the median and standard deviation of board size are seven members and 1.74 members, respectively. Moreover, this study demonstrates a minimum member on the board is four members whereas the maximum member of board size is 12 members. Furthermore, skewness value of board size is 0.45 which means that there is skewed right. However, the kurtosis value for board size is 2.59 which indicate that the data is platykurtic distribution as its excess negative kurtosis.

In addition, the average member for board size in this study is 7.56 (around 8 members) which are relatively close to the average member of 7.72 (around 8 members) which is reported by Chalmers, Koh and Stapledon (2006) study on top 200 Australian Stock Exchange (ASE) listed companies form year 1999 until 2002. However, there is no exact number of board size determined by MCCG (2012). Besides, the average member of board size in this study is lower than the study of Ran, Fang, Luo and Chan (2015), they show the average member of board size with the member of 9.25 (around 9) by study on 2379 public listed companies from year 1999 until 2012 in China. However, the average member of board size is largely different and the average member of board size in this study is higher when comparing with Rehman and Ali Shah (2013). They reveal the average member of board size is 2.14 (around 2) after conducted the research on 80 listed companies in Pakistan from the year 2005 until 2009. Also, the average member of board size is higher than the average member of 6.20 (around 6) as reported by Matolcsy, Shan and Seethamraju (2012), a study on top 500 Australian companies from 2001 until 2009. While the average member of board size revealed by Ozkan (2007) is almost similar to the study of Ran et al. (2015) by showing the average value of nine for board size after conduct the research on 414 large companies on the fiscal year of 2003 and 2004 in United Kingdom.

4.1.7 Board Independence

For board independence, median is 41.43% with 85.71% being the highest. The minimum proportion of board independence is 16.67% while the standard deviation is 12.44% in this research. The kurtosis value of 0.83 and skewness of 3.39 demonstrates that the distribution is flat compared to the normally distribution and it was skewed positively.

Besides, the average proportion of the board independence (43.17%) to total board members is compliant with the Bursa Malaysia Listing Requirements (2001) which require at least one-third or two of the board of directors to be independent directors. In Yang and Zhao (2014) research, there is 64% of board independence

from 1926 U.S. companies over the period from 1979 to 1998. Thus, the proportion of board independence in this research is lower. Besides, Saleh et al. (2005) study consists of 561 samples and they focus on six sectors in Malaysia which is consumer products sector, construction sector, industrial product and technology sector, mining and plantation sector, properties sector, services and trading sector. They document that the proportion of board independence is 58.90% to total boards. Thereby, the proportion of board independence in this research is close to the finding of Saleh et al. (2005).

4.1.8 Company Profitability

For the proxy variable of company profitability, ROE represents as percentage of net profit after tax divided by the total equity capital. The median value and its standard deviation of company profitability are 8.70% and 41.16%, respectively. On the other hand, the minimum value for company profitability is -41.76% which is the lowest as compared to other variables in this study and the maximum value for company profitability is 431.17%. Besides, the skewness value of company profitability is 6.65 which means that there is skewed right. Furthermore, the kurtosis value for company profitability is 59.36 which indicate that the data is leptokurtic distribution or excess positive kurtosis.

Rehman and Ali Shah (2013) find that the average value of company profitability is 0.1686 (16.86%) by study on the 80 Karachi Stock Exchange (KSE) non-financial companies from the year 2005 to 2009 in Pakistan. This value is slightly higher when compare with the average value of company profitability in this study where the average value for this study is 15.88%. Chen et al. (2013) report that the company profitability as measured by percentage of net profit after tax divided by the total equity capital has an average value of 16.31% (0.1631) among the 1189 Taiwan Stock Exchange (TSE) non-financial listed companies from the year 2005 until 2008 in Taiwan. It also shows that the average value of company profitability in this study is lower than the average value reported by Chen et al. (2013). However, the average value of company profitability, 0.036 (3.6%) reported by

Matolcsy et al. (2012) is relatively lower than the average value of company profitability in this study after conducted the research on top 500 Australian companies from the year of 2001 until 2009 in Australia.

4.1.9 Company Size

Company size represents an approximation of the logarithm of total assets, the median value and its standard deviation are 8.37 and 1.15, respectively. Furthermore, this research reveals minimum value of company size is 5.25 and with the highest value of 9.24. The value of skewness and kurtosis are -1.38 and 3.47 indicates there has a left skewed and consists of insignificant leptokurtic.

Moreover, the company size shows an average value of 7.96 which is relatively close to average value of 7.58 in U.S. from year of 1992 until 2005 (Bushman, Dai & Wang, 2010). Additionally, the average value of this research almost similar to the mean value of company size 7.30 reported by these authors by illustrating a situation when forced turnovers of CEO occur and mean value of 7.37 when the sample is control. However, the average value of this research demonstrates a substantial different in contrast with average value of 1.73 from the finding of Vithessonthi and Tongurai (2015) based on sample of 452,830 companies in Thailand.

This average value of 7.96 is higher than the 6.28 mean value revealed by Finkelstein and Hambrick (1989) using sample of 115 companies in United States, which comprising of four years period. Furthermore, the average value also higher than the average value reported by Brown and Caylor (2006) with selecting 1868 companies in U.S. in 2003. Moreover, the average value for this research indicates a slightly lower than average value of 8.46 revealed by Ramasamy, Ong and Yeung (2005) finding with sample based on 30 public listed companies in Bursa Malaysia, specifically plantation industry in Malaysia.

4.2 Scale Measurement

4.2.1 Poolability test

Table 4.2: Result of Redundant Fixed Effect Tests

Chi-square	Decision
6.5067	Pooled OLS Model

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

Poolability test is conduct to examine whether Pooled OLS model or Fixed Effect Model is more appropriate to adopt for this research. Based on the result in Table 4.2, statistics value is 6.5067 which shows that the null hypothesis (H_0) cannot be rejected and indicates there is sufficient evidence to conclude that a common intercept exists on all the companies. Moreover, in the rejection of alternative hypothesis also imply that Pooled OLS model is valid and better than Fixed Effect Model. Hence, Pooled OLS model should be apply. Since Pooled OLS model is apply for this research, Hausman test cannot be conducted and Breush-Pagan tests should be applied for next tests.

4.2.2 Breusch-Pagan Random Effect Lagrange multiplier (LM) test

Table 4.3 : Result of Breusch-Pagan Random Effect LM Test

Cross-section One-sided	Period One-sided	Both
141.5438	0.06431	141.6081***

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

Since Poolability test has deny the fixed effect exist in this research model so Hausmen test will not be conducted. However, Breusch-Pagan Random Effect Lagrange Multiplier test will be practiced to test whether Pooled OLS or Random Effect (REM) will be adopted in this research. In this, null hypothesis indicate that there is no random effect and alternative hypothesis indicate that the random is existing. Based on above Eviews 7 results, the statistic numbers for both cross-sectional and period data equal to 141.6081 shows that the research null hypothesis will be rejected at significance level of 10%. In line with this, LM test suggest the REM will be more suitable in this research to capture the random effect among individual characteristics.

4.2.3 Diagnostic Checking

4.2.3.1 Normality test

Table 4.4: Result of Normality Test

Jarque-Bera	Decision
31.9243***	Not normally distributed

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

The presence of error terms' normality distribution can be examined by applying Jarque-Bera test. Based on the results of Jarque-Bera (JB) test shows in Table 4.4, this result entailed that the CEO compensation for normality test is significant at 1%. Hence, null hypothesis is rejecting, this indicates there is enough evidence to conclude that the error terms are not normally distribution over the periods.

Nevertheless, this result can be demonstrated by Central Limit Theorem (CLT), sample size of over 100 observations (the large number of independent and distributed random variables), lead to normally distribution with addition variables (Gujarati, 2003).Therefore, the residuals are normally distributed as this research consists of sample size about 190 observations which exceeds 100 observations and has meet the assumption of Central Limit Theorem.

4.2.3.2 Multicollinearity

Table 4.5 : Result of Pair-wise Correlation among Variables

	LOGCOM	LOGAGE	LOGTEN	DUA	OWN	LOGBS	BI	CP	CS
LOGCOM	1.0000								
LOGAGE	0.1049	1.0000							
LOGTEN	0.1201	0.2522	1.0000						
DUA	-0.0771	-0.0094	-0.1107	1.0000					
OWN	-0.2957	0.2693	-0.0842	0.0892	1.0000				
LOGBS	0.3946	0.2488	0.2326	-0.2919	-0.2061	1.0000			
BI	-0.3200	-0.1838	-0.1864	-0.0010	0.1015	-0.4084	1.0000		
CP	0.2275	-0.0670	-0.3021	-0.1208	-0.0291	0.0737	0.0755	1.0000	
CS	0.0166	0.0735	0.0550	0.1286	-0.1214	0.0145	0.0546	0.1471	1.0000

Notes: 1. LOG COM = Logarithm CEO Compensation; LOG AGE = Logarithm CEO Age; LOG TEN = Logarithm CEO Tenure; DUA = CEO Duality; OWN = CEO Ownership; LOG BS = Logarithm Board Size; BI = Board Independence; CP=CompanyProfitability; CS = Company Size

In this study, pair-wise correlation coefficient analysis and variance inflation factor has been conduct to detect whether multicollinearity problem exist in the regression model. At first, pair-wise correlation coefficient is computed as shown in Table 4.5. According to Table 4.5, it shows that the correlation coefficient between board independence and board size is -0.4084 which is highest value among the other pairs of explanatory variables. On the other hand, the lowest correlation coefficient value is -0.0010 which is between the duality and board independence. Although -0.40834 is the highest, but exceed $\pm$ 0.80 of correlation coefficient value only consider as high. Moreover, based on this result, it shows a negative correlation between board independence and board size. Meanwhile, in order to know how strong of the correlation so this study further proceeds to compute VIF in order to detect whether the multicollinearity is serious or not serious. The results of VIF are computed as shown in Table 4.6.

Table 4.6: VIF of Each Independent Variable

	R^2	VIF = $\frac{1}{1-R^2}$	Conclusion
AGE_{it}	0.321117	1.4730	No serious multicollinearity
TEN_{it}	0.110007	1.1236	No serious multicollinearity
DUA_{it}	0.000000	1.0000	No serious multicollinearity
OWN_{it}	0.082173	1.0895	No serious multicollinearity
BS_{it}	0.150892	1.1777	No serious multicollinearity
BI_{it}	0.113430	1.1279	No serious multicollinearity
CP_{it}	0.047719	1.0501	No serious multicollinearity
CS_{it}	0.389273	1.6374	No serious multicollinearity

Based on the result shown in Table 4.6, VIF values of all independent variables are less than 10 which mean that there is no serious multicollinearity exists in this regression model. Therefore, the estimators are unbiased, efficient and consistent.

4.2.3.3 Autocorrelation

As a rule for detection on autocorrelation problem, Prusty (2010) suggests that there is no autocorrelation problem in the regression model if the Durbin-Watson (DW) statistics fall within the range 1.5 to 2.5. Based on Table 4.7, the value of DW statistic for this model is 1.19 and this shows that there is an autocorrelation problem for this model since the value (1.19) is less than 1.5. After that, this study using the estimation of first order autocorrelation coefficient in order to further detect the problem of autocorrelation on full data model. Then, the value of DW statistic of first order autocorrelation coefficient of this model shows as 2.03 and this indicates that there is no problem of autocorrelation in the regression model since the value (2.03) falls within the range of 1.5 to 2.5 (Prusty, pg 55, 2010).

Table 4.7: Result of Autocorrelation Test

Durbin-Watson Statistics	**Decision**
1.189860	Autocorrelation
First Order Autocorrelation Coefficient	
2.025714	No Autocorrelation

4.3 Inferential Analyses

4.3.1 Empirical Result

The panel data comprises of 38 consumer product public listed companies in Malaysia from the year of 2009 to 2013 are run by using EViews 7 to investigate the impact of CEO characteristics and board governance on CEO compensation. Table 4.8 which is the regression result for full data model is controlled for the problem of heteroscedasticity by using the estimation of white cross-section coefficient covariance.

Table 4.8: Regression Result of CEO Compensation

Variable	Coefficient	Standard Error	*t* Statistic
LOGAGE	0.6471	0.6516	0.9930
LOGTEN	0.2435	0.0808	3.0119***
DUA	-0.0056	0.1493	-0.0377
OWN	-0.4940	0.1523	-3.2443***
LOGBS	0.2952	0.2283	1.2929
BI	-0.4527	0.2332	-1.9410*
CP	0.0085	0.0262	0.3225
CS	0.0274	0.0158	1.7343*
C	4.7652	0.9630	4.9482***
R^2	0.2166		
Adjusted R^2	0.1820		
F-statistic	6.2557***		

Notes: 1. The asterisks * implies significant at 10%; ** implies significant at 5%; *** implies significant at 1%.
2. LOGAGE = Logarithm CEO Age; LOGTEN = Logarithm CEO Tenure; DUA = CEO Duality; OWN = CEO Ownership; LOGBS = Logarithm Board Size; BI = Proportion of Board Independence; CP = Company Profitability; CS = Company Size; C = Constant

$$\widehat{LOGCOM} = 4.7652 + 0.6471\ LOGAGE + 0.2435\ LOGTEN - 0.0056\ DUA - 0.4940\ OWN + 0.2952\ LOGBS - 0.4527\ BI + 0.0085\ CP + 0.0274\ CS$$

4.3.2 R-square

R^2 recognized as coefficient of determinant, which demonstrates the degree of variation in the regressand that can be explained by the variation in regressors. The value of R^2 ranges between zero to one as the more the value is closer to one, the better will be the fit for a regression model (Gujarati & Porter, 2009). Based on Table 4.8, the result shows the value of R^2 for this study is 0.2166. This reveal that there are 21.66% of the variation in CEO compensation that can be explained by the variation in the CEO age, CEO tenure, CEO duality, CEO ownership, board size, board independence, company profitability and company size. Hence, there is a low correlation between dependent variables and independent variables.

4.3.3 Adjusted R-square

In order to take into account of more observations, adjusted-R^2 is computed. From Table 4.8, the value of adjusted R^2 for this study is 0.1820. This result entails that there are 18.20% of the variation in CEO compensation that can be explained by the variation in the CEO age, CEO tenure, CEO duality, CEO ownership, board size, board independence, company profitability and company size after the degree of freedom is taken into account.

4.3.4 *F*-statistic

Table 4.9: *F*-test

No. of companies = 38 **No. of observations = 190**	Model
Hypothesis	H_0 : All explanatory variables are not significant in explaining CEO compensation. H_1 : At least one of the explanatory variables is significant in explaining CEO compensation.
Decision Rule	Reject H_0 if p-value less than 0.1. Otherwise, do not reject H_0.
***F*-statistic**	6.2557***
Results	Reject H_0

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

Based on Table 4.9, *F*-statistic is 6.2557 and it is significant at 1%. Thus, the result of *F*-test is rejecting H_0 and there is enough evidence to conclude that there is at least one of the explanatory variables in this model is significant in explaining the estimated CEO compensation for public-listed consumer product companies from the year of 2009 to 2013.

4.3.5 *t*-statistics

4.3.5.1 CEO Age

H_1: CEO age is positively significant with CEO compensation in Malaysia's consumer product sector.

According to Table 4.8, CEO age shows a positive and insignificant relationship on CEO compensation for this study at 10% significance level. Hence, this result indicates that the null hypothesis cannot be rejected. The coefficient of log CEO age (0.6471) for this study imply that if the CEO age increases by 1 %, on average, CEO compensation will increases about 0.6471%, ceteris paribus. Yet, the result of this study illustrates insignificant relationship between CEO age and CEO compensation.

4.3.5.2 CEO Tenure

H_2: CEO tenure is positively significant with CEO compensation in Malaysia's consumer product sector.

Based on the result of this study, CEO tenure is positively significant with CEO compensation in this model at 1% significant level. The coefficient of log CEO tenure (0.2435) for this model imply that if CEO tenure increases by 1 percent, on average, CEO compensation will be increased about 0.2435%, by holding other variables constant.

4.3.5.3 CEO Duality

H_3: CEO duality is negatively significant with CEO compensation in Malaysia's consumer product sector.

Based on the result for this study, CEO duality shows a negative insignificant relationship with CEO compensation. Nevertheless, the result shows that the coefficient of CEO duality (-0.0056) for this study indicates that the estimated CEO compensation for CEO who also hold position as chairman is 0.56% higher, ceteris paribus. But, influence of CEO duality upon the CEO compensation is insignificant.

4.3.5.4 CEO Ownership

H_4: CEO ownership is negatively significant with CEO compensation in Malaysia's consumer product sector.

By referring to the results from Table 4.8, CEO ownership shows negatively significant relationship with CEO compensation at significant level of 1%. The coefficient of CEO ownership for this study is -0.4940. Therefore, this entails that if CEO ownership increases by 1 percentage points, on average, CEO compensation will decreases about 49.40%, ceteris paribus.

4.3.5.5 Board Size

H_5: Board size is positively significant with CEO compensation in Malaysia's consumer product sector.

According to the result of this study, board size is positively insignificant with CEO compensation in Malaysia's consumer product sector at 10% significant level. The coefficient of board size (0.2952) for this model shows that if board size is increases by 1 percent, on average, CEO compensation will increase by 0.2952%, ceteris paribus. However, this result shows that there is an insignificant relationship between board size and CEO compensation.

4.3.5.6 Board Independence

H_6: Board independence is positively significant with CEO compensation in Malaysia's consumer product sector.

Based on Table 4.8, board independence is negatively significant with CEO compensation in Malaysia's consumer product sector at 10% significant level. The coefficient of board independence (-0.4527) for this model indicates that if board independence is increases by 1 percentage point, on average, CEO compensation will decreased about 45.27%, by holding other variables constant.

4.3.5.7 Company Profitability

Based on this study, ROE which acts as the proxy of company profitability is statistically positive but insignificant with CEO compensation in Malaysia's consumer product sector at 10% significant level. The coefficient of company profitability (0.0085) for this model denotes that if company profitability is increases by 1 percentage point, on average, CEO compensation will increased about 85 percent, by holding other variables constant. However, this result shows that there is an insignificant relationship between company profitability and CEO compensation.

4.3.5.8 Company Size

Based on the result, company size is statistically positive and significant with CEO compensation in Malaysia's consumer product sector at 10% significant level. The coefficient of company size (0.0200) implies that if company size is increases by 1 percent, on average, CEO compensation will increased about 2 percent, by holding other variables constant.

4.4 Conclusion

In concluding of chapter 4, data collected from 38 companies from Malaysia consumer product sector have been analysed and the relationship between dependent variable and independent variables have been illustrated. In line with this, Poolability test and Breusch-Pagan LM test are conducted to ensure a proper model has been adopted for this research panel data analysis. Furthermore, diagnosis checking is conducted and all econometric problems have been solved. However, the research's hypotheses outcomes appear to contradict with previous reviews in chapter 2 so these will be discussed in chapter 5 by providing a reasonably insight and reasons.

CHAPTER 5: DISCUSSION, CONCLUSION AND IMPLICATIONS

5.0 Introduction

Chapter 5 discussed the conclusion of this research purposes and issues that developed in chapter 1. This research aims to study the CEO characteristics and board governance in influencing the CEO compensation. Firstly, this chapter will discuss the summary of statistical analyses that listed in chapter 4. Next, this chapter will provide the practical policy implications for policy makers and practitioners. Besides, limitations of this study will be discussed along with the recommendations for future researchers. Lastly, chapter 5 will present an overall conclusion of this research.

5.1 Summary of Statistical Analyses

Table 5.1: Summary of Major Findings

Hypothesis of the study	Decision
H_1: CEO age is positively significant with CEO compensation in Malaysia's consumer product sector.	Do not reject H_0
H_2: CEO tenure is positively significant with CEO compensation in Malaysia's consumer product sector.	Reject H_0
H_3: CEO duality is negatively significant with CEO compensation in Malaysia's consumer product sector.	Do not reject H_0
H_4: CEO ownership is negatively significant with CEO compensation in Malaysia's consumer product sector.	Reject H_0
H_5: Board size is positively significant with CEO compensation in Malaysia's consumer product sector.	Do not reject H_0
H_6: Board independence is positively significant with CEO compensation in Malaysia's consumer product sector.	Do not reject H_0

5.2 Discussion of Major Findings

5.2.1 CEO Compensation and CEO Age

According to the summary of major finding in Table 5.1, CEO age shows a positive yet insignificant relationship towards the CEO compensation in Malaysia's consumer product sector. Ooi and Lai (2009) documents that CEO age unable to truly reflect the knowledge and experience gained by CEO. Therefore, CEO compensation is not significantly influenced by CEO age. In contrast, CEO tenure able to show the special competence that required by the company and longer tenure of CEO which means that CEO has well realized and adapted the business environment and operational practices of the company. As a corollary, CEO age is not significantly influence CEO compensation might be happened due to CEO age failed to reflect the related knowledge and industry-specific sector information that required by the company.

In addition, the relationship between CEO age and CEO compensation is not significant in this study might be due to the weak correlation between CEO age and CEO tenure. According to McKnight and Tomkins (2004), CEO compensation will be affected significantly by CEO age if the CEO age was closely correlated with CEO tenure. However, the correlation between CEO age and CEO tenure in this study is 0.2522 (Table 4.5) and this shown that CEO age is not closely correlated to CEO tenure. As a result, the result of this study which indicates that CEO age is not significantly influences towards the CEO compensation was supported by the finding of McKnight and Tomkins (2004).

As a whole, there is positively insignificant relationship between CEO age and CEO compensation. Since older CEO who risk averse will tend to reluctant maximizes shareholder wealth (Yim, 2013) but this research result show insignificant impact from CEO age toward CEO compensation so it is not in line with the agency theory.

Besides, this result also not in line with the managerial power theory which stated that CEOs have the ability to adjust their compensation package.

5.2.2 CEO Compensation and CEO Tenure

The result of this research for relationship between CEO compensation and CEO tenure show that both variables is significant positively correlated in Malaysia consumer sector. In general, longer tenure CEO might acquire higher compensation or pay because holding a position after a long period, CEO may exercise his or her influence over the whole entity across different level of management such as stakeholders, shareholders and other executive management. Thus, long tenure CEOs may try to use their power adjust compensation package for their own preference. According to Hill and Phan (1991), long tenure CEOs will dominate the company board through nomination of board member by nominating new board members and remove some knotty old board members. In line with this, Cordeiro and Veliyath (2003) also suggested that long tenure allow CEO to consolidate their power base which enable them raise their own compensation.

In contrast, some information show even short tenure CEO also can get high compensation in Malaysia. According to Table 1.4 in Chapter 1 of this study, Malaysian Business Magazine (2014) show that there are four CEOs from top ten highest payout CEOs who are just have less than five years tenure. Among the less than five years tenure CEOs, one from Malaysia consumer product sector who is the CEO of British American Tobacco (M), Datuk William Toh Ah Wah. The other three CEOs who are Tan Sri Shahril Shamsuddin (SapuraKencana Petroleum CEO), Datuk Robin Tan Yeong Ching (Berjaya Corporation) and Tan Sri Mohd Bakke Salleh (Sime Darby) which come from different sectors. Thus, there are some exceptional cases which show that short tenure CEOs also get the high compensation in Malaysia. This research believes there are still many factors influence the CEO compensation especially in consumer product sector. For instance, in consumer product sector,

Datuk William Toh Ah Wah who only has four years tenure but he own the compensation of RM17,142,710 and ranked as fifth highest CEO payout in Malaysia.

In overall, this research shows that the longer the CEO tenure, the higher the CEO compensation. Long tenure CEO might tend to dominate and consolidate their power in whole corporate. In line with agency theory, in order to avoid conflict between CEO and shareholders, compensation package can be used to reduce agency cost. Thus, higher compensation can be used to mitigate the agency cost problem. On the other hand, this result also consistent with managerial power theory as with long tenure, CEO has more power to influence own compensation as they may dominate the board.

5.2.3 CEO Compensation and CEO Duality

CEO duality shows an insignificant negative relationship toward CEO compensation. This result might be due to the effective board governance mechanism which suggests that CEO and chairman should have separate role. This is also similar to U.S. regulators and government which pressuring the company to get rid of CEO duality (Yang & Zhao, 2012). This is in line with Chen et al. (2008) which also found that there is an insignificant relationship between CEO compensation and CEO duality. This is because Chen et al. (2008) stated that company characteristics and ownership structure will affect the company performance instead of CEO duality. Thus, CEO duality has no significant impact toward CEO compensation. Besides, the result in this study is also consistent with Sigler (2011). This author found that the size of the company and CEO tenure are the factors that determining the CEO compensation. So, CEO duality is insignificant toward CEO compensation.

However, the result in this study is inconsistent with Vemala et al. (2014). They found that CEO duality has significant impact on CEO compensation. This is because CEO duality has power to control their compensation. On the other hand, the result in

this study is not in line with agency theory which suggests that CEO duality lead to low company performance because it compromises the monitoring and control of CEO (Peng et al., 2007). But, the result in this study is consistent with managerial power theory which proposes that boards do not manage executive compensation; instead, the executives have authority and power to decide their own pay (Bebchuk et al., 2002).

In summary, the insignificant relationship between CEO duality and CEO compensation is consistent with managerial power theory, Chen et al. (2008) and Singler (2011). Conversely, it is contradict with Vemala et al. (2014) and agency theory.

5.2.4 CEO Compensation and CEO Ownership

This result is consistent with Cole and Mehran (2008); Core et al. (1999); Bertrand and Mullainathan (2001). The result shows that CEO ownership has negative significant relationship with CEO compensation. This result indicated that the higher the percentage of total shares received by CEO, the lower the CEO compensation. Cole and Mehran (2008) further explained reason behind inverse relationship is when CEO ownership declines, if dividends is distributing to CEO, the company require paying tax. Therefore, companies prefer to compensate CEO in term of salary, because salary expense is cheaper compare with dividend distribution. Additionally, other shareholders are also entitled to receive dividend amount according to proportion of shares that they owned in the company. Besides, the result obtained from the finding of Core et al., (1999); Bertrand and Mullainathan (2001) show the inverse relationship was due to existence of at least of 5% shares hold by internal board members or outside block holders. This is because block holders has right to vote for company's decisions, thereby block holders will influence company in which company will offers more shares to CEO and thus reduce CEO compensation in order to reduce agency cost (Wang, Venezia & Lou, 2013).

However, other researchers' studies show positive and significant relationship that was different from the result (Buigut et al., 2015; Cyert et al., 2002). They found that the CEO compensation is an increasing function of CEO ownership. Buigut et al. (2015) indicated when CEO hold large percentage of shares for a long periods, they might have large controlling power on top management team, thus CEO can take this as opportunity for designing their own pay. Furthermore, positive relationship is more likely exists in small companies (Cyert et al., 2002). The largest shareholders are insignificant for small companies and less strictly of discipline will be imposed on CEO by largest shareholders. Therefore, CEO compensation will not be reduced as more shares hold by CEO.

The study of this result is consistent with agency theory. This is due to the effective board governance inside the company, block holders will appointed by company and hold the power to monitor CEO, including disciplining CEO, setting CEO contracts and CEO compensation level. Under block holders' control, CEO will be less likely to engage in high risks investment projects, consider impacts from every decision made as well as setting shareholders' benefits as their priority. Therefore, this will reduce the probability of CEO who attempting to extract private benefits from the company. Nevertheless, this result is inconsistent with managerial power theory, because top management has more power than CEO in operating the company. In other words, CEO has no power in structuring their pay level.

In summary, the CEO ownership is negatively significant relationship with the CEO compensation in this research. Hence, it is consistent with Cole and Mehran (2008) and inconsistent with Buigut et al. (2015); Cyert et al. (2002).

5.2.5 CEO Compensation and Board Size

As the result of Table 5.1, it shows the board size is positively insignificant with the CEO compensation. It can define that the board size has no relationship with the

compensation of CEO in Malaysia consumer product sector. Before that, there is several researches (e.g., Bebchuk and Fried, 2004; Core et al, 1999 & Sapp, 2008; Ozkan, 2007; Yermack, 1996) illustrated and proved with evidence about the CEO compensation is impacted by the number of directors. According to Ozkan (2007), the problems regarding the cooperation, linkage, communication, personal decision even team decision making can reduced the effective of board. So that, it will leads to high cash compensation for CEOs when the board sizes is large. Moreover, it is easy to influence by CEO if there is large board size (Bebchuk & Fried, 2004) by giving the reason of less responsibility of each director on company's affairs and executive pay as well, few cohesive and hard to gather majority within the board to gage the CEO or pay less responsible on compensation matter (Core et al, 1999 & Sapp, 2008).

However, Yermack (1996) is contrast with the result of this study by demonstrated that it is not necessarily to have a higher compensation for CEO as large board size. This is because the large board size has to suffer the costs of coordination and problems of free rider and thus large expenses lead company to pay less to CEO however small board size is expected to be more compensation for CEO (Yermack, 1996). On the other hand, the result shown in Table 5.1 is in line with the result of (John and Senbet (1998); Xie, Wallance and Peter (2003)), it illustrated that CEO compensation abuses might be avoided since large board size is tend to attract directors for reputation issues and have non-dependent directors with company and financial experience as well. Nevertheless, incremental cost for poorer communication and inefficient decision making as large board size are trade off with this benefit. Thus, this might shows that there is no relationship between board size and CEO compensation. Result of John and Senbet (1998), Xie et al (2003) and Chen et al. (2013) are supported the finding of this study. Anjam and Svanberg (2011) indicated that there is no agency problem when the boards of directors are family members and even the company is managed by the CEO who is one of the family members. Therefore, it is no exist with the agent-principal relation due to all of the board of directors are responsible in order to reduce the agency problem among the

CEO and shareholders. Thus, in this case, the board size does not consider as the matter to impact the level of CEO compensation since there is no agency problem exist in family-owned company. Moreover, as pointed out by Shliefer and Vishny (1997), the small or big board size do not necessarily means lesser or greater compensation to the CEO of the company because of the board governance structure is different from one country to another country and there is not a perfect structure to fit with all countries. Hence, it can conclude that board size is not a matter to influence that CEO compensation level.

Lastly, this study show that the level of CEO compensation is not influence by the board size and it can be explain that there might be not exist the agency problem between the board member and executive because of family-owned firm. Thus, this study is not consistent with the agency theory whereas it is in line with the managerial power theory. The managerial power theory defined that the executive have the power to declare their own compensation due to CEO possesses more power over the board to influence the decision making about the compensation by possesses structural power.

5.2.6 CEO Compensation and Board Independence

Based on this study, board independence is negatively significant with CEO compensation at 10% significant level. This means that board independence have a weak relationship between CEO compensation. When the board independence members increase, the CEO compensation will decrease and vice versa. This might because when the board independence is larger, the CEO may not have the ability to influence the outside directors for their desired compensation. Furthermore, the finding of this study is inconsistent with Johari, Salleh, Jaafar and Hassan (2008). The contradict finding might be due to most directors of independent in the board will offset the agency problem and hence it will able to improve the company

performance indirectly. In this way, the CEO may receive more compensation as company performance increase.

Besides, the result in this study is supported by Core et al. (1999). They stated that weaker governance structures will have greater agency problems and the CEOs will receive higher compensation. This reason also describes in the research of Claessens and Fan (2003) as they stated that there is weakens its approach to minimize agency cost when the board comprise most of non-independent directors. This means that CEO will get higher compensation when the board independence is smaller. This happen might because the company tends to solve the agency problem by giving higher compensation to CEO. Thus, it is in line with agency theory.

Moreover, the result in this study shows that board independence has negatively significant relationship between CEO compensation is also same with Ryan and Wiggins (2004). This is because they state that larger board independence having a bargaining advantage over the CEO. Thus, this lead the compensation more closely aligned to the shareholders' objectives. So, larger board independence may also decrease the CEO compensation. Besides, it is also contradict with managerial power theory which state that the CEOs can decide on their own compensation. Since more independent directors do not means that they can control on the CEO action towards his or her compensation. So, the CEOs can still decide their own compensation even when there is larger board independence (Saleh et al., 2005).

In summary, the board independence is negatively significant towards the CEO compensation in this study. So, it is consistent with agency theory, Saleh et al. (2005) and Core et al. (1999) but contradict with managerial power theory, Ozdemir and Upneja (2012), Ryan and Wiggins (2004).

5.3 Implication of Study

The purpose of this research provides some contributions and insights to corporate policymaker, Security Commission Malaysia, shareholders and board of directors. It is very critical for every party have a look on CEO compensation because CEO performance might the whole corporate business strategies and performances.

The research result has shown that CEO tenure is positively associated with CEO compensation in Malaysia consumer product sector. In other words, when the longer period one holding CEO position which mean they may ask for higher compensation. This may raise some awareness to shareholders, Security Commission Malaysia and board of directors because long tenure CEO may tend to less flexible and less creative in corporate business strategy. According to Hambrick and Fukutomi (1991), accumulation of year in doing the same job may causes CEO tend to following existing direction and unlikely to be more innovative. Thus, all relevant parties should look into this issue. With high compensation as incentive, long tenure CEO should be more creative and adaptive in this fast changing business environment. Especially for remuneration committee, they should make sure CEO performance is in consistent with their tenure and compensation because it can be costly to shareholder value and company performance.

Furthermore, CEO ownership is negatively significant influences towards the CEO compensation. In other words, a higher CEO ownership on the company's stock will lead to a lower CEO compensation. In Malaysia, the negative relationship between CEO ownership and CEO compensation show a good impact on companies. This might be due to the existence of strong board governance inside the company and thus every decision made by CEO will reflects more on benefits of shareholders instead for their own benefits. Furthermore, this reason can further support that CEO has making their own efforts for getting their compensation without abuse managerial power. Hence, this can serves as an important guideline for investors to have greater security for their investment. By referring to this result, investors can set this as a benchmark to make wise decision in deciding which company they should invest.

Besides, this represents a good practice for board of director to have better internal control system and greater accountability by maintaining proportion of CEO ownership in an equilibrium level. On the other hand, this signalled important information for federal government in order to implement more appropriate and integrated tax systems to enhance tax collection for companies in Malaysia, especially for consumer products sector companies. Hence, it can give some basic guideline to policy maker for future improvement in their single-tier tax system so that they might be able to apply this during the single-tier system starting from 2013.

In this study, board independence is negatively significant towards CEO compensation. This means that when the board independence is larger, CEO compensation will be lower. MCCG (2012) requires companies to maintain majority of the board of directors to be independent directors. This is because policy maker want to ensure the balance of power and authority on the board. Besides, Ozdemir and Upneja (2012) stated that when the board independence is larger, the company performance will be better because agency problem is reduced. Furthermore, the companies that has better performance means they are earning more profit and thus can attract more investors. Thereby, the company can expand its business and this will bring benefit to the Malaysia economy. In summary, the requirement of maintain majority independent directors will benefit to the companies in Malaysia.

On the other hand, this research indicated that CEO age, CEO duality and board size which are turn into insignificant. Thus, it can be illustrate that CEO age, CEO duality and board size not influence the level of CEO compensation. Jensen (1993) indicated that there will be more comprehensive to execute its fiduciary duties where separate the structure of leadership for two individuals person by holding two separate positions. In other words, a combine leadership structure held by one person consider as an inappropriate way to perform an excellent performance since they might disperse their concentrated power on it. Thus, it lowers down the return on assets and cost-efficiency. Therefore, it argues that the compensation paid to the CEO are not based on the position itself but based on the ability and management skill. It is not necessary to be low or high compensation where CEO holding with dual position.

Thus, finding of this study might be used by investors as a handbook for their future investment decision since it provide a mindset for investors as CEO received more as their high performance skill.

In addition, the result of insignificant of board size can bring an internal insight for policy makers and concern deeply about this issue and thus they can set an ethical and legal board structure policy for company's board structure. The insignificant of board size might due to the members of board are constituted by family members or friends and thus it has relationship among board members in the company. Due to there has relationship among the board members, it may lead them not to make a fair and rational decision on the compensation for executive of the company. With this issue, policy makers could used this study as guideline in order to reform the board policy in which to not only beneficial to CEO but also to shareholders even employees.

Furthermore, result indicates that there is insignificant relationship between CEO age and CEO compensation. This situation has shown effective board governance in Malaysia especially for consumer product sector because older CEO age does not play an important factor during adjustment of CEO compensation. In other word, other factors such as creativity, commitment, knowledge and skill are might be more important when assess a CEO compensation package. In line with this, consumer product companies has provide a good example for other sector board governance which they should look from a more comprehensive perspective instead of only focus on the CEO age so that the level of CEO compensation is worth and protect the interest of shareholders.

5.4 Limitation of Study

There are several limitations in this research. Firstly, this research only studies the consumer product sector in Malaysia. Thus, the information and the result are only fit to the policy maker, investor, regulators and company in consumer products sector. Each sector has its characteristics and culture. This means that other sectors such as

properties, trading or services, plantations etc. cannot employ the case of consumer products into their respective sector's policy.

Besides, each company will announce its annual report at different time. The financial ending date for some of the companies is on the year ended 31 December (e.g., Huat Lai Resources Berhad, Hup Seng Industries Berhad, Hwa Tai Industries Berhad). However, some of the companies' financial ending date is not on the year ended, but on other date such as 30 April or 30 June (e.g., Apollo Food Holdings Berhad, Bonia Corporation Berhad, Hovid Berhad). Thus, this is difficult to acquire the data and information based on same financial ending date of the companies. Consequently, the result may less reliable because of the less precise yearly data set.

Since this study using the balanced panel data, the sample size in this research is considered small because only 38 companies out of 126 are chosen in this research. This is due to some missing data after the data collection process is conducted. For example, some of the CEOs compensation is not provided in Malaysian Business Magazine. Besides, some of the data that collected from DataStream is incomplete. Thus, the result found might be less reliable.

Lastly, these limitations does not detract from the significance of findings although there are acknowledged in this research. Instead, it is barely to provide platforms for future research.

5.5 Recommendation for Future Research

This research recommended the future researcher to expand research area like plantation, industrial, trading and service industry and others in order to have a clearer picture on CEO compensation of cross-industries public listed companies in Malaysia. Moreover, the future researcher that makes the cross-industries research will be able to increase the sample size and thus can make a more reliable result. In

addition, this research also recommended the future research to make investigation on the CEO compensation by using the multi-countries analysis. By this way, the future researcher is able to capture the effect of different corporate cultural structure on CEO compensation in different countries.

Furthermore, this research also recommended the future research include more independent variable such as family ownership of CEO and educational level of CEO in order to get a better insight on how the characteristics of CEO will influence their compensation. Thus, the future research will make contribution by providing more information for the coming researchers who are interested in studying the related topic.

Apart from that, this research recommended that the future researcher should collect data in a consistent way. For instance, future researchers should collect data based on the same ending financial year. This is because the annual report which provided by different companies may have the different financial period and thus this may make the data collecting in an inconsistent way.

This study recommended the future researches to conduct the study by using unbalanced panel data. According to Baltagi (2008), the unbalanced or incomplete data will comprises of some missing data in cross-sectional data or time period. Therefore, the study can be conducted with an increased number of observations by using the unbalanced or incomplete panel data.

Last but not least, this study also recommended the future researcher to conduct the primary data in order to study the CEO compensation in a specific way. For instance, future researcher can make investigation on CEO compensation from the perspective of shareholder through questionnaire and survey.

5.6 Conclusion

The main objective of this study is to investigate CEO and board governance characteristics that will influence the CEO compensation of Malaysia's public listed companies particularly in consumer product sector. Throughout this study, it has proved that the CEO characteristics which is involved CEO age, CEO tenure, CEO duality, CEO ownership and board governance characteristics which is included board size and board independence are playing a critical role in affecting the level of CEO compensation in consumer product sector in Malaysia. While, it found that CEO tenure, CEO ownership and board independence are significant influence the CEO compensation. In other words, the result revealed that CEO age, CEO duality and board size are insignificant influence the CEO compensation. However, there are some of the limitations and recommendations for the future research have been discuss in this chapter. In the nutshell, the objective of this study had been rationally accomplished as the relationship of CEO characteristics and board governance towards CEO compensation.

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APPENDICES

Appendix 1: List of 38 Malaysia's Public-listed Consumer Product Companies

1. ACOUTECH BERHAD
2. APOLLO FOOD HOLDINGS BERHAD
3. BONIA CORPORATION BERHAD
4. BRITISH AMERICAN TOBACCO (MALAYSIA) BERHAD
5. C.I. HOLDINGS BERHAD
6. ENG KAH CORPORATION BERHAD
7. EURO HOLDINGS BERHAD
8. FARM'S BEST BERHAD
9. GOLDIS BERHAD
10. HOVID BERHAD
11. HUAT LAI RESOURCES BERHAD
12. HUP SENG INDUSTRIES BERHAD
13. HWA TAI INDUSTRIES BERHAD
14. JERASIA CAPITAL BERHAD
15. KOTRA INDUSTRIES BERHAD
16. LONDON BISCUITS BERHAD
17. LTKM BERHAD
18. MALAYAN FLOUR MILLS BERHAD
19. MULTI SPORTS HOLDINGS LTD
20. MWE HOLDINGS BERHAD
21. NTPM HOLDINGS BERHAD
22. PADINI HOLDINGS BERHAD
23. PCCS GROUP BERHAD
24. PELIKAN INTERNATIONAL CORPORATION BERHAD
25. POH HUAT RESOURCES HOLDINGS BERHAD
26. POH KONG HOLDINGS BERHAD

27. POWER ROOT BERHAD
28. PW CONSOLIDATED BERHAD
29. QL RESOURCES BERHAD
30. SHH RESOURCES HOLDINGS BERHAD
31. SPRITZER BERHAD
32. SYF RESOURCES BERHAD
33. TAFI INDUSTRIES BERHAD
34. UPA CORPORATION BERHAD
35. XING QUAN INTERNATIONAL SPORTS HOLDINGS LIMITED
36. Y.S.P SOUTHEAST ASIA HOLDING BERHAD
37. YEE LEE CORPORATION BERHAD
38. ZHULIAN CORPORATION BERHAD

Appendix 2: Result of Poolability test

Redundant Fixed Effects Tests
Equation: Untitled
Test period fixed effects

Effects Test	Statistic	d.f.	Prob.
Period F	1.541631	(4,177)	0.1921
Period Chi-square	6.506735	4	0.1644

Period fixed effects test equation:
Dependent Variable: LOGCOM
Method: Panel Least Squares
Date: 08/09/15 Time: 21:06
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	0.277181	0.232784	1.190719	0.2353
LOGTEN	0.065825	0.057802	1.138793	0.2563
DUA	0.037771	0.041976	0.899819	0.3694
OWN	-0.634456	0.174167	-3.642812	0.0004
LOGBS	0.696455	0.236734	2.941930	0.0037
BI	-0.465607	0.173264	-2.687275	0.0079
CP	0.197060	0.050778	3.880810	0.0001
CS	-0.017134	0.017435	-0.982722	0.3271
C	5.555626	0.431068	12.88806	0.0000

R-squared	0.296558	Mean dependent var	6.365071
Adjusted R-squared	0.265467	S.D. dependent var	0.307467
S.E. of regression	0.263514	Akaike info criterion	0.216790
Sum squared resid	12.56858	Schwarz criterion	0.370596
Log likelihood	-11.59504	Hannan-Quinn criter.	0.279095
F-statistic	9.538298	Durbin-Watson stat	0.503101
Prob(F-statistic)	0.000000		

Appendix 3: Result of Breusch-Pagan Random Effect Lagrange Multiplier (LM) test

Lagrange multiplier (LM) test for panel data

Date: 08/09/15 Time: 21:08

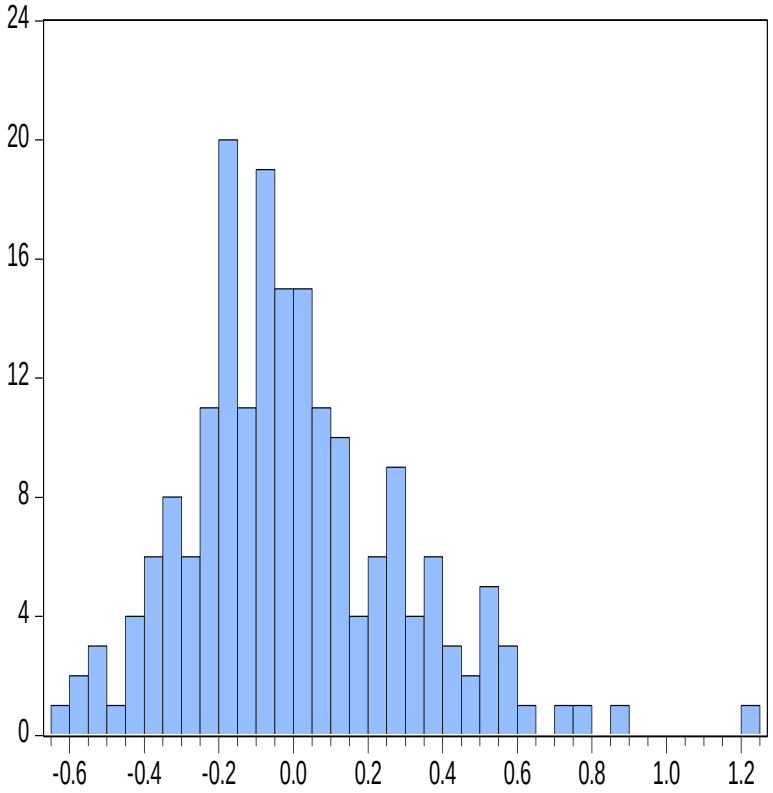
Sample: 2009 2013

Total panel observations: 190

Probability in ()

Null (no rand. effect)	Cross-section	Period	Both
Alternative	One-sided	One-sided	
Breusch-Pagan	141.5438	0.064310	141.6081
	(0.0000)	(0.7998)	(0.0000)
Honda	11.89722	0.253595	8.591923
	(0.0000)	(0.3999)	(0.0000)

Appendix 4: Result of Normality test



Series: Standardized Residuals	
Sample 2009 2013	
Observations 190	
Mean	-4.66e-15
Median	-0.040614
Maximum	1.230563
Minimum	-0.613349
Std. Dev.	0.291757
Skewness	0.775886
Kurtosis	4.274576
Jarque-Bera	31.92428
Probability	0.000000

Appendix 5: Result of Multicollinearity

Pair-wise Correlation among Variables

	LOGCOM	LOGAGE	LOGTEN	DUA	OWN	LOGBS	BI	CP	CS
LOGCOM	1.000000	0.104860	0.120107	-0.077086	-0.295720	0.394633	-0.320003	0.227502	0.016578
LOGAGE	0.104860	1.000000	0.252240	-0.009423	0.269286	0.248822	-0.183818	-0.066958	0.073452
LOGTEN	0.120107	0.252240	1.000000	-0.110683	-0.084151	0.232581	-0.186418	-0.302072	0.054987
DUA	-0.077086	-0.009423	-0.110683	1.000000	0.089163	-0.291853	-0.001013	-0.120773	0.128594
OWN	-0.295720	0.269286	-0.084151	0.089163	1.000000	-0.206111	0.101530	-0.029140	-0.121384
LOGBS	0.394633	0.248822	0.232581	-0.291853	-0.206111	1.000000	-0.408350	0.073702	0.014480
BI	-0.320003	-0.183818	-0.186418	-0.001013	0.101530	-0.408350	1.000000	0.075529	0.054615
CP	0.227502	-0.066958	-0.302072	-0.120773	-0.029140	0.073702	0.075529	1.000000	0.147115
CS	0.016578	0.073452	0.054987	0.128594	-0.121384	0.014480	0.054615	0.147115	1.000000

Variance Inflation Factor (VIF)

LOGAGE

Dependent Variable: LOGAGE
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 14:58
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGTEN	0.026851	0.008671	3.096697	0.0023
DUA	-0.008001	0.020033	-0.399363	0.6901
OWN	-0.041337	0.028501	-1.450362	0.1487
LOGBS	0.006541	0.009538	0.685739	0.4938
BI	0.016813	0.013122	1.281324	0.2017
CP	0.007009	0.003860	1.816037	0.0710
CS	0.034888	0.014574	2.393801	0.0177
C	1.443043	0.142163	10.15061	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.090247	0.9883
Idiosyncratic random	0.009809	0.0117

Weighted Statistics

R-squared	0.321117	Mean dependent var	0.085121
Adjusted R-squared	0.295006	S.D. dependent var	0.012162
S.E. of regression	0.010212	Sum squared resid	0.018979
F-statistic	12.29819	Durbin-Watson stat	0.729214
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	-0.132421	Mean dependent var	1.753301
Sum squared resid	1.892117	Durbin-Watson stat	0.007314

LOGTEN

Dependent Variable: LOGTEN
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:01
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	2.221702	0.747005	2.974147	0.0033
DUA	-0.097552	0.037996	-2.567402	0.0110
OWN	-0.522624	0.077938	-6.705658	0.0000
LOGBS	-0.210279	0.126203	-1.666203	0.0974
BI	-0.100885	0.090559	-1.114027	0.2667
CP	-0.050615	0.112956	-0.448093	0.6546
CS	0.039352	0.013164	2.989393	0.0032
C	-2.938767	1.284789	-2.287354	0.0233

Effects Specification

	S.D.	Rho
Cross-section random	0.271037	0.6948
Idiosyncratic random	0.179621	0.3052

Weighted Statistics

R-squared	0.110007	Mean dependent var	0.268919
Adjusted R-squared	0.075776	S.D. dependent var	0.209311
S.E. of regression	0.201224	Sum squared resid	7.369408
F-statistic	3.213700	Durbin-Watson stat	0.794657
Prob(F-statistic)	0.003099		

Unweighted Statistics

R-squared	0.045517	Mean dependent var	0.946368
Sum squared resid	25.31745	Durbin-Watson stat	0.231309

DUA

Dependent Variable: DUA
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:03
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	-5.50E-25	5.04E-13	-1.09E-12	1.0000
LOGTEN	-2.04E-26	1.11E-14	-1.83E-12	1.0000
OWN	-1.24E-25	2.30E-13	-5.40E-13	1.0000
LOGBS	-1.49E-25	9.31E-14	-1.60E-12	1.0000
BI	1.91E-26	5.98E-14	3.19E-13	1.0000
CP	2.03E-26	1.29E-14	1.58E-12	1.0000
CS	1.93E-25	9.93E-14	1.94E-12	1.0000
C	0.421053	1.20E-05	35120.83	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.497659	1.0000
Idiosyncratic random	1.24E-13	0.0000

Weighted Statistics

R-squared	0.000000	Mean dependent var	4.69E-14
Adjusted R-squared	-0.038462	S.D. dependent var	5.51E-14
S.E. of regression	5.62E-14	Sum squared resid	5.75E-25
F-statistic	0.000000	Durbin-Watson stat	0.000000
Prob(F-statistic)	1.000000		

Unweighted Statistics

R-squared	0.000000	Mean dependent var	0.421053
Sum squared resid	46.31579	Durbin-Watson stat	0.000000

OWN

Dependent Variable: OWN
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:05
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	0.041471	0.102275	0.405482	0.6856
LOGTEN	-0.010451	0.007346	-1.422790	0.1565
DUA	0.013802	0.027397	0.503769	0.6150
LOGBS	0.014782	0.040947	0.360990	0.7185
BI	-0.051332	0.055446	-0.925789	0.3558
CP	0.018523	0.015207	1.218076	0.2248
CS	0.033654	0.019413	1.733587	0.0847
C	-0.240144	0.082065	-2.926245	0.0039

Effects Specification

	S.D.	Rho
Cross-section random	0.118130	0.9616
Idiosyncratic random	0.023592	0.0384

Weighted Statistics

R-squared	0.082173	Mean dependent var	0.008026
Adjusted R-squared	0.046871	S.D. dependent var	0.026244
S.E. of regression	0.025621	Sum squared resid	0.119474
F-statistic	2.327763	Durbin-Watson stat	0.963534
Prob(F-statistic)	0.026835		

Unweighted Statistics

R-squared	-0.186124	Mean dependent var	0.090214
Sum squared resid	3.337167	Durbin-Watson stat	0.034495

LOGBS

Dependent Variable: LOGBS
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:06
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	0.195898	0.161176	1.215432	0.2258
LOGTEN	-0.012620	0.009030	-1.397501	0.1640
DUA	-0.057790	0.019405	-2.978160	0.0033
OWN	-0.068799	0.070651	-0.973784	0.3315
BI	-0.248956	0.023635	-10.53321	0.0000
CP	0.013152	0.003936	3.341581	0.0010
CS	0.004070	0.006670	0.610125	0.5425
C	0.645937	0.279467	2.311318	0.0219

Effects Specification

	S.D.	Rho
Cross-section random	0.077405	0.7790
Idiosyncratic random	0.041228	0.2210

Weighted Statistics

R-squared	0.150892	Mean dependent var	0.202509
Adjusted R-squared	0.118234	S.D. dependent var	0.043827
S.E. of regression	0.041155	Sum squared resid	0.308258
F-statistic	4.620381	Durbin-Watson stat	1.034387
Prob(F-statistic)	0.000088		

Unweighted Statistics

R-squared	0.298878	Mean dependent var	0.873947
Sum squared resid	1.310776	Durbin-Watson stat	0.243259

BI

Dependent Variable: BI
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:11
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	-0.018328	0.278239	-0.065872	0.9476
LOGTEN	-0.004541	0.010946	-0.414816	0.6788
DUA	-0.023693	0.023898	-0.991422	0.3228
OWN	-0.089462	0.187575	-0.476940	0.6340
LOGBS	-0.408888	0.032024	-12.76815	0.0000
CP	-0.010209	0.015700	-0.650244	0.5164
CS	-4.10E-05	0.009371	-0.004380	0.9965
C	0.845484	0.425711	1.986053	0.0485

Effects Specification

	S.D.	Rho
Cross-section random	0.108958	0.8160
Idiosyncratic random	0.051733	0.1840

Weighted Statistics

R-squared	0.113430	Mean dependent var	0.089668
Adjusted R-squared	0.079331	S.D. dependent var	0.054352
S.E. of regression	0.052151	Sum squared resid	0.494998
F-statistic	3.326506	Durbin-Watson stat	1.555524
Prob(F-statistic)	0.002338		

Unweighted Statistics

R-squared	0.152841	Mean dependent var	0.431711
Sum squared resid	2.476047	Durbin-Watson stat	0.310972

CP

Dependent Variable: CP
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:14
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	-0.242584	0.937239	-0.258828	0.7961
LOGTEN	-0.205935	0.084536	-2.436062	0.0158
DUA	-0.106377	0.036350	-2.926490	0.0039
OWN	0.366011	1.183361	0.309298	0.7574
LOGBS	0.588948	0.703927	0.836660	0.4039
BI	-0.050529	0.426738	-0.118407	0.9059
CS	0.048315	0.018880	2.559123	0.0113
C	-0.086869	0.680716	-0.127614	0.8986

Effects Specification

	S.D.	Rho
Cross-section random	0.235544	0.4266
Idiosyncratic random	0.273058	0.5734

Weighted Statistics

R-squared	0.047719	Mean dependent var	0.073107
Adjusted R-squared	0.011092	S.D. dependent var	0.315470
S.E. of regression	0.313715	Sum squared resid	17.91194
F-statistic	1.302855	Durbin-Watson stat	2.511493
Prob(F-statistic)	0.251217		

Unweighted Statistics

R-squared	0.124567	Mean dependent var	0.158837
Sum squared resid	28.17862	Durbin-Watson stat	1.596449

CS

Dependent Variable: CS
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/15 Time: 15:16
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	3.016652	0.329007	9.168966	0.0000
LOGTEN	0.054243	0.010606	5.114347	0.0000
DUA	0.270699	0.550756	0.491504	0.6237
OWN	1.322048	0.253968	5.205566	0.0000
LOGBS	0.048094	0.063334	0.759367	0.4486
BI	-0.217920	0.092152	-2.364778	0.0191
CP	-0.127336	0.012996	-9.798400	0.0000
C	2.462853	0.669751	3.677265	0.0003

Effects Specification

	S.D.	Rho
Cross-section random	1.188346	0.9961
Idiosyncratic random	0.074066	0.0039

Weighted Statistics

R-squared	0.389273	Mean dependent var	0.221904
Adjusted R-squared	0.365783	S.D. dependent var	0.093903
S.E. of regression	0.074782	Sum squared resid	1.017803
F-statistic	16.57218	Durbin-Watson stat	1.079551
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	-0.105839	Mean dependent var	7.964259
Sum squared resid	278.5051	Durbin-Watson stat	0.003945

Appendix 6: Result of Autocorrelation

Dependent Variable: ERROR
Method: Panel EGLS (Cross-section random effects)
Date: 08/09/15 Time: 21:15
Sample (adjusted): 2010 2013
Periods included: 4
Cross-sections included: 38
Total panel (balanced) observations: 152
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERROR(-1)	0.826060	0.029203	28.28730	0.0000
C	0.015671	0.008657	1.810287	0.0723

Effects Specification		
	S.D.	Rho
Cross-section random	0.014768	0.0203
Idiosyncratic random	0.102514	0.9797

Weighted Statistics			
R-squared	0.753457	Mean dependent var	0.008257
Adjusted R-squared	0.751814	S.D. dependent var	0.271867
S.E. of regression	0.135439	Sum squared resid	2.751578
F-statistic	458.4138	Durbin-Watson stat	2.025714
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.766361	Mean dependent var	0.008593
Sum squared resid	2.800064	Durbin-Watson stat	1.990637

Appendix 7: Empirical Result

Dependent Variable: LOGCOM
Method: Panel EGLS (Cross-section random effects)
Date: 08/09/15 Time: 21:17
Sample: 2009 2013
Periods included: 5
Cross-sections included: 38
Total panel (balanced) observations: 190
Swamy and Arora estimator of component variances
White cross-section standard errors & covariance (d.f. corrected)
WARNING: estimated coefficient covariance matrix is of reduced rank

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGAGE	0.647078	0.651612	0.993043	0.3220
LOGTEN	0.243509	0.080849	3.011904	0.0030
DUA	-0.005627	0.149310	-0.037688	0.9700
OWN	-0.493966	0.152258	-3.244259	0.0014
LOGBS	0.295219	0.228347	1.292855	0.1977
BI	-0.452704	0.233232	-1.941003	0.0538
CP	0.008455	0.026217	0.322501	0.7474
CS	0.027363	0.015777	1.734300	0.0846
C	4.765194	0.963008	4.948240	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.224364	0.7623
Idiosyncratic random	0.125272	0.2377

Weighted Statistics

R-squared	0.216604	Mean dependent var	1.542005
Adjusted R-squared	0.181979	S.D. dependent var	0.150222
S.E. of regression	0.135868	Sum squared resid	3.341274
F-statistic	6.255668	Durbin-Watson stat	1.189860
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.099577	Mean dependent var	6.365071
Sum squared resid	16.08810	Durbin-Watson stat	0.247117