THE PAY-PERFORMANCE RELATIONSHIP FOR MALAYSIAN PUBLIC LISTED FIRMS

BY

ITSANNE FOKKEMA

814853

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ABSTRACT

The purpose of this study is to examine the pay-performance relationship for Malaysian public listed firms. It is often argued whether executive compensation is positively linked to firm performance and for organizations it is hard to justify their compensation decisions. Therefore, this study can be useful for providing insights on this matter. The first part of this research theoretically examines how executive compensation is determined according to the Human Capital Theory, Agency Theory, and Managerial Power Theory and what the components are of executive compensation packages. Furthermore, it is theoretically examined what the determinants of firm performance are and what role human capital has in determining firm performance. Thereafter, it is empirically investigated by using the Ordinary Least Squares Regression method whether executive compensation has a positive influence on firm performance while controlling for firm size and industry product as previous studies have found evidence for these being firm performance determinants. The sample of 90 Malaysian public listed firms has been manually selected based on the availability of information in annual reports regarding executive compensation. The empirical results have found a positive and significant relationship between executive compensation and firm performance in terms of return on equity. This study makes a significant contribution to the existing literature on the pay-performance relationship for Malaysian firms as little evidence has been found yet.

Keywords: Human Capital, executive compensation, firm performance, pay-performance-relationship, Malaysia.

ABSTRAK

Kajian ini mengkaji hubungan di antara pampasan dan prestasi bagi firma tersenarai awam Malaysia. Sering kali di hujah dan di bincang sama ada pampasan eksekutif mempunyai hubungkait positif dengan prestasi firma dan adalah sukar bagi organisasi untuk memberi justifikasi mengenai keputusan pampasan organisasi mereka. Oleh itu, kajian ini berguna dalam memberikan pandangan mengenai perkara ini. Bahagian pertama kajian ini secara teorinya mengkaji bagaimana pampasan eksekutif ditentukan mengikut Teori Modal Insan, Teori Agensi, dan Teori Kuasa Pengurusan dan komponen-komponen yang terlibat di dalam pakej pampasan eksekutif. Tambahan pula, faktor-faktor penentu prestasi firma disiasat secara teori dan apa peranan modal insan dalam menentukan prestasi firma. Seterusnya, kajian ini secara empirikal menggunakan kaedah *Ordinary Least Squares Regression* dalam mempastikan sama ada pampasan eksekutif mempunyai pengaruh positif ke atas prestasi firma. Dalam masa yang sama pembolehubah saiz firma dan produk industri, di kawal kerana kajian sebelumnya telah menemui bukti yang pembolehubah berkenaan menjadi antara faktor penentu prestasi firma. Sampel 90 firma tersenarai awam Malaysia telah dipilih secara manual berdasarkan ketersediaan maklumat dalam laporan tahunan mengenai pampasan eksekutif. Hasil kajian telah mendapati terdapat hubungan positif dan signifikan di antara pampasan eksekutif dan prestasi firma dari segi pulangan ke atas ekuiti. Kajian ini memberi sumbangan penting dan menambah nilai terhadap kajian-kajian yang dijalankan sebelum ini mengenai hubungan pampasan-prestasi ke atas firma tersenarai awam Malaysia.

Kata kunci: Modal Insan, pampasan eksekutif, prestasi firma, hubungan pampasan-prestasi, Malaysia.

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Thank you,

Itsanne Fokkema
Taman Bahagia, Jitra
Kedah, Malaysia

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CHAPTER 1
INTRODUCTION

1.1 Introduction

One important and frequent debated area among employers, employees, and regulators regarding the scope of human resource management (HRM) is compensation. More specifically, the salaries received by executives since Chief Executive Officer (CEO) compensation is primarily at the top of the remuneration hierarchy. Executive compensation continues to receive the attention of scholars and researchers ranging from the field of economics and corporate governance to the field of human resource management (HRM) (Bootsma, 2009). Furthermore, it is a topic that often receives media its attention. An example of this media attention is the movie 'Inside Job'. This film is a 2010 documentary film about the financial crisis (2007-2009), how it had come that far and in which it is stressed that the CEOs of financial firms which went bankrupt still went home with huge bonuses. Another example of media attention is the news. For example, when in the Netherlands announcements are made for changes in bonus structures for the banking sector, the newspapers will fall over it. One of the reasons for executive compensation to be a hot discussion topic is that a positive link between the executive compensation packages and firm performance is often questioned. The following section further explains the motivational background of this present study and in the problem statement section it is explained why the pay-performance relationship is empirically investigated for Malaysian public listed firms. Thereafter, this chapter continues with stating the research questions and objectives, the significance of this study, the scope and limitations, and of which chapters the remainder of this dissertation is structured.

1.2 Background of the Study

There is no real average or standard for executive compensation. Reasons for this are largely because of differences between industries as well as between organizations within a given industry. The demand for talented CEOs and other executives who can generate results for shareholders often results in significant compensation packages (Mello, 2011). Therefore, the predominant trend in executives' compensation was to improve the correlation between pay and performance so that the interests of shareholders and top executives would be aligned (Schneider, 2013). One approach which is extensively used is to place more emphasis on performance-oriented equity compensation for executives. It was thought that this would link an increased portion of executive compensation to long-term performance. This long-term performance is either measured by total shareholder return or by performance metrics that drive shareholder return. This approach led to increasingly higher compensation for the top executives (Schneider, 2013).

The financial crisis (2007-2009) was the start for executive compensation to be criticized more fiercely for its excessiveness, as shown in the documentary film Inside Job. This financial crisis was felt globally. Questions arose whether the compensation is related to the performance of the company, or in other words, whether pay for performance was a concept that would be viable. Continuous discussions about the level, structure and role of executive compensation take place in many organizations. For example, there have been vicious discussions going on between the Dutch government and the banking sector about bonuses and executive compensation at the end of 2013 (NU.nl, 2013). The Minister of Finance, Mr Dijsselbloem, of the Netherlands has announced that for the whole banking sector a bonus limit will be instigated. More information on this discussion and the

consequences for provided bonuses could be obtained from Appendix A. Landsberg (2012) states that compensation decisions made by organizations affect the relative strength of these organizations in a global economy. These decisions safeguard the strategic recruitment, retention, and reward of human resources that ensure the competitive advantage pursued by an organization. Compensation structures can be designed to support the organization's business strategy and to adapt to social, competitive, and regulatory pressures in the internal and external business environment. The ultimate purpose is to gain and sustain competitive advantage by optimizing the compensation policies (Landsberg, 2012).

In order to question the assumption that lays at the core of Landsberg his argument, it is interesting to further investigate the relation between compensation and performance. In practice, managers will view compensation as both an expense and an influence. Compensation incentives will have an influence on an employee its work behavior and, eventually, the organization's financial performance. Normally one would assume that setting higher salaries is aimed at achieving a higher performance since employees get motivated by these incentives. This phenomenon has also been described and questioned in a lecture given by Daniel H. Pink for the Royal Society for the encouragement of Arts (RSA), (United States, 2010). In this lecture he explains that there is extensive evidence on the fact that monetary incentives motivate people to accomplish certain tasks. It is the typical motivation scheme within organizations in order to achieve better performance. For simple straightforward tasks these monetary incentives are indeed highly motivating for performing better. However, when a task gets more complicated and it requires some conceptual, creative thinking, this type of motivator does not always work as expected. Therefore, the question that is raised here is whether setting higher salaries

for jobs that require conceptual, creative thinking, the job of a CEO and other executive directors, actually leads to improved firm performance. As expressed earlier, executive compensation is frequently debated globally. Residing in Malaysia and studying in a business related field, it is interesting to further explore whether a positive relationship exists between executive compensation and firm performance for Malaysian firms.

1.3 Problem Statement

Executive compensation decisions are among some of the most important policy decisions made by organizations. Since the demand for talented and skilled executives is often exceeding the supply of those and with increasing rates of turnover in these positions, organizations need to carefully strategize their executive compensation packages (Mello, 2011). Furthermore, the goal of any organization, excluding non-profit organizations, is to maximize shareholders' value by improving firm performance. A specific theory predicts that, whenever a separation of ownership and control exists in a company certain problems arise. This theory is called the agency theory and the problem that arises is the agency problem. The CEO, the agent, should act in the best interests of the shareholders, the principals. Too often this is not the case and the CEO pursuits his or her own interests. In order to mitigate this agency problem, certain incentives could be paid to those CEOs and tying the performance in terms of maximizing shareholders' value to CEO its compensation. Still, other problems occur whenever a CEO is solely focusing on short-term performance to increase stock prices and maximizing shareholders' wealth as will be further explained in the literature review section.

When one thinks about executive compensation and firm performance, the assumption that the correlation exist is easily made. This will be further analyzed and

explained in the literature review where several previous studies are discussed in which the pay-performance relationship has been investigated. Nevertheless, overall the results of these studies show inconclusive results. On one hand, a positive relationship has been found but only for the relationship between a few executive compensation components and firm performance. This is concluded by Tai (2004) who examined the relationship between CEO compensation and performance for American companies. Results showed that bonus and stock grants components of the compensation package are solely seen as the driving forces behind the pay-performance relationship.

On the other hand, negative and insignificant relationships have been found. For example, Tariq (2010), who examined the firm performance link to CEO compensation for Swedish firms, only found a statistically insignificant and negative relationship between CEO compensation and firm performance. Moreover, only little can be found in literature about studies really examining whether executive compensation is a determinant for firm performance in Malaysia. A reason for this is stated by Minhat and Abdullah (2014) who have studied the pay-performance relationship for government-controlled firms in Malaysia. The reason mentioned is that there is currently no specific regulation regarding the disclosure of executive compensation of public listed firms in Malaysia (Minhat & Abdullah, 2014). Although, non-mandatory detailed disclosure is encouraged through the guidelines specified by the Malaysian Code on Corporate Governance (Securities Commission, 2007), not many firms choose to comply with this encouragement (Minhat & Abdullah, 2014).

In the beginning of this dissertation it is highlighted that executive compensation remains a topic of high priority in many fields. Furthermore, there is a lack of

conclusive results for the research done in previous studies on the pay-performance relationship, especially in Malaysia. For these particular reasons, this study will try to determine whether the compensation paid to executive directors leads to improved firm performance for listed companies on the Kuala Lumpur Stock Exchange; Bursa Malaysia. Whereas previous studies tested whether performance was a determinant for executive compensation, this study will focus on whether executive compensation is actually a determinant for an improved firm performance.

1.4 Research Questions

The main purpose of this research is to examine whether a relationship exists between executive compensation and firm performance. As stated before, this study its main focus lies on testing whether executive compensation is actually a determinant for an improved firm performance. Before this relationship can be tested it is necessary to obtain a clear overview of compensation in general as human resource practice to begin with. On the basis of the background of the study and the problem statement mentioned previously, this study tries to answer seven research questions formulated as follows.

1. What is the general idea behind the HR practice ‘compensation’?
2. What theories explain the compensation packages provided to executive directors?
3. What are the components of the executive compensation package?
4. How does human capital lead to firm performance?
5. What are determinants of firm performance?
6. Is there a correlation between executive compensation and firm performance?
7. Is firm performance a function of executive compensation?

The first four research questions will be answered in a qualitative manner. The theories and studies found in literature on the aspects of compensation, human capital, and human capital in regard of executive directors and firm performance, will provide the theoretical pillar of this study. The remaining research questions 5 to 7 will be answered in a quantitative manner. Empirical analysis will provide statistical evidence to derive conclusive answers for these research questions. The theoretical pillar together with the empirical evidence in this study will be able to explain the pay-performance relationship for Malaysian public listed firms.

1.5 Research Objectives

The ultimate research objective is to investigate whether increasing executive compensation leads to an increment of firm performance. This relationship is tested for companies from various industries listed on the Bursa Malaysia. This study introduces to test whether a positive relationship exists between executive compensation and firm performance for the years 2012 - 2013. In order to reach the ultimate research objective stated, answers will be given to the aforementioned research questions throughout this report. These research questions can therefore be formulated as research objectives as follows.

1. To define the general idea behind compensation as HR practice.
2. To state the theories explaining how compensation packages provided to executive directors are formed.
3. To assess the components of executive compensation.
4. To explain the role of human capital in firm performance.
5. To assess the determinants of firm performance.
6. To test whether a correlation exists between executive compensation and firm performance.

7. To assess whether higher executive compensation leads to improved firm performance.

By achieving these research objectives, this present study will be a useful contribution to existing literature on the pay-performance relationship as will be explained in the following section discussing the significance of this study.

1.6 Significance of the Study

The research conducted in this study is significant for several reasons. There is an extensive amount of research devoted to the pay-performance relationship, or in other words, the relationship between executive compensation and firm performance. However, as mentioned before, these previous studies often do not show clear results. Additionally, little evidence is found for this relationship in Malaysian companies since there are not so many studies to be found in literature investigating this. This dissertation can make a contribution to existing literature as research is done for the pay-performance relationship for Malaysian companies listed on the Bursa Malaysia. By testing whether the change in executive compensation, that would be a raise in compensation, leads to improved firm performance, this study is able to explain if executive compensation is a determinant of firm performance. Much literature in the field of human resource management speaks of monetary compensation as incentive and motivator for better performance of an organization its employees. Whether compensation in the form of either bonuses or long-term incentive plans actually motivates employees and lead to better firm performance is still debatable (Frey & Gallus, 2014). This dissertation includes the theories that can explain how executive director's (CEO) compensation packages are structured and what the underlying reasons are for that. Furthermore, the components of executive compensation are listed. Several previous studies that investigate the pay-

performance relationship in countries ranging from New Zealand to countries in Europe are reviewed to form a view of how this relationship works out for other countries. This theoretical overview together with statistically testing the pay-performance relationship for Malaysian public listed firms in this dissertation gives a clear picture of how the concept of executive compensation in relation to firm performance is functioning in Malaysia.

1.7 Scope and Limitations of the Study

As explained in the previous section the relationship between executive compensation and firm performance is tested for Malaysian public listed firms on the Bursa Malaysia. Although, it gives a significant contribution to the existent literature which can be found on this particular relationship especially to that what can be found for Malaysia since this is rather little, the scope is somewhat limited to Malaysia only. It could have implications for other countries in South-East Asia which have similar companies or subsidiaries of companies included in the sample size for this investigation. However, rules and regulation according to corporate governance can be different in other countries which could lead to differences in the disclosure of information in annual reports. Even though the results that are found in this report, based on the literature review and empirical examination, give some important insights for the pay-performance relationship for public listed firms in Malaysia, there are some limitations. The first limitation is the number of years for which the relationship has been tested. Furthermore, a limitation could be that total executive cash compensation has been chosen as independent variable instead of taking into account the cash compensation components separately. Further explanations on these limitations will be given in the last chapter of this dissertation.

1.8 Structure of the Dissertation

The remainder of this dissertation will be structured as follows. First, the theoretical background will be discussed. This section will start by explaining why compensation is an important HR practice. Thereafter, several theories will be discussed which explain how executive director's (CEO) compensation packages are formed and the relevant components of that compensation package are explained further. Before reviewing literature on the pay-performance relationship a section will be devoted to firm performance and its key determinants relevant for this study. The third chapter describes the research design. In this chapter the theoretical framework will be presented, hypotheses are formed, and the research models with the concerning variables are explained. Furthermore, it will be explained how data is collected and analyzed. The empirical analyses and results of the study will be discussed in chapter four. This chapter will include the text and figures necessary to portrait the key findings of the analysis. Lastly, conclusions will be drawn according to the research objectives and based upon the empirical results. Next to that, the significance and practical implications will be highlighted followed by recommendations for future research.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

The relationship between executive (CEO) compensation and firm performance has been extensively described and empirically investigated in previous studies for numerous companies in various countries. To analyze this relationship for this particularly study, this chapter progresses through each relationship component step by step, starting with the basis of compensation itself, before proceeding with empirically investigating this relationship for Malaysian public listed firms. Following up on the part of compensation, three theories will be discussed which are human capital theory, agency theory, and managerial power theory. These theories have been taken into account because the theories offer specific explanations for executive compensation. Throughout this chapter, answers will be given to the research questions 1 to 4.

2.2 Compensation and Human Capital

Compensation has as primarily purpose to attract and retain skilled labor. Furthermore, it encourages the employees to act in accordance with all stakeholders' desires and interests, and in turn, omit possible conflicts of interest within organizations. An employee his/her total compensation has several components and the relative proportion of each varies greatly by industry and firm. Usually, the compensation package consists of three components which are 'base compensation', 'pay incentives', and 'indirect compensation' in the form of benefits. Compensation is the single most important cost in most firms. Moreover, it is also seen as a key strategic area for organizations as it impacts an employer its ability to attract applicants, motivate and retain employees, and ensure optimal levels of performance

from employees in meeting the organization's strategic objectives (Mello, 2011). Pay must relate to the accomplishment of goals, and the company mission and vision. Additionally, pay systems must help create the work culture desired (Schneider, 2012). The work culture should be defined carefully and the employees contributing to the success of that culture need to be rewarded accordingly.

The fact that compensation became a key strategic area for organizations to maintain their competitive advantage comes from the fast changing business world. At first, organizations were highly sensitive for physical assets and were aware of the opportunities of economies of scale and scope. In order for an organization to benefit from these opportunities it was necessary to acquire more assets and become dependent on those assets (Uygur, 2013). At first the employees were merely seen as just the ones responsible for handling these assets. In today's business environment, labor is more specialized and more talented. Human Capital has become important as organizations started to need human ideas and talent in order to create and sustain innovations that ensure a company's market position. Therefore, human capital has emerged as the most crucial asset for a firm and it is not possible anymore to rely on physical assets only. Since this change of perspective, physical assets started to be less unique. Physical assets are easy to duplicate by competitors. Nowadays, the main assets are employees and an organization needs to create HR programs in order to retain these employees. The way to do so is to create compensation packages that reflect the employees' important value to the organization. The more important the employee is for the organization, meaning that the more value an employee is able to create and add to the company, the higher he or she needs to be compensated in today's world where human capital needs to be maximized.

2.3 Human Capital Theory

Human capital includes employee education levels, knowledge, skills, competencies, work habits and motivation. Furthermore, it includes employees their relationships with coworkers, customers, suppliers, and regulators. The human capital of a firm is the key resource to a firm's capabilities and sustainable competitive advantage (Mello, 2011). Adopting an investment perspective and considering employees as human "assets" is needed for an organization to increase its value in the marketplace. Therefore, human capital needs to be managed effectively. This involves providing employees with rewards that are matching their contributions and by actively managing employee retention to ensure that investments in employees are not lost when they move to competitors (Mello, 2011). Oxman (2002) states that to the extent that it is tied closely to drivers of business success, built upon commonly understood criteria, and applied consistently over time, compensation – frequently viewed by managers as sunk cost – can instead be considered as an investment with quantifiable return. According to Oxman (2002) it is impossible to overstate the contribution of people, especially when they are aligned with corporate goals, and are well suited for their individual roles in their engagement for making the organization effective. At all times an organization needs to give high priority to all stakeholders, including employees.

Human capital can be distinguished into two basic forms: general human capital and firm-specific human capital. The former, general human capital is valuable to many firms and obtained by an employee throughout its lifetime work experience prior to its current job position (Custódio, Ferreira & Matos, 2013). The latter, firm-specific capital is gained due to firm characteristics and technologies, amongst others, and can only generate value in one specific firm. Human capital theory indicates that jobs

that require greater human capital (either general, firm specific, or both) should be associated with higher initial compensation than jobs that require less human capital (Madsen & Bingham, 2014). Moreover, Schulz, Chowdhury, and van de Voort (2013) also state that human capital theory proposes that an individual's general or firm-specific human capital is positively related to compensation.

This Human Capital Theory is one of the theories described in this chapter to give a better understanding of why compensation is seen as a highly important HR practice and why compensation packages are rather high. This is thus due the necessity of valuating human capital according to their importance to the company. The following section elaborates more on this theory in the light of executives and thereby partially achieving the research objective of assessing the theories that explain executive compensation packages.

Human Capital Theory and Executives

Human capital regarding executives can be distinguished among general and firm-specific as well. An executive's knowledge, skills, capabilities, and abilities that are not unique to a specific firm and are transferable across firms, sum up the general human capital. Firm-specific human capital are all the mentioned above but then unique to a specific firm and not transferable across firms. There is a tendency that organizations pay executives more for general human capital for two reasons (Madsen & Bingham, 2014). One reason is that the knowledge, skills, and abilities associated with general human capital are widely valued in the labor market and are likely to be directly appropriable by firms. This is because general skills are portable and firms are able to directly derive the value generated by the resources they create or control. Secondly, executives bear a risk when they want to move to another firm since they do not have the ability to determine whether their general skills will align

with the requirements of the job of the other hiring firm (Madsen & Bingham, 2014). This assumed risk together with the fact that general human capital carries more power in the labor market leads to firms compensating these executives for their general human capital to convince them to choose to work in this particular firm over others.

Firm-specific human capital of executives is rather more valuable to specific firms than it is to labor markets. Executives demand compensation in accordance for the expectation that they will develop firm-specific human capital within the firm and for the sacrifice of future returns on firm-specific human capital developed during employment at that firm (Custódio et al. 2013). Investment in firm-specific human capital is from the executive's perspective risky as he or she cannot move these skills from one firm to another and cannot generate returns on these skills they have developed in another firm. These expectations of executives for their compensation in exchange for their rather 'risky' investment in firm-specific human capital is one explanation of an executive's high, often seen as excessive, compensation. However, referring back to the investment perspective of seeing employees as human assets and the costs related to them as investments. These initial higher compensation packages for executives could be seen as an investment for acquiring the necessary human assets. Still, it remains rather difficult to justify it to other stakeholders of the company and to the outside world.

To shed the Human Capital Theory in the light of executives offers a verification for the way in which executive compensation packages are formed. For companies to maintain a sustainable competitive advantage it is important to compete in the labor market by attracting and retaining highly skilled human capital, in this case executive directors. Offering relatively high compensation packages that are reflective of

executive directors their value to the organization is one of the means to do so. This theory thus explains a justification for executive compensation packages being relatively high with the underlying rationale of linking pay to performance. By incorporating this theory the pay-performance relationship is theoretically analyzed.

2.4 Agency Theory

The agency theory explains how a problem arises from the separation of ownership and control in a firm. This problem, the "agency problem" arises between one or more persons, the principal(s), and another person, the agent. In a company the owners, shareholders, can be seen as principals and the CEO as agent. The foundation of the agent theory has been laid by Jensen and Meckling (1976) in their published article: Theory of the Firm: Managerial Behavior, Agency Costs and Ownership. The authors suggest that the principals need to get the agent to perform some services on behalf of their interests, or in other words, maximize shareholder value. When managing a firm, executives may act in their own best interest instead of the best interest of the firm's owners – the shareholders (Baptista, 2010). This is due to the fact that the CEO and other executives have some information which the shareholders do not possess and the shareholders cannot perfectly observe the executive its actions because of the separation of ownership and control. According to the theory, this separation can result in costs for the principal, known as agency costs (Cuevas-Rodríguez, Gomez-Mejia, & Wiseman, 2012). These agency costs arise because CEOs and other executives may act in their own interests which do not necessarily correspond with those of the principals.

In order to motivate the CEO to act in the best interests of the shareholders and to solve the agency problem, these shareholders could provide the CEO and other executives with incentives to take actions according to the shareholder's interests.

These incentives could be given through an agent (CEO) its equity ownership and the structure of its compensation. CEO and other executives' compensation plans could be designed in such a way that it aligns the interest of the CEO with those of shareholders. Such compensation plans would have incentive schemes that make compensation a function of firm performance (Baptista, 2010). According to Baptista (2010), these incentive schemes would result in a significant relation between CEO compensation and firm performance in the longer term. The use of incentives, to create alignment of interests between principal and agent, is a primary mechanism to reduce agency cost (Cuevas-Rodríguez et al., 2012).

This Agency Theory has been reviewed to obtain a better understanding of how elements of the CEO and other executives' compensation could be structured. This is the second theory that, just like the Human Capital Theory, theoretically analyzes the pay-performance relationship. This theory involves a second party, the shareholders, whose satisfied interest is the performance indicator in the pay-performance relationship. Executive directors are paid with equity based payments in order for them to achieve the performance indicator of acting in the best interest of shareholders. This theory is achieving the research objective of assessing the theories that explain executive compensation packages for the second part. What the further possible components are which executive compensation packages could include will be discussed later on.

2.5 Managerial Power Theory

This is another theory discussed by scholars that predicts rather excessive outcomes for CEO compensation. According to Combs and Skill (2003) the explanations for pay premiums of the managerial power theory are in competition with that of the explanations for pay premiums of the human capital theory discussed earlier.

According to the managerial power theory, top executives seek to become entrenched in the company which means that they will use their power to maximize salary (Combs & Skill, 2003). Suggested here is that pay premiums are the result of an executive its ability to influence the compensation process. This is contrast with the human capital theory which explains that pay premiums represent compensation for unique and valuable managerial skills. Managerial influence over the design of pay arrangements has produced significant distortions in those pay arrangements (Schneider, 2013). Furthermore, according to Schneider (2013) this managerial influence has resulted in compensation arrangements that negatively influence executives' incentives to increase shareholder value. Simply said, as the executives now have an influence over the design of their compensation packages, there is less or no motivation to maximize shareholders' wealth anymore. Thus, the compensation packages that result from executives exercising managerial power to influence the compensation process further worsen the principal-agent problem. Schneider (2013) suggests that companies should be aware that other changes to executive compensation could be endorsed in order to mitigate the role of managerial power in the process of designing executive compensation packages. In his article he mentions different recommendations in order to mitigate the managerial power problem. One of these recommendations is that top executives should not be rewarded for short-term results but only for improvements that are sustained over a substantial period of time. The importance stressed here is that bonuses should be really tied to long-term performance.

This Managerial Power Theory is the third and last theory incorporated to theoretically analyze the pay-performance relationship and achieve the research objective of assessing the theories that explain executive compensation packages for

the third part. In contrast to the other two theories, this theory is more concerned with the power that executives possess and which they can practice to influence their compensation design process in, for them, a beneficial way. This theory shows that executive compensation packages are not only structured to achieve better performance but could also come into existence in a different way which could even have undesirable effects on firm performance.

2.6 Executive (CEO) compensation

The chief executive officer (CEO) is seen as highly important for the organization and one could argue that he or she should be compensated in a proper way to express this importance. The CEO is the one who can generate value for the organization its shareholders and should be rewarded accordingly. CEO compensation differs across industries since an efficient CEO compensation structure is set dependent on the underlying economic characteristics of the firm. Furthermore, the previous section discusses the different theories explaining how and why CEO and other executives' compensation packages are designed in certain ways. From these theories can be concluded that the compensation package will compel different attributes that reward different aspects of a CEO. In order to align CEO its interests with that of owners and to mitigate the agency problem, compensation contracts include certain components that will ensure this alignment. One of these components is long-term incentive compensation which as goal has to extend a CEO its time horizon. Furthermore, bonuses that reward managers in line with various measures of firm financial performance, or changes in share price, are commonly included (Rankin, 2010).

Components of executive compensation

Although executive (CEO) compensation varies across industries and is dependent on firm specific characteristics, most executive compensation packages contain a few basic components: base salary, bonus plans, stock options/grants, and long-term incentive plans. In addition, CEOs often receive contributions to defined-benefit pension plans, various perquisites, and, in case of their departure, severance payments (Frydman & Jenter, 2010). The latter are less or not related to performance. The base salary and bonuses are usually called the cash compensation. The components of executive compensation will now be discussed one by one.

Base Salary: The base salary is regarded as the fixed salary, paid usually annually. Since base salary establishes the executive's basic standard of living, it is necessary for firms to pay in line with the market rates. Furthermore, this fixed salary needs to be increased accordingly to the inflation in a country. The base salary can be increased based on previous performance and on skills that will ensure future performance. Executive directors will be paid on the basis of the positions they need to fulfill and the talents, skills, and knowledge they have which they can successfully apply to a variety of tasks and situations (Mello, 2011).

Bonuses: Bonuses are short-term incentives and linked to the firm's specific annual goals. Typically, bonuses are tied to one or more measures of annual performance (Frydman & Jenter, 2008). Together with the base salary, bonuses are part of cash compensation. Furthermore, the bonus received by an employee or executive is often an amount expressed in a percentage of base salary. There are two major concerns often cited when it comes to executive's annual bonuses. The first one is that, executives may make decisions that have short-term payoffs at the expense of long-term performance in order to maximize their bonuses. Secondly,

many bonus programs represent salary supplements that the executive directors can expect to receive regardless of the firm's performance (Gómez-Mejía, Balkin, & Cardy, 2012).

Stock options: Stock options provide executive directors with the opportunity to purchase stock of the company within a specified time period at a price that is determined at the time the stock options are rewarded (Mello, 2011). Stock options as part of the executive's compensation package came into existence in order to mitigate the agency problem discussed earlier. These stock options are designed to focus executive directors their attention on creating shareholder value. However, executive directors are motivated to increase stock prices to earn the difference between the pre-set price and the price at the moment of exercising the option (Bootsma, 2009). This will move their attention away from other important tasks that assures long-term performance. Research done by Edmans (2014) also shows how an incentive plan can backfire. It shows how an approaching vesting of stock options can cause a CEO to maximize a firm's earnings, and thus its stock price, by cutting investment in research and development, advertising and capital expenditures (Edmans, 2014). The approaching vesting of stock options puts the CEO's interests in disagreement with the interests of the firm. Moreover, it is in contradiction with the human capital theory which predicts that executives should be compensated for their general and specific skills and that this compensation is giving in order to maximize human capital and to increase the value of this as the employees are the most important asset of an organization.

Stock grants: Several organizations are compensating executives with stock grants instead of stock options. Stock grants require that the organization meet specific financial goals, such as given return on capital or return on assets, as a condition of their issuance (Mello, 2011). Furthermore, stock grants differ from stock options as there is a vesting period for stock grants. Often, the stock is restricted for the employee, meaning that although the employee is the legal owner of these shares, he or she cannot sell them until the restrictions are lifted, at which time the shares are said to have vested (Budgeting Money, 2014). Therefore, the stock grants are also called restricted stock (Hodge, Rajgopal & Shevlin, 2009). The offering of stock grants instead of stock options moderates the problem of the executive directors focusing on short-term performances such as increasing the firm's earnings instead of long-term performance goals.

Long-term incentive plans: Most executives also receive long-term incentives. These are either in the form of equity in the firm, like the previous mentioned stock-based programs (stock options and stock grants), or a combination of cash awards and stock (Mello, 2011). Just like stock-based compensation, it is argued that the CEO's motivations may be more closely aligned to those of the shareholders if his or her compensation includes some portion of long-term, equity-based compensation (Matolcsy & Wright, 2011). It is suggested by Matolcsy and Wright (2011) that the inclusion of equity-based compensation in the CEO's compensation contract could increase the CEO's incentives to maximize firm performance and consequently firm performance itself. However, this executive compensation component receives often criticism as well. It is criticized that long-term incentive plans are not very closely linked to performance. Moreover, these

long-term incentive plans are not always developed in a way that is consistent with achieving the firm's long-term strategic goals.

Other components: Other components of an executive's total compensation are, as previous mentioned, contributions to defined-benefit pension plans, various perquisites (or "perks"), non-monetary incentives, and in case of departure, severance pay. Pension can be either in the form of defined-benefit - or defined-contribution plans. One would assume no relationship between pension and firm performance since pension is legally established and companies are obliged to assure an employee with pension rights. Many executives receive a large number of "perks", perquisites, as addition to cash incentives. These perks could be preferred parking spaces, club memberships, and other 'special' deals. These keep the executives happy and are rewarded in order to retain the executives, but are seldom linked to business objectives (Mello, 2011). Additionally to these perks are non-monetary incentives such as praise, recognition, titles and promotion in order to increase motivation. Although, these non-monetary incentives are tied to performance it is difficult to measure how and to what extent since these non-monetary incentives are usually rewarded randomly. Lastly, whenever a CEO is terminated by the firm he or she will receive a large lump-sum payment as severance pay. This payment represents a contractual obligation on the part of the company to the CEO, even if the CEO is fired for poor performance (Mello, 2011). The latter causes therefore negative publicity. Often, severance pay is seen as irrelevant as the CEO might even receive it whenever he or she has performed poorly and the amounts received are perceived as excessive.

The components of a CEO and other executive directors' compensation package receive a lot criticism and often the link between pay and performance is not very

clear. The main criticism is that the level of remuneration of top executives is too high, especially in times of poor financial conditions and results, as was the case when the financial crisis started (Inside Job documentary film, 2010). It is said that the compensation is not sufficiently connected to performance. Furthermore, Vermeend and Ploeg (2014) describe in their article for the Dutch newspaper 'De Telegraaf', that it is necessary to mitigate bonuses at the top level in companies. Certain components are established in order to mitigate certain problems, such as the agency problem. However, the long-term performance of a firm will not improve as the CEO and other executives will pursuit his own interests according to these components received. Additionally, bonuses seem to only increase short-term performance as well. Will higher pay expressed in either of these compensation components lead to better performance then, is a question that arises when examining this. The next section will elaborate more on firm performance.

2.7 Firm performance

Although the CEO has the lead responsibility for crafting and executing a firm's strategy, it is the duty of a company's board of directors to exercise strong oversight and see that the tasks of strategic management are conducted in a manner that is in the best interests of shareholders and other stakeholders (Thompson, Peteraf, Gamble, & Strickland III, 2008). Besides the tasks of evaluating a CEO its strategic leadership skills and instituting a compensation plan for the CEO and other executives, the board of directors is obliged to oversee the company's financial accounting and financial reporting practices and appraise the company's direction, strategy, and business approaches. As described earlier, human capital is of strategic importance to a company. Therefore, decisions about investments in human capital need to be developed in terms similar to other strategic decisions that organizations

are required to make to achieve performance goals (Bhattacharya, Doty & Garavan, 2014). Bhattacharya et al. (2014) examined the issue of variability in human capital investment and whether all firms, small and large, benefit similarly from variability in human capital investment. The authors state that well-established HR practices increase labor productivity which may lead to greater firm performance. Moreover, it has been found that the proportion of variable pay in the compensation package is positively related with successive organizational performance in terms of return on assets (ROA). Furthermore, the authors state that certain contextual factors influence human capital investment variability decisions. These are organizational risk, firm size, and capital intensity. Bhattacharya et al. (2014) suggest that high-risk firms and larger firms rely more on human capital investment variability as a strategic behavior. Additionally, their results show that high-risk and high human capital investment variability firms perform better than others, so there is a contingent positive-performance effect of adopting this strategic behavior.

In another study, conducted by Mahsud, Yuk, and Prussia (2011) it is examined what the extent is to which a firm's long-term financial prosperity depends on human capital, efficiency, and innovative adaptation. In this article the authors discuss previous studies that have also found a direct positive relationship between human capital and firm performance. One of these studies found that an organization's commitment and development of its human capital resulted in improved firm profitability in terms of return on assets (ROA) as was indicated by Bhattacharya et al. (2014) as well. Other results also suggest that a comprehensive package of HR practices results in improved firm performance.

From the above mentioned findings of several studies examining the relationship between human capital and firm performance, a number of deductive arguments can

be concluded. First, it can be observed that investment in human capital is leads to enhanced firm performance. Thus, maximizing HR practices leads to enhanced firm performance. This then could effectively imply that investments in compensation packages for employees would enhance firm performance. Moreover, investments in a CEO and other executive directors their compensation packages and maximizing this human capital should improve firm performance.

Regarding the scope of HRM the determinants of firm performance have been explained in the previous paragraphs. Human capital and the design of compensation packages, as part of maximizing HR practices, have an influence on firm performance. Reviewing other literature on firm performance and the pay-performance relationship revealed other aspects having an influence on firm performance as well. These are now explained in the following section.

Determinants of firm performance

Firm Size: Widely discussed in literature are the factors that influence firm profitability or firm performance. Other than various market based factors, the absolute size of a firm is widely considered to be a key determinant (Lee, 2009). This author states in his article, in which he investigates whether size matters for firm performance, that larger firms have a tendency in being more profitable than their smaller counterparts. This could be due to efficiency gains or higher market power. The results of the investigation done by Lee (2009) showed that, along with market share, absolute firm size plays a dominant role in explaining variations in profitability. These results support the previous mentioned statement that larger firms tend to be more profitable than smaller firms. However, considering the agency theory, a larger firm could increase the agency problem as the separation for control and ownership becomes bigger. A larger firm tends to increase the agency costs.

Nevertheless, the benefits from having a larger firm could diminish these agency costs. Among these benefits are economies of scale, specialization, broader access to financial resources in capital markets, capabilities to take risks (Bootsma, 2009) and access to international markets.

Industry size: Companies can be categorized within particular industries. All industries are affected by new developments and ongoing trends that cause industry conditions to vary (Thompson et al., 2008). What is interesting for this research and which needs to be taken into account is that an industry its share in the gross domestic product (GDP), the industry product, varies among industries in a particular country. These differences in share of GDP indicate that companies in certain larger industries have more resources and abilities to further enhance firm performance. Companies in a fast growing industry have more potential to perform better. So, a degree of measurement in firm performance growth, either in return on assets (ROA) or return on equity (ROE), can be explained by the size of that industry in terms of its share in GDP.

2.8 Pay-performance relationship

The pay-performance relationship has been investigated extensively in several countries and often with diverse results. The research done by other scholars and students mainly focuses on whether performance, measured with either accounting measures or market-based measures, has an influence on CEO compensation, while controlling for other variables such as, for example, firm size or the age of a CEO. One of these studies, to start with, conducted by Izan, Sidhu and Taylor (1998), examined the relation between Australian CEO compensation and firm performance. CEO remuneration was collected from the annual reports of Australian firms and firm performance was measured in both accounting and share price performance

measures. The controlling variable included in their model is firm size. However, their results show no evidence of a positive relationship between Australian CEO compensation and either one of the performance measures.

Gunasekaragea and Wilkinson (2002) investigated this relationship for New Zealand companies. The authors examined whether firm performance has an influence in the determination of CEO compensation, controlling for firm size. The results show no significant influence of firm performance on CEO cash compensation. However, when total compensation, including CEO shareholdings, was used as dependent variable in their model, they found that total compensation was statistically significantly influenced by present, past and future performance of the firm as compensation becomes tied to the long-term performance of the firm.

Tai (2004) examined the relationship between CEO compensation and stock performance for American quality companies. Quality companies in this study are distinguished as award winning firms. Here, the author found a positive relationship between CEO compensation and firm performance. This positive relationship is merely explained by the bonuses and stock option grants. This is in accordance with the findings of Bhattacharya et al. (2014) that variable pay is positively related to firm performance. The salary component provides a weaker connection to performance. It is concluded by Tai (2004) that bonus and stock grants components of the compensation package are seen as the driving forces behind the pay-performance relationship.

An interesting comparison has been made for the pay-performance relationship between Japanese and American firms. Mitsudome, Weintrop and Hwang (2008) examined whether US and Japanese firms rely on firm performance measures for the

determination of CEO compensation. Their findings show that both US and Japanese firms are doing so by measuring performance in stock returns and changes in operating income. Furthermore, results show several similarities in the pay-performance relations between these firms. Compared to the study conducted by Tai (2004) in which the positive relationship was explained by the bonus and stock grants components, the study of Mitsudome et al. (2008) was solely based on cash compensation. On the one hand, this could limit the implications of their findings. On the other hand, it could be suggested that cash compensation, the base salary and other cash emoluments, could lead to a positive firm performance. This could be explained by the fact that often the base salary is adjusted for past performance. The CEO could see a raise in base salary, based on past performance, as motivating for performing better in the future.

Additionally, literature has been found for the pay-performance relationship investigated for firms in European countries. Bootsma (2009) has investigated this for Dutch listed firms, Tariq (2010) for Swedish firms, and Baptista (2010) for firms in France. Bootsma (2009) states in her conclusions that the pay-performance relationship in the Netherlands remains low compared internationally. She found that firm size is an important determinant of CEO compensation and that the pay-performance relationship depends on the firm performance measure used. This is further elaborated by Baptista (2010) as he found that, from the performance measures tested, only return on equity (ROE) has a significant effect on total compensation. However, the coefficient on ROE is very small and overall his results suggest a lack of a true link between current performance and CEO compensation (Baptista, 2010). Moreover, Tariq (2010) even remains with the question 'whether CEOs are paid for performance'. In his study he tried to examine the firm

performance link to CEO compensation while controlling for firm size and investment opportunities (growth). Nevertheless, a statistically insignificant and negative relationship has been found between CEO compensation and firm performance. Results like these can have negative effects for the company its shareholders as it means that the CEO is not being paid for his performance regarding shareholders (Tariq, 2010).

What is interesting in the research of Bootsma (2009) and of concern for this research is that she has tested the effects of CEO compensation on firm performance as well, rather than looking whether firm performance is a determinant of CEO compensation. Results of her test lead to the assumption that paying more incentive-based salary (variable pay) and less fixed salary is associated with a higher level of corporate performance. This is a finding revealed earlier. Bootsma (2009) calls this relationship of testing whether CEO compensation is a determinant for firm performance the reverse pay-performance relationship.

So far, an extensive list can be found for studies examining the pay-performance relationship, or in other words, whether firm performance determines CEO compensation. Moreover, these studies all have quite similar theoretical frameworks however use them in different contexts, that is, different countries and companies. Several of these previous studies have been discussed now and show diverse results. This leaves us with a rather vague picture of the pay-performance relationship. Therefore, the empirical research in this report, as explained in the methodology section and conducted in the data analysis part, will focus on the 'reverse pay-performance' relationship, as it was labeled by Bootsma (2009), by statistically testing whether executive compensation leads to improved firm performance.

The following section elaborates further on previous studies examining the relationship between firm performance and compensation for either directors or executive directors in Malaysian context. Furthermore, studies in regard of either component of this relationship, firm performance and/or executive compensation that are of relevance of this previous study have been described as well.

Table 2.1
Overview of the main findings in the pay-performance literature

Author and year	**Country**	**Job Position**	**Main findings**
Izan, Sidhu and Taylor (1998)	Australia	CEO	No positive relationship found between CEO compensation and firm performance in ROA and ROE
Gunasekaragea and Wilkinson (2002)	New Zealand	CEO	No significant influence of firm performance on CEO cash compensation
Tai (2004)	America	CEO	Bonus and stock grants components of the compensation package are seen as the driving forces behind the pay-performance relationship.
Mitsudome, Weintrop and Hwang (2008)	Comparison between America and Japan	CEO	Japanese and US firms rely on firm performance measures for the determination of CEO cash compensation
Bootsma (2009)	Netherlands	CEO	Pay-performance relationship in the Netherlands remains low compared internationally. Firm size an important determinant of CEO compensation
Bootsma (2009)	Netherlands	CEO	'Reverse' pay-performance relationship: paying more incentive-based salary (variable pay) is associated with a higher level of corporate performance
Tariq (2010)	Sweden	CEO	Statistically insignificant and negative relationship found between CEO compensation and firm performance
Baptista (2010)	France	CEO	Only ROE has a significant effect on total compensation. Overall results suggest a lack of a true link between current performance and CEO compensation
Bhattacharya, Doty and Garavan, 2014)	America	Top management including CEO	Variable pay is positively related to firm performance

2.9 Pay-performance relationship Malaysia

As mentioned in section 1.6, there are a few studies found in literature on the pay-performance relationship for companies in Malaysia quite relevant for this report. The first study to be highlighted is that of Haniffa and Hudaib (2006). This study investigates the relationship between the corporate governance structure and performance of companies listed on the Bursa Malaysia. The results of this study helped to establish a starting point for exploring empirically the importance of corporate governance structure in Malaysia, an area that has received little attention until then. The corporate governance structure has effects on executive compensation (Haniffa & Hudaib, 2006). The authors state that a large board is seen as less effective in monitoring performance and could also be costly for companies in terms of compensation. It is suggested that Malaysian companies really consider the assessment of an appropriate board size as this could have significant effects for the establishment of compensation packages in regard of executives. Lastly, the results in this study suggest the need for further conceptual thinking about governance structures and firm performance in developing countries (Haniffa & Hudaib, 2006).

The author Yatim (2013) examines the association between directors' remuneration, firm performance, and governance structures for public listed firms in Malaysia. Results showed that directors' remuneration is positively related to firm performance. Here, it has been examined whether firm performance is a determinant for directors' compensation while controlling for other variables and taking into account the governance structures. However, the directors' remuneration has been chosen as data partially due to the reason that no information was to be found on executive directors' compensation.

Another study, conducted by Chu and Song (2012) has investigated the inter-relationship between executive compensation, earnings management, and over investment. One of their findings was that aligning over-investment with executive compensation schemes has implied that the existing compensation is insufficient for executive directors to align their interest with the objective to maximize shareholders' value and thereby increase firm performance. Therefore, the authors state that firms' policy makers regarding executive compensation should be more cautious when firms invest extensively especially with a large surplus of cash. Lastly, the author concluded that the ideal of maximization of shareholders value in Malaysian economy is still vague.

Haron and Akhtaruddin (2013) have also investigated what the determinants of directors' compensation are. It is investigated whether corporate governance structures and specific firm characteristics have an influence over directors' compensation in public listed firms. One of their findings was that firms with a greater numbers of members on the board are more inclined to increase their remuneration. This is in line with the Managerial Power Theory, which explains that some managers have the influential power over the compensation process which results in higher compensation packages. According to Haron and Akhtaruddin (2013) the shareholders' economic interests are best served when the board size is small and the ownership is well concentrated. It implies that directors' remuneration will be well controlled in company that is relatively small and held by the same group of people. Thereby the problem explained in the Managerial Power Theory will be mitigated.

In regard as explained above, Abdullah (2014) attempts to investigate factors that are associated with the level of directors' remuneration in Malaysia with a focus on

distressed companies. Distressed companies were selected because these companies' internal control systems as well as the corporate governance mechanisms were weak. Comparing the results of the distressed companies with that of non-distressed, healthy companies could give practitioners more insight into the corporate governance structure (Abdullah, 2014). The findings of his study and of relevance for this present study are that profitability (as measured by ROA) is not found to be associated with directors' remuneration and as it was expected, firm's growth and size positively influence the levels of directors' remuneration.

Other authors that do use executive compensation are Minhat and Abdullah (2014). However, their sample size consisted of government-controlled firms and results show no positive pay–performance relationship indicating that these executives were largely paid irrespective of firm performance. Substantial government ownership can signify considerable power and influence over the way a firm is run, especially regarding the appointment and compensation of the firm's directors (Minhat & Abdullah, 2014). Whereas, the way in which compensation packages for executive directors in public listed firms are designed could be explained by the previous mentioned theories, Human Capital Theory, Agency Theory, and Managerial Power Theory. Therefore, the results for the pay-performance relationship in government-controlled firms are not generalizable for public listed firms.

From the previous paragraphs describing several studies in regard of firm performance, corporate governance structure, and compensation it can be concluded that main aspects of the pay-performance relationship and aspects in regard of this are examined extensively. However, there is still little evidence to be found on the pay-performance relationship itself in the sense of examining whether executive compensation influences firm performance.

Table 2.2

Overview of main findings in the pay-performance literature in Malaysian context

Author and year	**Country**	**Job Position**	**Main findings**
Haniffa and Hudaib (2006)	Malaysia	Executives(incl. CEO) (Corporate Governance)	A large board is seen as less effective in monitoring performance and could also be costly for companies in terms of executive compensation
Chu and Song (2012)	Malaysia	Executives(incl. CEO)	Ideal of maximization of shareholders value (ROE) in Malaysian economy is still vague. Existing compensation not motivating executive directors to maximize shareholders' value/firm performance
Yatim (2013)	Malaysia	Non-executive directors (Corporate Governance)	Firm performance is a determinant for directors' compensation
Haron and Akhtaruddin (2013)	Malaysia	Non-executive directors	Shareholders' economic interests are best served when board size is small and ownership is well concentrated
Abdullah (2014)	Malaysia	Non-executive directors	Profitability (as measured by ROA) not associated with directors' remuneration. Firm's growth and size positively influence the levels of directors' remuneration
Minhat and Abdullah (2014)	Malaysia	CEOs in government-controlled firms	No positive pay–performance relationship. Executives were largely paid irrespective of firm performance

CHAPTER 3
METHODOLOGY

3.1 Introduction

This chapter is dedicated to the research design and data analysis techniques that will be used in order to conduct the empirical tests. These empirical tests are performed in order to find answers to the remaining research questions 6 and 7 stated in section 1.3 and thereby to achieve the ultimate research objective of this study. The ultimate research purpose of this study is to test whether executive compensation has a positive relationship with firm performance for manually selected Malaysian public listed firms on the Bursa Malaysia in the years 2012 - 2013. Furthermore in this chapter, the hypotheses are formulated, the research model with the concerning variables is explained, and the theoretical framework will be given. Lastly, it will be explained how data for the sample and selected variables is collected and what techniques will be used to analyze the data.

3.2 Research design

The purpose of this research is to test the relationship between executive compensation and firm performance, the pay-performance relationship, for Malaysian public listed firms. This relationship is tested for the average total executive compensation of all companies for the years 2012 and 2013 and the average return on equity (ROE) in those years for firm performance. Furthermore, firm size and industry product are taken into account for testing the relationship as explained in the literature review. The average total assets for the years 2012 and 2013 will constitute firm size and the average of each industry its share in GDP for those years will size up the industry product. These variables will be further explained in section 3.5. This pay-performance relationship is tested for a sample

size of 90 companies listed on the Kuala Lumpur Stock Exchange, Bursa Malaysia. The list of companies can be found in the Appendix C, table 1.

3.3 Hypotheses development

Hypotheses can be formulated based upon the literature found and discussed on executive compensation components, firm performance determinants, and the pay-performance relationship.

Bhattacharya et al. (2014), Mitsudome et al. (2008), and Tai (2004) found that the proportion of variable pay in the compensation package is positively related with successive organizational performance. Variable pay could be in the form of merit pay which is paid additional to an employee its base salary once per year. Mahsud et al. (2011) also describe studies which have found a positive relationship between the development of human capital and firm performance. Moreover, Mahsud et al. (2011) suggest that an extensive package of HRM practices leads to greater firm performance. As suggested before, investments in the compensation component of the HRM practices package for the CEO and other executive directors and maximizing this human capital should improve firm performance.

The literature found on the pay-performance relationship mainly includes investigations on whether firm performance is a determinant for executives their compensation. Diverse results were found on these studies. One of the results from a study conducted by Gunasekaragea and Wilkinson (2002) for companies in New-Zealand found that executive compensation is related to the performance of the firm. So here a positive relationship has been found between executive compensation and firm performance. Bootsma (2009) has investigated whether firm performance is a determinant for executive compensation as well as the other way around (‘reverse

pay-performance relationship'). Results of Bootsma (2009) showed that executive compensation is partly determined by firm performance although the relationship is rather low for Dutch firms. Furthermore, results of testing whether executive compensation is a determinant for firm performance lead to the assumption that an increase in incentive-based salary could lead to an increase of firm performance.

Based on the above recaptured findings of previous studies and other investigations discussed in the literature review, the first and main hypothesis could be formulated as follow:

Hypothesis 1: Total executive compensation is positively related to firm performance.

In the literature discussed on the pay-performance relationship and on firm performance itself has been found in some studies that firm size is a determinant for firm performance. Furthermore, it is suggested that industry size (indicated as industry product) has a positive impact on firm performance. Therefore, the other hypothesis can be specified as follows:

Hypothesis 2: Firm size will be positively related to firm performance.

Hypothesis 3: Industry Product will be positively related to firm performance.

The following sections will explain the research model and its associated variables used in order to test the hypotheses.

3.4 Research Model

Since this research model includes more than one independent variable a multiple regression analysis will be applied. The statistical technique used to perform the multiple regression analysis is the Ordinary Least Squares (OLS) regression. The

general formula for the multiple regression analysis with more than one independent (explanatory) variable is as follows.

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots. + \beta_n X_{ni} + \mu_i$$

In the above equation, Y is the dependent variable and X_1, X_2, and X_3 the independent (explanatory) variables. The observation subscript *i* means the *i*th observation at one point in time which is used for cross-sectional data. β_0 is the intercept term and β_1 to β_n are the regression coefficients for the independent variables. Lastly, μ_i is the stochastic disturbance term incorporated since the selected variables can take on any set of values, positive or negative (Gujarati & Porter, 2009).

The above mentioned formula for the multiple regression analysis has been filled in with the variables used for this report:

$$FP_{it} = \beta_0 + \beta_1 \text{ LN (Tot.Ex.Comp.)}_i + \beta_2 \text{ LN (Firm Size)}_i + \beta_3 \text{ IP}_i + \mu_i$$

In this research model, the dependent variable FP stands for firm performance. The independent variable Tot.Ex.Comp stands for total executive compensation which is expressed in natural logarithm to adjust for the non-normality of compensation distribution. Firm Size is derived from the natural logarithm of total assets, and IP stands for Industry Product reflecting the contribution of each industry to Malaysia its GDP for the years 2012 to 2013. Each of these variables will be explained into more detail in the following section.

3.5 Variable description

This subsection will describe the selected variables for the research model in more detail. Section 3.7 will describe how data is collected for each variable and the resources therefore used.

Firm Performance

Firm performance can be measured in several ways. Two widely used accounting measures for firm performance, and of relevance for the present study to be conducted, are Return on Assets (ROA) and Return on Equity (ROE). In section 2.7 several studies are described which examined the effects developing human capital in accordance to the firm its strategic objectives has on firm performance. To recapture again, findings of these studies were, amongst others, that an organization's commitment and development of its human capital resulted in improved firm profitability in terms of ROA. As explained in section 2.8 it is stated by Bootsma (2009) that the pay-for-performance relationship depends on the performance measures used. Moreover, Baptiste (2010) found that ROE has a significant effect on total compensation. The latter is a logical finding. The board of directors who are essentially motivated by performance are those who determine the compensation package received by executives. The ultimate measure of the performance of a company is return on equity (ROE) as this figure is representing the maximization of shareholders' wealth. Therefore, ROE is used as firm performance measure and dependent variable in this study.

Executive Compensation

As explained earlier, most CEO and other executive directors' compensation packages contain five basic components: base salary, bonus plans, stock options, stock grants, and long-term incentive plans. These elements of executive

compensation are already discussed in section 2.6. However, the components of a total compensation package received by executive directors could vary across countries and companies.

As discussed previously, stock options and stock grants are often included in the compensation package to align shareholders' interest with that of the CEO and other executive directors and to mitigate the agency problem. These components are included in order to increase the motivation of executive directors to pursuit shareholders' interest and firm performance over the longer term. However, for a large part of the companies listed on the Bursa Malaysia it is not possible to find sufficient information on equity-based payments in the form of stock options or stock grants in the annual reports or how these are divided. Minhat and Abdullah (2014) said that this is a common problem with studies examining executive compensation in developing economies. Therefore, for this research, the sum of all cash components received by the executive director(s) is used as total executive compensation. The motive for this is also explained by the results of Mitsudome et al. (2008) showing a positive pay-performance relationship in which Japanese and American firms use firm performance measures for determining cash compensation. Furthermore, as previously stated, Bhattacharya et al. (2014) found that the proportion of variable pay in the compensation package is positively related with successive organizational performance. As explained earlier it could be suggested that cash compensation, the base salary and other cash emoluments, could lead to a positive firm performance. This could be explained by the fact that often the base salary is adjusted for past performance. The executive directors could see a raise in base salary as motivating for increasing firm performance.

CEOs often receive contributions to defined-benefit pension plans, various perquisites, and, in case of their departure, severance payments (Frydman & Jenter, 2010). The latter, severance or gratuity payments are less or not related to current performance. This is merely a payment based on the services delivered by the employee and its past performance throughout its whole career at a certain company. Whenever collecting the data on executive compensation for the years 2012 and 2013 these certain payments are excluded.

Firm Size

As explained in firm determinants section, Lee, 2009, states that the absolute size of a firm is widely considered to be a key determinant for firm profitability and thus for firm performance. The total assets of a company will be used to derive the independent variable firm size. The average of total assets of all selected companies for the years 2012 and 2013 will be calculated. Firm size is then expressed in natural logarithm of the average total assets for the years 2012 and 2013 to adjust for the non-normality of total assets distribution.

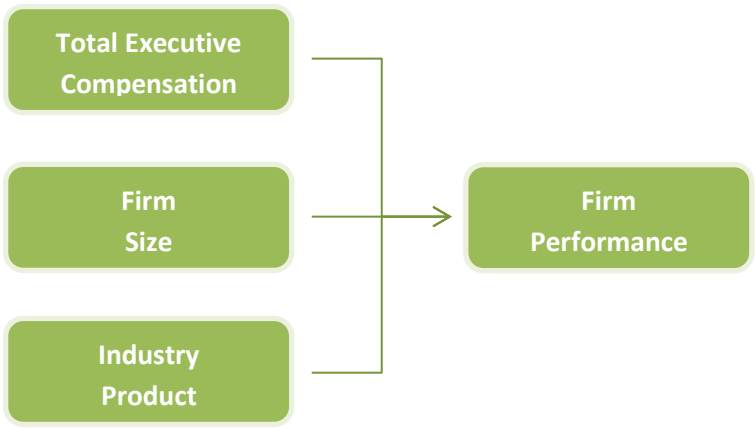
Industry product

It is necessary to control for industry product as the size of this could affect the growth of a company its firm performance within a particular industry. It is suggested that companies in a bigger industry are more likely to show higher performance. The sample of companies used for this study is allocated to particular industries. Each industry has its unique share in the GDP of Malaysia which is measured as the industry product (IP) in the research model. The Industry Product is calculated as the average of each industry its share in GDP for the years 2012 and 2013 Information on each industry its share in GDP is gained from the Economic Report 2013/2014, Ministry of Finance Malaysia, 2014.

3.6 Theoretical Framework

The research design has been displayed in a theoretical framework to give a clear overview of how the independent variables relate to the dependent variable.

Figure 3.1
Theoretical Framework



3.7 Data collection

This section will explain every step in data collection and the resources used to select the companies for the sample size and the data for the dependent variable and each independent variable. All data and the calculated variables derived from this data have been included into one excel sheet making up the complete, or raw, dataset. The data that has been selected can be characterized as secondary data. Secondary data is often available from the original source which collects and organizes the data and from sources that simply summarize data collected by others and market the information (Rabianski, 2003). In this study free access data on internet is used as well as data from a more privatized data source; Thomson Reuters Datastream is used. Data from Thomson Reuters Datastream could be obtained due to having the privilege as a student to access this data source. Due to the careful selection of databases the reliability of the secondary data is not a problem.

Sample size

This research has a sample size of 90 companies listed on the Kuala Lumpur Stock Exchange, Bursa Malaysia, which have been selected manually from the Bursa Malaysia top 100 list of companies by market capitalization. The top 100 list can be found in Appendix B. The 90 companies are selected based on the availability of information on executive compensation. One of the reasons that not all companies form this top 100 list can be selected for this research is because there is currently no specific regulation regarding the disclosure of executive compensation of public listed firms in Malaysia (Minhat & Abdullah, 2014). Therefore, not all companies will provide exact or information at all on the earnings of executive directors. The company Hwang Capital (Malaysia) Berhad (6688) states in its annual reports that some of the directors employed served as executive directors. However, this company is excluded since it is not possible to find out what part of their compensation is received for their input as executive director. Another company that has been excluded from the sample size for a rather specific reason is United Malacca Berhad (2593). Although, this company provides information on executive compensation in the year 2012 it has been excluded since the CEO of the company passed away and no executive payments were made in the year 2013. The list of 90 companies with their associated stock code can be found in Appendix C, table 1. The selection criteria employed on this Bursa Malaysia top 100 list is market capitalization. Market capitalization is therefore a selection criterion for the sample data but not one of the variables within the research model. As previously explained firm size will be used as variable.

Firm Performance

Firm performance in this research is measured in terms of ROE. For each company the ROE for the years 2012 and 2013 is collected from Thomson Reuters Datastream. The average of these ROEs has been calculated respectively. This data is included in the complete dataset needed for this research.

Executive Compensation

For this research, the sum of all cash components received by the executive director(s) is used as total executive compensation for the reasons as explained in section 3.5. The total amount of executive compensation is collected from the companies' annual reports of the years 2012 and 2013 which can be found on the website of Bursa Malaysia. Sometimes only the annual report of 2013 has been used whenever the company states the total executive compensation of 2012 next to that of 2013. The companies from which gratuity (severance) payments are deducted from the total executive compensation are PPB Group (4065), Tenaga Nasional (5347), Genting Plantations (2291), and Ta Ann Holdings (5012). The data collected for executive compensation has been included in the complete dataset. The average for the years 2012 and 2013 and therefrom the natural log have been calculated respectively.

Firm Size

Firm size is expressed as the natural logarithm of the average total assets for the years 2012 and 2013 of every company. The data, the amount of total assets for each company in the year 2012 and 2013, has been collected from the financial database Thomson Reuters Datastream. This information has been included in the complete dataset. The average total assets for each company have been calculated where after firm size has been derived by calculating the natural logarithm respectively.

Industry Product

In the complete dataset there are four columns that indicate the industry category in which each company is categorized. In order to categorize the companies into these industries and sub-industries, information concerning their main activities was found on the company websites. The first column indicates the industry category of each company as how it is stated on the top 100 list (Appendix B). The second column indicates the category in which a company is classified according to the Economic Performance and Prospects Report 2013/2014 and 2014/2015 to be found on the website of the Ministry of Finance Malaysia, www.treasury.gov.my. The third column contains the sub-category within each company is classified according to the same reports. The fourth column states the sub-industry for which the industry product as share of Malaysia's GDP is used for the variable Industry Product (IP). The column thereafter includes the numbers for IP found in the Economic Performance and Prospects Report 2013/2014 and 2014/2015.

3.8 Techniques for Data Analysis

For this research a multiple regression analysis will be applied. The statistical technique in order to perform this regression analysis is the Ordinary Least Squares (OLS) technique (see section 3.4). The data used for this research is *cross-sectional* as the data on the variables is collected *at the same point in time* (Gujarati & Porter, 2009). First, the descriptive statistics will be derived in order to summarize the sample used in this report. Thereafter, the statistical software program Gretl (Gnu Regression, Econometrics and Time-series Library) is used for the OLS regression analysis. When using the statistical technique ordinary least squares (OLS), a number of assumptions are classically made. Two specific assumptions are highlighted in this research as they could have implications for interpretation of overall results. The

following subsections describe these assumptions as well as their associated statistical tests to be performed using Gretl.

3.8.1 Multicollinearity

One of the assumptions is that there is no exact collinearity between the X variables. In other words, there is no exact linear relationship between the independent variables. This is known as the assumption of no multicollinearity in which none of the independent variables can be written as exact linear combinations of the remaining independent variables in the model (Gujarati & Porter, 2009). The presence of multicollinearity makes precise estimation difficult. In the extreme, if there is an exact linear relationship between two independent variables, these variables then serve as only one independent variable and not two. There is no way then to assess the separate influence of each independent variable. Multicollinearity is essentially a sample phenomenon. There is usually some degree of collinearity among economic variables but as long as it is not exact, it is still possible to estimate the parameters of the model (Gujarati & Porter, 2009). Whenever collecting data it is almost impossible to find variables that may not be correlated to some extent. However, the assumption requires for *no exact* linear relationship among the independent variables.

Variance inflation factor (VIF) statistics

The multicollinearity test is performed to derive the variance inflation factor (VIF) of each variable. This VIF quantifies the severity of multicollinearity in an ordinary least squares regression (OLS) analysis. It provides an index that measures how much the variance of an estimated regression coefficient is increased because of collinearity. The square root of the variance inflation factor tells how much larger the standard error is, compared with what it would be if that variable were uncorrelated

with the other predictor variables in the model. A VIF value > 10 indicates high or severe multicollinearity.

3.8.2 Heteroscedasticity

The other assumption for OLS is that there is no heteroscedasticity. Meaning that the error term (μ_i) has a constant variance: var(μ_i) = σ^2. In other words, this is the assumption of homoscedasticity meaning the variance of μ_i for each X_i is some positive constant number equal to σ^2. The error term (μ_i) could vary with each observation, something that is often the case with cross-sectional measurements. Therefore, it is needed here to test for heteroscedasticity. Severe heteroscedasticity gives problems because the presence of this can invalidate statistical tests of significance. So results of hypothesis testing could possibly be wrong.

White's General Heteroscedasticity Test

The test used in order to detect heteroscedasticity is the White's General Heteroscedasticity Test. White's test is a statistical test that does not rely on the normality assumption and is therefore a common used test for heteroscedasticity. The test establishes whether the residual variance of a variable in a regression model is constant: that is for homoscedasticity. When the White test for heteroscedasticity has been run, R^2 will be obtained and multiplied with the sample size (n) in order to calculate the Chi-square value. If the chi-square value exceeds the critical chi-square value at the chosen level of significance, the conclusion is that there is heteroscedasticity. If it does not exceed the critical chi-square value, there is no heteroscedasticity. Heteroscedasticity does not necessarily destroy the unbiased-ness and consistency properties of the OLS estimators, but they are no longer efficient estimators. The lack of efficiency can make the hypothesis-testing procedure doubtful (Gujarati & Porter, 2009). Several remedial measures could be taken in

order to tackle the heteroscedasticity problem. The data analysis determines whether there is need for remedial measures. Whenever there are no problems found regarding heteroscedasticity and multicollinearity, the OLS regression can be performed without necessary remedial steps to be taken.

3.9 Additional Data Analysis

In order to be better able to draw conclusions for the pay-performance relationship for Malaysian public listed firms, the OLS regression will be performed for all observations on the variables for the years 2012 and 2013. Meaning that instead of taking averages for each company its observations for each variable for the years 2012 and 2013, the observations for both years will be included. The sample size will then be 180. The multiple regression model is as follows:

$$FP_{it} = \beta_0 + \beta_1 \text{ LN (Tot.Ex.Comp.)}_i + \beta_2 \text{ LN (Firm Size)}_i + \beta_3 \text{ IP}_i + \mu_i$$

FP stands for firm performance measured in ROE, Tot.Ex.Comp stands for the total executive compensation expressed in the natural logarithm, Firm Size is the natural logarithm of total assets, and IP is industry product (industry's share of GDP). All variables include the observations for each company for both 2012 and 2013. The same tests will be conducted for multicollinearity, heteroscedasticity, and eventually the OLS regression by using Gretl. The results are compared with the dataset including average numbers. This comparison will add on the conclusions for the pay-performance relationship for public listed firms on the Bursa Malaysia.

CHAPTER 4
RESULTS AND DISCUSSION

4.1 Introduction

In this chapter the results from the data analysis are described and discussed in order to test the hypotheses that appeared in chapter 3 and thereby to answer and achieve the remaining research questions and objectives 5 to 7. The data is analyzed with the software program Gretl (Gnu Regression, Econometrics and Time-series Library). The first subsection presents the descriptive statistics to quantitatively describe the main features of the data collected for the years 2012 and 2013. The second subsection presents the test results for multicollinearity, heteroscedasticity, and for the OLS regression. The ordinary least squares (OLS) regression results are discussed regarding to the theoretical expectations and previous research. Lastly, the results for the additional data analysis are presented and discussed.

4.2 Descriptive Statistics

The derived descriptive statistics aim to summarize the sample used in this report. The sample consists of 90 companies (observations) and the additional analysis includes both years 2012 and 2013 which makes it 180 observations. The software program SPSS version 18 has been used to derive the descriptive statistics for the following reasons. The data used for the variables differs in units. Executive compensation and total assets are stated in tons and millions (money amounts), return on equity and industry product are stated in tenths (percentage ratios). SPSS incorporates all units when deriving the output for descriptive statistics. This gives a clearer overview for interpretation of the dataset its main features. Furthermore, SPSS provides the option to choose which descriptive statistics need to be viewed

which makes SPSS more suitable for this particular part of the data analysis. The following table shows the descriptive statistics.

Table 4.1
Descriptive Statistics

Statistics

	N					
	Valid	Missing	Median	Std. Deviation	Minimum	Maximum
Ex. Comp'12	90	0	3830080,00	8745098,942	276000	58646000
Ex.Comp'13	90	0	3958500,00	1,040E7	451000	69549000
ROE'12	90	0	14,680000	15,3093392	-27,3300	86,9800
ROE'13	90	0	13,410000	16,5298664	-38,1200	84,0500
Tot.Assets'12	90	0	4551872,00	7,405E7	270393	493567422
Tot.Assets'13	90	0	4866396,50	8,204E7	315208	558781295
GDP Share'12	90	0	5,5000	9,07184	,07	32,20
GDP Share'13	90	0	5,7000	9,36325	,12	33,19

In 2012 the average (median) total executive compensation was MYR 3.8 million and the Standard Deviation (Std.Dev) around MYR 8.7 million. A low Std.Dev indicates that the data points tend to be very close to the mean whereas a high Std.Dev indicates that the data points are spread out over a large range of values. The Std.Dev for total executive compensation in 2012 is a high number, even higher than the average total compensation, meaning that the total executive compensation in 2012 for each company was spread out over a large range of values. This could also be seen from the large difference between the minimum (MYR 0.28 million) and maximum (MYR 58 million) total executive compensation. For the year 2013 the average total executive compensation was MYR 3.9 million and the Std.Dev MYR 10.4 million. Furthermore, the lowest executive compensation in 2013 was MYR 0.5 million and the highest MYR 69.5 million. Overall, the total executive compensation has increased from the year 2012 to 2013. The average-, minimum-, and maximum-

total executive compensation, have increased with 3.35%, 63.41%, and 18.59% respectively.

Looking at the ROE for the years 2012 and 2013 it can be seen that the average ROE has decreased from 14.68% to 13.41%. The Std.Dev. for 2012 and 2013 are 15.31 % and 16.53% which is rather high. The large difference between the minimum and maximum of ROE for both years is due to the company Malaysia Airlines which had a ROE of -27.33% in 2012 and -38.12% for the year 2013. This also explains the rather high Std.Dev. for both years.

For total assets the average amount in 2012 was MYR 4.5 million and in 2013 around MYR 4.8 million which indicates an increment of 6.91%. Minimum and maximum total assets have increased with 16.57% and 13.21% respectively.

The average industry share in GDP for both years is quite similar, 5.5% and 5.7%. The minimum share in GDP for both years is rather small, 0.07% and 0.12%. This is the share in GDP of the Tobacco products industry. The high maximum share in GDP is that of Conglomerates which are present in several industries and thus have a greater share in GDP than most industries separately.

Overall, from the descriptive statistics table it can be seen that although total executive compensation has increased, ROE has decreased. Furthermore, total assets have increased as well. Since the descriptive statistics only provide an overview of the data, no significant conclusions can be drawn from this observation. Even though it seems as if an increase in executive compensation does not increase firm performance, this is not necessarily the case. The same counts for total assets (firm size). An increase in total assets seems not to have a positive effect on firm performance. Outliers in the data can significantly influence the mean of the data,

seemingly rejecting the possibility of a causal relationship, whereas such a relationship can still exist. The scope of the descriptive analysis is rather small, which is why a further, more thorough analysis is carried out in the following sections.

4.3 Theoretical findings for the research objectives

The first research objectives stated for this present study to be achieved are concerned with finding justifications and explanations in literature for the components that encompass the pay-performance relationship. To recapture again from chapter 1, these research objectives are stated as follows.

1. To define the general idea behind compensation as HR practice.
2. To state the theories explaining how compensation packages provided to executive directors are formed.
3. To assess the components of executive compensation.
4. To explain the role of human capital in firm performance.

The definition of human capital and its importance to a company can explain the general idea behind compensation as HR practice (Uygur, 2013). Since, human capital is nowadays the company's most important asset, it is important that the human capital is managed and rewarded accordingly. The reason companies utilize compensation as important HR practice is because it attracts, motivates, and retains employees as it portraits a company its valuation of its employees. Eventually, by retaining highly skilled employees and motivating them to keep up high performance, a company will sustain a competitive advantage.

Continuing on compensation as HR practice, several theories explain why compensation packages are structured in certain ways and why for executive

directors these are considerably high. These are the Human Capital Theory, Agency Theory, and Managerial Power Theory. The first theory expresses the same idea as compensation as one of the important HR practices in general. Executive directors are of important value to the company, therefore they need to be rewarded accordingly (Madsen & Bingham, 2014). The Agency Theory explains that often executive directors' compensation packages include equity based components that will motivate executives to act in the shareholders' interests (Baptista, 2010). Lastly, the Managerial Power Theory explains that often executives use their power to influence the compensation process in a favorable way for themselves (Combs & Skill, 2003). If they succeed, they will receive high compensation.

The components of executive directors' compensation packages are assessed which usually comprise of base salary, bonuses, equity based compensation in the form of stock options and stock grants, long-term incentive plans (Mello, 2011). In case of departure, executives could receive a gratuity payment or severance pay (Frydman & Jenter, 2010). As explained in section 3.5 of chapter 3, for this study the total of cash compensation has been chosen to test the pay-performance relationship for.

The fourth research objective is concerned with the role of human capital in firm performance. Several previous studies, Bhattacharya et al. (2014) and Mahsud et al. (2011) have examined this role. In these previous studies reviewed it is stated founded that well-established HR practices increase labor productivity and that a direct positive relationship between human capital and firm performance. Furthermore, there is a contingent positive-performance effect of adopting the strategic behavior of investing in human capital.

The following sections will describe the findings of the empirical investigation conducted in order to achieve the remaining research objective and the main objective of testing whether a positive relationship exists between executive compensation and firm performance for Malaysian public listed firms.

4.4 Empirical findings for the research objectives

Before the OLS regression analysis can be conducted and before the research objectives 5 to 7 can be achieved it is needed to test for multicollinearity and heteroscedasticity. To recapture again from chapter 1, the research objectives 5 to 7 are as follows:

5. To assess the determinants of firm performance.

6. To test whether a correlation exists between executive compensation and firm performance. 7. To test whether this relationship is positive, e.g. whether higher executive compensation leads to improved firm performance.

The results of the tests performed in order to achieve the research objectives and to derive conclusions are presented in tables and described in the following sections. First, the OLS regression has been run in Gretl to see whether the results could indicate multicollinearity problems. Thereafter, the multicollinearity test has been conducted. The results of the OLS regression can be found in table 4.2 below.

Table 4.2
OLS regression

Model 1: OLS, using observations 1-90
Dependent variable: FP

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	13,8961	25,6507	0,5417	0,58940	
Tot_Ex_Comp	3,49929	1,67115	2,0939	0,03921	**
FirmSize	-3,1271	1,00963	-3,0973	0,00264	***
IP	-0,108806	0,17755	-0,6128	0,54161	

Mean dependent var	17,24100	S.D. dependent var	15,44625
Sum squared resid	18580,49	S.E. of regression	14,69871

R-squared	0,124974	Adjusted R-squared	0,094450
F(3, 86)	4,094273	P-value(F)	0,009108
Log-likelihood	-367,5571	Akaike criterion	743,1141
Schwarz criterion	753,1134	Hannan-Quinn	747,1464

The parameters of Firm Size and Industry Product have a negative sign. As explained in chapter 2, it is expected that whenever firm size increases firm performance (ROE) increases. Furthermore, it was expected that Industry Product has a positive impact on firm performance (ROE). The negative signs of these parameters could be due to multicollinearity.

4.4.1 Multicollinearity

Table 4.3
Multicollinearity test

Variance Inflation Factors

Minimum possible value = 1.0
Values > 10.0 may indicate a collinearity problem

Tot_Ex_Comp	1,141
FirmSize	1,158
IP	1,103

Table 4.3
Continued

VIF(j) = 1/(1 - R(j)^2), where R(j) is the multiple correlation coefficient
between variable j and the other independent variables

Properties of matrix X'X:

1-norm = 57506,32
Determinant = 1,2036753e+010
Reciprocal condition number = 5,3478981e-006

Table 4.3 shows the results of the multicollinearity test. The variance inflation factors (VIF) of total executive compensation, firm size, and industry product are 1.141, 1.158, and 1.103 respectively. Since all VIF values are < 10.0, it can be stated that there are no multicollinearity problems and the assumption has not been violated.

4.4.2 Heteroscedasticity

The results for the White's test for heteroscedasticity are shown in the following table.

Table 4.4
Heteroscedasticity test

White's test for heteroskedasticity
OLS, using observations 1-90
Dependent variable: uhat^2

	coefficient	std. error	t-ratio	p-value
const	-16975,9	14909,6	-1,139	0,2583
Tot_Ex_Comp	1730,68	1544,42	1,121	0,2658
FirmSize	506,294	853,344	0,5933	0,5546
IP	-63,1419	156,713	-0,4029	0,6881
sq_Tot_Ex_Comp	-43,3199	54,7828	-0,7908	0,4314
X2_X3	-21,6631	58,5783	-0,3698	0,7125
X2_X4	2,24490	9,07279	0,2474	0,8052
sq_FirmSize	-7,36448	23,0482	-0,3195	0,7502
X3_X4	2,23141	8,19000	0,2725	0,7860
sq_IP	-0,454085	1,11947	-0,4056	0,6861

Unadjusted R-squared = 0,052821

Test statistic: TR^2 = 4,753850,
with p-value = P(Chi-square(9) > 4,753850) = 0,855216

Critical Chi-square value
Chi-square(9)
right-tail probability = 0,05
complementary probability = 0,95
Critical value = 16,919

The Chi-square value (test statistic) calculated by Gretl is 4.75385 (R^2 x Sample size (n)). The critical Chi-square value with the degrees of freedom (df) = 9 at the 0.05 significance level is 16.919. The calculated Chi-square (test statistic) 4.7539 is < 16.919 meaning that there is no heteroscedasticity among the variables used. The p-value = 0.8552 for the critical Chi-square with df=9 to be higher than the calculated Chi-square. This means that the chance of no heteroscedasticity is high. Overall, the heteroscedasticity assumption has not been violated.

4.4.3 OLS regression

Since there are no problems with multicollinearity and heteroscedasticity, the OLS regression analysis can be performed without taking remedial steps. The results of the OLS regression are shown in table 4.2. With the estimated parameters the model is as follows:

$FP_{it} = 13.8961 + 3.49929 \text{ LN (Tot.Ex.Comp.)}_i - 3.1271 \text{ LN (Firm Size)}_i - 0.108806 IP_i$

The 5% (0.05) significance level is the most widely used significance level for research in general (Gujarati & Porter, 2009). Therefore, for this study the 5% (0.05) significance level has been used as well. The independent variable Total Executive Compensation is a positive and statistically significant determinant (p-value=0.0392) at the 5% significance level. Firm Size in this case is a negative and statistically significant determinant (p-value=0.0026) at the 5% and 1% significance level. Industry Product is not a statistically significant determinant (p-value=0.5416) of firm performance and has a negative sign. The values of explanatory power of the R^2, adjusted R^2, and F-statistics are indicative of the reliability of the regression model. Here, the adjusted $R^2 = 0.094450$ which means that after taking into account the number of regressors (determinants), the model only explains about 9.44% of the variation in firm performance (ROE). The unadjusted R^2 of 0.124974 also seems low. However, the p-value of the F-test is 0.0091 which is significant at the 5% and also the 1% significance level meaning that the regressors do have an impact on firm performance (ROE). The low R^2's are not troublesome. Generally low R^2's are obtained in cross-sectional data involving several observations because of the diversity of the cross-sectional units (Gujarati & Porter, 2009). What is relevant is that the determinants have the right sign and are statistically significant at the 5%

significance level. In this case, total executive compensation is statistically significant at the 5% significance level and has the right sign. This is the main important finding for this research as it the main research objective to test whether a positive relationship exists between executive compensation and firm performance.

4.5 Additional regression analysis

The same assumptions apply for the additional OLS regression analysis that first it is needed to test for multicollinearity and heteroscedasticity before the results of the OLS regression remain valid and can be examined for deriving conclusions. The results of the additional OLS regression are shown in the following table.

Table 4.5
Additional OLS regression

Model 2: OLS, using observations 1-180
Dependent variable: FP

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	13,9684	18,4187	0,7584	0,44924	
Tot_Ex_Comp	3,51138	1,19827	2,9304	0,00383	***
FirmSize	-3,14231	0,729657	-4,3066	0,00003	***
IP	-0,107781	0,12845	-0,8391	0,40256	

Mean dependent var	17,24100	S.D. dependent var	15,89491
Sum squared resid	39840,19	S.E. of regression	15,04542
R-squared	0,119048	Adjusted R-squared	0,104032
F(3, 176)	7,927977	P-value(F)	0,000055
Log-likelihood	-741,3797	Akaike criterion	1490,759
Schwarz criterion	1503,531	Hannan-Quinn	1495,938

4.5.1 Multicollinearity

From the OLS regression table above it can be seen that the parameters of Firm Size and Industry Product have again a negative sign. The results of the multicollinearity test are shown in table 4.6.

Table 4.6

Multicollinearity test for Additional analysis

Variance Inflation Factors

Minimum possible value = 1.0
Values > 10.0 may indicate a collinearity problem

Tot_Ex_Comp	1,140
FirmSize	1,157
IP	1,103

VIF(j) = 1/(1 - R(j)^2), where R(j) is the multiple correlation coefficient
between variable j and the other independent variables

Properties of matrix X'X:

1-norm = 114961,66
Determinant = 1,9684623e+011
Reciprocal condition number = 5,4358003e-006

The variance inflation factors (VIF) of total executive compensation, firm size, and industry product are 1.140, 1.157, and 1.103 respectively. All three VIF values are < 10.0 meaning that there are no multicollinearity problems despite the negative signs for the parameters of Firm Size and Industry Product. In other words, the assumption of multicollinearity has not been violated.

4.5.2 Heteroscedasticity

The results for the White's test for heteroscedasticity are shown in table 4.7.

Table 4.7

Heteroscedasticity test for Additional analysis

White's test for heteroskedasticity
OLS, using observations 1-180
Dependent variable: uhat^2

	coefficient	std. error	t-ratio	p-value
const	-16897,6	10395,4	-1,625	0,1059
Tot_Ex_Comp	1714,39	1071,25	1,600	0,1114
FirmSize	521,704	602,887	0,8653	0,3881
IP	-67,1817	110,470	-0,6081	0,5439
sq_Tot_Ex_Comp	-43,4051	38,0843	-1,140	0,2560
X2_X3	-20,8190	41,1999	-0,5053	0,6140
X2_X4	2,45865	6,34860	0,3873	0,6990

sq_FirmSize	-8,33540	16,3108	-0,5110	0,6100
X3_X4	2,33210	5,80787	0,4015	0,6885
sq_IP	-0,478538	0,791630	-0,6045	0,5463

Unadjusted R-squared = 0,050279

Test statistic: TR^2 = 9,050245,
with p-value = P(Chi-square(9) > 9,050245) = 0,432649

Chi-square(9)
right-tail probability = 0,05
complementary probability = 0,95

Critical value = 16,919

The Chi-square value (test statistic) calculated by Gretl is 9.05025 (R^2 x Sample size (n)). The critical Chi-square value with the degrees of freedom (df) = 9 at the 0.05 significance level is 16.919, which is the same in the model with sample size 90. The calculated Chi-square (test statistic) 9.05025 is < 16.919 meaning that there is no heteroscedasticity among the variables used. The p-value = 0.4326 for the critical Chi-square with df=9 to be higher than the calculated Chi-square. This indicates that there is about 43.26% chance of no heteroscedasticity problems. In this sample size of 180 observations there is more chance on heteroscedasticity among the variables than for the sample size of 90 observations. A reason for this could be that the presence of outliers could be greater here than in the sample size of 90 observations. Nevertheless, based on the results it can be stated that there is no problem of heteroscedasticity and that this assumption has not been violated.

4.5.3 OLS regression

The results of the OLS regression, which are shown in table 4.5, remain valid and can now be examined. With the estimated parameters the model is as follows:

$FP_{it} = 13.9684 + 3.51138 \text{ LN (Tot.Ex.Comp.)}_i – 3.14231 \text{ LN (Firm Size)}_i – 0.107781 IP_i$

This model is only slightly different from the model estimated for the sample size of 90 observations. The independent variable Total Executive Compensation is a positive and statistically significant determinant (p-value=0.0038) at the 5% and 1% significance level. Firm Size is a negative and statistically significant determinant (p-value=0.0000) at the 5% and 1% significance level. Industry Product is not a statistically significant determinant (p-value=0.4025) of firm performance and has a negative sign. The adjusted R^2 = 0.104032 which means that after taking into account the number of regressors (determinants), the model explains about 10.40% of the variation in firm performance (ROE). Furthermore, the p-value of the F-test is 0.0001 which is significant at the 5% and also at the 1% significance level meaning that the regressors do have an impact on firm performance (ROE).

4.6 Comparison of both OLS regressions

Compared to the results of the OLS regression for the sample size of 90 observations, the results of the additional OLS regression for the sample size 180 are somewhat better. Although, there is a higher chance of heteroscedasticity, because of the inclusion of more observations for each of the variables, this assumption has not been violated. That the results of the OLS regression for the larger sample size are more likely to be significant is due to the fact that with increasing the sample size, the reliability of the sample means is increased. The larger sample size gives a more accurate result. The results from both OLS regressions can now be used to find support for the hypothesis stated in chapter 3 and thereby to achieve the research objectives 5, 6, and 7.

4.7 Discussion regarding the theoretical expectations

Based on the literature found on previous investigations for the pay-performance relationship, it was expected that for Malaysian public listed firms, total executive

compensation is surely related to firm performance and suggested that it is related to firm performance in a positive way. Since in the OLS regressions of both sample sizes (90 and 180), the variable Total Executive Compensation is statistically significant, it can be said that main hypothesis, hypothesis 1, is supported by this empirical evidence.

Hypothesis 1: Total executive compensation is positively related to firm performance. → ***Supported***

This finding, that total executive compensation is positively related to firm performance is in accordance with the findings of Tai (2004). The results of his study showed a positive relationship between CEO compensation and firm performance. This positive relationship is partially explained by the bonus component of the CEO compensation packages. In this present study the total cash compensation, including bonuses, is positively related to firm performance. Furthermore, the supporting evidence found in this present study for the first hypothesis is also in accordance with the findings of Bhattacharya et al. (2014) as results show that the proportion of variable pay in the compensation package is positively related with successive organizational performance.

The variable Firm Size in both OLS regressions is statistically significant however, it has a negative sign. Although it was expected that Firm Size is positively related to firm performance, this is not the case in the results achieved in this study.

Hypothesis 2: Firm size will be positively related to firm performance. → ***Not supported***

A reason for this finding that firm size is not positively related to firm performance in terms of return on equity could be because this measure is a ratio that already

adjusts, or balances the size of net income to the size of shareholders' equity as explained by Ross, Westerfield and Jaffe (2012). Larger firms will generate larger returns (Bootsma, 2009). However, their shareholders' equity is also naturally higher. Therefore, return on equity is already a good benchmark to compare companies with varying total size of assets. Large firms naturally have larger total assets and this would correlate highly with returns, net income (Ross, Westerfield & Jaffe, 2012). However, since return on equity is already a ratio that expresses the percentage return to the relative size of shareholders' equity, it does not correlate with the size of the firm, total assets in the model used for this research.

This deductive reasoning could have been determined before doing the empirical analysis. However, due to the existing literature in which firm size was found to be a determinant of firm performance (Lee, 2009) and some studies regarding the pay-performance relationship have included firm size as a variable in their model, it was included in the model for this present study as well. Lastly, firm size was taken into account as there as a change that large companies because of their size generate synergies which could result in relatively higher return on equity for these larger firms. However, this was not the case in this present study.

For the variable Industry Product no statistically significant results were found in either OLS regressions. Also, like the variable Firm Size, it has a negative sign in the model. In other words, no empirical evidence was found to support the following hypothesis.

Hypothesis 3: Industry Product will be positively related to firm performance. → ***Not supported***

This chapter answers research question 5 to 7 based on the empirical results and support for the hypothesis. Research question 5 is formulated as research objective to assess the determinants of firm performance in this research model. The results of this empirical investigation have found that both firm size and industry product are not determinants of firm performance for this sample of 90 companies. Although, firm size is statistically significant in this study, this is not a positive relationship thereby it is said it is not a positive determinant of firm performance.

Research objective 6 and 7 are concerned with the pay-performance relationship for the 90 companies, whether a relation exists between executive compensation and firm performance and whether this is a positive relationship. Conducting the empirical research is found that a correlation exists between executive compensation and that it is a positive one. This suggests that the pay-performance relationship is positive for the 90 Malaysian public listed firms.

CHAPTER 5
CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter describes the practical implications, scope and significance of this present study, and the conclusions that can be drawn based upon the literature found on executive compensation, firm performance, and the pay-performance relationship and on the results of the empirical investigation that led to the achievement of the stated research questions and objectives. Furthermore, the limitations and recommendations for future research are given.

5.2 Scope and Significance of the Study

The research conducted in this study is significant for several reasons. Previous studies examining the pay-performance relationship often do not show conclusive results. Additionally, little evidence is found for this relationship in Malaysian companies since there are not so many studies to be found in literature investigating this. This dissertation can make a contribution to existing literature as research is done for the pay-performance relationship for Malaysian companies listed on the Bursa Malaysia. This study is thereby able to explain that executive compensation is a determinant of firm performance. Furthermore, this dissertation includes a clear overview of the theories that can explain how executive director's (CEO) compensation packages are structured and what the underlying reasons are for that. However, the results and findings in this study are rather limited to the scope of Malaysia as a country. Further research should verify whether the results of this study could be generalized.

5.3 Practical and Policy implications

The positive relationship between total executive compensation and firm performance that has been found in this study suggests that investments in executive human capital, in terms of compensation packages, leads to enhanced firm performance. As previously mentioned this is what the human capital theory predicts and for which several studies conducted by other scholars on the relationship between human capital and firm performance found evidence for. This study thus has practical implications in the sense that it can be empirically proved that a positive relationship exists between executive compensation and firm performance for Malaysian public listed firms. Policy implications would be in regard of the Malaysian Code on Corporate Governance which is currently not including specific regulation regarding the disclosure of executive compensation of public listed firms in Malaysia. Therefore, it is difficult to derive comprehensive results as not all compensation components are included in the data set as there is no inclusive information to be found. If more specific regulation is established regarding the disclosure of executive compensation information, it would be possible to conduct the same research in a more broaden way and to derive more generalizable results.

5.4 Conclusion

There is still an ongoing debate on the topic of executive compensation and whether it is related to firm performance. Many people are arguing that often the executive compensation packages are excessive in their amount and they are questioning the link between these compensation packages and the actual improvements or enhancement of firm performance. The main objective of this research was to examine the relationship between executive compensation and firm performance. This dissertation incorporates a qualitative as well as a quantitative approach to

examine the executive compensation packages constitution and its relation to firm performance. This relationship has been tested for 90 manually selected Malaysian public listed firms on the Bursa Malaysia in the years 2012 and 2013. More specifically, it is tested whether executive compensation is positively related to firm performance while controlling for firm size and industry product. It has been found that there is a statistically significant and positive relationship between executive compensation and firm performance for the 90 Malaysian public listed firms.

Before the aforementioned ultimate research objective could be achieved, several other stated research objectives assessed in this dissertation are achieved first. The first research objective was to assess the general idea behind 'compensation' as HR practice. It is found that human capital is the most important asset for firms and to retain this human capital it is utmost important to create compensation packages that reflect the employees' important value to the organization.

The second objective to be achieved was to state theories that explain how compensation packages provided to executive directors are formed. The first theory is the Human Capital Theory which explains that the human capital of a firm is the key resource to a firm's capabilities and sustainable competitive advantage. Key personnel, in this case the executives that possess the necessary skills, knowledge, and expertise, needs to be managed effectively by constantly investing in them. This includes the rewards provided to the executives to compensate them according to their contributions delivered to the company. A second theory, the Agency Theory, urges for the design of executives' compensation plans in a way that it aligns the interests of the executives with the interests of shareholders. This alignment should mitigate the agency problem that occurs whenever ownership and control are separated. The compensation plans would include incentive schemes that make

compensation a function of firm performance. However, it is argued that with these compensation plans, the executives focus on short-term performance instead of performance in the longer term. Lastly, the Managerial Power Theory states that pay premiums are the result of an executive its ability to influence its own compensation process. Furthermore, the influence of executives over their compensation process further worsens the agency problem as there is no motivation to increase shareholders' wealth because executives' compensation is not reliant on this according to this theory.

The third research objective achieved is the assessment of the components that constitute the executive compensation packages. It has been found that base salary, bonuses, stock options, stock grants, and long-term incentive plans usually make up the executive compensation package. Other components could be included as well but this varies among firms to a greater extent. These could either be in the monetary form of pension plans or in case of departure; severance and gratuity payments, or in the non-monetary form certain perquisites.

The fourth research objective was to explain the role of human capital in firm performance. Several studies have found evidence that a company its investments in human capital improves firm performance. Maximizing HR practices including compensation of key employees has a positive influence on firm performance. Another determinant of firm performance for which evidence was found is firm size. Furthermore, it was suggested that industry product, measured as the company its industry share in GDP, is positively related to firm performance. The pay-performance relationship has been investigated extensively for various companies in various different countries. However, the results were quite diverse and moreover little evidence was found for the pay-performance relationship in Malaysia.

Therefore, this study makes a contribution to the existing literature to be found on the pay-performance relationship by empirically investigating this relationship for Malaysian public listed firms. The results show a statistically significant and positive relationship between total executive cash compensation and firm performance in terms of return on equity (ROE). Results for the achievement of the fifth research objective have been found as well. Firm size is statistically significant but weakly negative related to ROE and the relationship for industry product is negative and statistically insignificant. The latter is in contradiction with what has been found in literature, namely that firm size is positively influencing firm performance. For industry product it could be that if measured differently it would have an impact on firm performance.

5.5 Limitations

Due to the rather limited and insufficient information available on equity-based compensation in the annual reports, these compensation components have been excluded. In some of the other studies that examined the pay-performance relationship and which are described in chapter 2 found significant results on equity-based compensation to be drivers behind the pay-performance relationship. Not including equity-based compensation could therefore be a limitation and in that aspect the results are limited in their generalization since only the total of cash components is included. Furthermore, total executive cash compensation has been used as the independent variable instead of dividing it up into separate components such as salaries, bonuses, and other cash emoluments as independent variables. This could also place a limit on the insights the results give on the pay-performance relationship for Malaysian public listed firms. Lastly, the number of years for which the pay-performance relationship is tested is rather limited. However, this is due to

the earlier explained reason that there is currently no specific regulation regarding the disclosure of executive compensation of public listed firms in Malaysia. Therefore, it is difficult to find the same sample size of 90 companies with annual reports including this information dating back earlier than 2012.

5.6 Recommendation for future research

The limitations just mentioned now could have implications for future research. The same empirical investigation could be conducted by also including the equity-based compensation components provided that sufficient information could be found on these components. Furthermore, more independent variables could be included by dividing total executive compensation into the different cash components such as salaries, bonuses, and other cash components if any. The same could be done by dividing the equity-based compensation into the different components and test the relationship between these components and firm performance individually. Lastly, other measurements of firm performance could be used as dependent variable such as return on assets (ROA). Future research should reveal whether the conclusions derived in this report can persist.

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